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

January 24th, 2018

Pages 5991 to 6308

APPEARANCES

Bob Peters		)Board Counsel
Dayna Steinfeld		)
Patti Ramage	(np)	)Manitoba Hydro
Odette Fernandes		)
Helga Van Iderstine	(np)	)
Doug Bedford	(np)	)
Marla Boyd	(np)	)
Matthew Ghikas		)
Byron Williams		)Consumers Coalition
Katrine Dilay		)
William Gange		)GAC
Peter Miller		)
David Cordingley	(np)	)
Antoine Hacault		)MIPUG
George Orle		)MKO
Senwung Luk	(np)	) Assembly of
Corey Shefman	(np)	) Manitoba Chiefs

LIST OF APPEARANCES (cont'd)

Kevin Williams (np) Douglas Finkbeiner	) Business Council) of Manitoba
Daryl Ferguson (np)	) City of Winnipeg
Christian Monnin	) General Service) Small, General) Service Medium) Customer Classes
William Haight (np) William Gardner (np) Kimberley Gilson (np)	) Independent Expert) Witnesses)

TABLE OF CONTENTS

LIST OF EXHIBITS

--- Upon commencing at 9:00 a.m.

THE CHAIRPERSON: Good morning, everyone. Ms. Steinfeld, would you like to take us through today.

MS. DAYNA STEINFELD: Thank you, Mr. Chair, and there are some changes from the schedule that's on the screen before you. We'll be starting this morning with the witness panel from the Manitoba Industrial Power Users Group. They are scheduled to start at 9:00 a.m. and to conclude at 11:15.

At that point in time we'll have cross-examination from the Business Council of Manitoba, followed by the Coalition and that will likely be a good time to take the lunch break. After lunch MKO will have cross-examination, followed by the Green Action Centre, and the General Service Small and General Service Medium, Keystone Agricultural Producers and we expect that Manitoba Hydro will start their cross-examination at approximately 2:15. They have four (4) hours total scheduled between today and tomorrow. And so we would suggest that after they start at 2:15 a break just be taken at a time that works for the Board Panel and the witness panel and Manitoba Hydro counsel.

This panel of witnesses will be continuing tomorrow morning for the duration of the morning. Thank you.

THE CHAIRPERSON: Thank you. Good Morning. Mr. Hacault...?

MR. ANTOINE HACAULT: Yes, good morning, Mr. Chair and members of the panel. We're pleased to have the opportunity to present additional evidence. As you know, we cosponsored the evidence of Morrison Park Associates and this morning if we can have the witnesses sworn in, we'll have Misters Bowman, Osler and Forrest testifying.

MIPUG PANEL

PATRICK BOWMAN, Sworn

CAMERON OSLER, Sworn

GERALD FORREST, Sworn

EXAMINATION-IN-CHIEF BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: The witnesses have been sworn. I'd like to confirm that their presentation, which was distributed, is going to be marked as MIPUG Exhibit 26, and that the small book of documents, with some key exhibits, will be marked as MIPUG Exhibit 27. Hopefully they've been distributed to the panel.

--- EXHIBIT NO. MIPUG-26: MIPUG PANEL PRESENTATION

--- EXHIBIT NO. MIPUG-27: MIPUG BOOK OF DOCUMENTS

EXAMINATION-IN-CHIEF BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: Now, starting with Mr. Bowman, can you confirm that your evidence was prefiled and I recorded as being marked as Exhibit 13.

Can you confirm that?

MR. PATRICK BOWMAN: Yes. Good morning, Mr. Chairman, members of the Board, yes, I can confirm that.

MR. ANTOINE HACAULT: And can you advise of any changes or corrections which should be made to that prefiled evidence MIPUG-13?

MR. PATRICK BOWMAN: Yes, I have three (3) corrections to the evidence that we can deal with this morning. The first is at page 7-11 and in row 3, you will see that -- the -- a phrase "Hydro notes that only 300 million was collected as offsetting revenue." The correct reference should be 300,000.

The second is at page 7-13, which is

two (2) pages in front of this, is a diagram that has been -- a figure that has been shown in this hearing previously. We noted that there -- the lines are slightly shifted and so we've produced a new version, which is included as part of MIPUG-27, that was just distributed, page 5.

For people who aren't graph people, the -- the difference may not be noticeable but the -- there are two (2) lines that hang off the edge and -- and -- or shifted one -- one place to the -- to the right.

And the final change is at page 5-5. And this is in a table that is used to support the -- a figure two (2) pages back, called figure 5-1, and the issue within the row of labels. As you look down the left side, there are two (2) labels, two (2) rows listed as Domestic Sales Net of DSM; that should say "Domestic Gross Load Net of DSM." The intention was to use the -- the load at the -- at the generators -- at the generator terminals and avoid all the details of stations services and losses and the like in between. So, it should -- the values use "gross load" and that line should say "gross load." That's all.

MR. ANTOINE HACAULT: And can you confirm that you also responded to the various interrogatories and those are accurate, to the best of your knowledge?

MR. PATRICK BOWMAN: Yes.

MR. ANTOINE HACAULT: Now, M. Osler and Forrest --

MR. PATRICK BOWMAN: I'm sorry, Mr. Hacault, can I just -- that -- the same issue with table 5-1 also rises in the response to PUB-MIPUG-1 which is the row of labels. So it's the same -- it's the same correction, it's just it -- that table was reproduced with a slightly different conversion of PUB-MIPUG-1 so the row of label, again, is -- is a missing.

MR. ANTOINE HACAULT: Okay, thank you. Mr. Osler and Mr. Forrest, can you confirm that you have prefiled evidence in this proceeding, and I have it recorded as MIPUG Exhibit-14.

MR. CAMERON OSLER: Yes, I can confirm.

MR. GERALD FORREST: Similarly, I confirm.

MR. ANTOINE HACAULT: Okay. And also you have responded, both of you, to various interrogatories. Can you confirm that those are accurate, to the best of your knowledge and no corrections need to be made to those, or your evidence?

MR. CAMERON OSLER: I can confirm that the interrogatories are accurate, to the best of my knowledge. The only correction that I would note for the evidence was on page A-1, of MIPUG-14, at line 10. It says "March 31st, 1988" and it should have been March 31st, 1978.

MR. ANTOINE HACAULT: Mr. Bowman, you were also responsible for various supplementary papers which have been filed as MIPUG-15.

Can you confirm that those were prepared by you or under your direction and are there any corrections or changes that you know of that need to be made to those papers?

MR. PATRICK BOWMAN: Yes, I can confirm and I am not currently aware of any questions or issues with those papers.

MR. ANTOINE HACAULT: Now, Mr. Bowman, I'm going to briefly take you through some of your areas of experience and -- and qualifications, and I've put in front of you on the screen for your convenience your curriculum vitae, which is attachment 'A' to your prefiled evidence.

Can you confirm that you've been

accepted as an expert in a number of cases, including before this Board, and those appearances are largely listed on the last page of your curriculum vitae?

MR. PATRICK BOWMAN: Yes.

MR. ANTOINE HACAULT: And those areas of experience include elect -- Utility regulation and rates, project development and planning and Utility resource planning?

MR. PATRICK BOWMAN: Yes.

MR. ANTOINE HACAULT: And your experience, if we go back to the first page, under the heading Utility Regulation, it covers rate and regulatory reviews for electric utilities in various provinces and countries across this country?

MR. PATRICK BOWMAN: Yes. But most of my work is in Canada.

MR. ANTOINE HACAULT: So we'll see that in Manitoba you've been representing the Manitoba Industrial Power Users Group and -- sorry, preparing evidence with respect to their interventions since 1998?

MR. PATRICK BOWMAN: I have worked on MIPUG issues since 1998. The first hearing that I prepared evidence and testified in was known as the 2001 Status Update.

MR. ANTOINE HACAULT: Okay. And I see that on the first page you identify doing work for a utility Northwest Power Corporation.

Would you also do work for other utilities?

MR. PATRICK BOWMAN: I do. And some that I've done work with on and off, I had -- although I'm not currently involved, I do -- have done work on and off for Yukon Energy. I've done work with the Nunavut Power or Quilliq Energy, it is called. I've done work with Nelson Hydro and some other municipals similar to that, but that's -- that's the main Utility clients.

MR. ANTOINE HACAULT: Okay. And I note at the bottom of the first page that you've also done work for some industrial customers in Newfoundland and Labrador.

Have you done any work in New Brunswick?

MR. PATRICK BOWMAN: I'm currently retained to work on issues in New Brunswick. It's early in the assignment so to date the work is focused on cost of service methods and on smart metres. So -- I haven't dealt with that, generally, but yes, I've been retained by industrial customers in New

Brunswick.

MR. ANTOINE HACAULT: And turning to the second page of your curriculum vitae, could you address your experience in resource plans and hydroelectric projects?

MR. PATRICK BOWMAN: Yes, along with appearing at the NFAT, I've been involved in regulatory interventions, either on behalf of Intervenors or on behalf of a Utility for various resource planning topics, capacity planning and reliability load forecasting and the like.

MR. ANTOINE HACAULT: And specifically with respect to Yukon Energy Corporation, what was your role in the planning phases of the Mayo B. hydroelectric project?

MR. PATRICK BOWMAN: I was the lead project manager for all planning phases on the Mayo B. Hydro project, which was a $120 million hydro development, and I had overall responsibility for all of the -- all of the budgets and activities occurring during the -- the planning stages including coordinating the work of the various engineers and environmental teams and the like, as well as the financial and business side.

MR. ANTOINE HACAULT: Thank you, Mr.

Bowman. I'll move now to Mr. Osler and his CV is at appendix 'B' to his evidence.

Sir, I understand you've been involved as a principal in InterGroup Consultants since 1974?

MR. CAMERON OSLER: Correct.

MR. ANTOINE HACAULT: And your areas of expertise include cost of service and rates, and expert analysis -- analysis and testimony at hearings on those issues?

MR. CAMERON OSLER: Yes.

MR. ANTOINE HACAULT: Your experience would also include socioeconomic assessments related -- and related public consultation in hydro electric projects?

MR. CAMERON OSLER: Yes.

MR. ANTOINE HACAULT: And with respect to Utilities, would you have done work for any Utilities with respect to rate issues?

MR. CAMERON OSLER: Yes, particularly Yukon Energy Corporation over its life since late 1980s.

MR. ANTOINE HACAULT: Okay. And what about for industrial customers using electricity?

MR. CAMERON OSLER: Yes, I got my grounding in it in a hearing in Ontario before the

Ontario Energy Board in the late '70s for three (3) industrial customers at a major hearing. I then was involved in a hearing -- hearings in Saskatchewan during the life of that regulatory commission on behalf of industrial customers. I was involved in MIPUG in its initial decade or so in this province and I was initially involved with the work that we've done in Newfoundland for the industrial customers there.

MR. ANTOINE HACAULT: And when you mentioned Saskatchewan, could you explain what IPSCO means at the bottom of the first page of your CV?

MR. CAMERON OSLER: I forget the full acronym, but it's a steel company in Regina, at that time. It was a major industrial customer in Saskatchewan.

MR. ANTOINE HACAULT: Okay. And now if we go to the second page I'd like to focus a bit on advice given to government entities with respect to Utility issues.

What provinces would have solicited your advice on Utility issues?

MR. CAMERON OSLER: Well, in this province, from time to time, I have certainly worked for Manitoba Hydro on -- in their environmental related issue, sometimes on settlement issues to do with issues with First Nations or review of the status of previous settlements.

In the Yukon, I've worked with the Power Corporation and the government. Originally with the government in actually the purchase of the assets of Northern Canada Power Commission by the Yukon government and the setting up of Yukon Energy.

Subsequently, on the var -- many of the resource plans and -- and many of the major projects of the Corporation. The Northwest Territories recently working with Manitoba Hydro International. I worked on the North Slave Resiliency study, which was in essence, a study of the issues emerging from a period of drought and the options that might exist in the future for dealing with such issues on a particular system around Yellowknife.

I'm currently working with the Gwich'in Council International, work that involves Northwest Territories and Canada on issues for renewable development in the Gwich'in area around the Beaufort Delta. Those are probably a good summary.

MR. ANTOINE HACAULT: Okay. At the bottom of page 3 of your CV there's reference to this work that you did for the government of Yukon.

MR. CAMERON OSLER: Right --

MR. ANTOINE HACAULT: Did it involve legislative issues, regulatory schemes, financing and government charges?

MR. CAMERON OSLER: In a simple -- yes. It involved the negotiation legislation nationally in -- in Yukon and other -- all the other aspects that go with it in order to make an arrangement for that transfer of assets; that was the first of the series. The -- subsequently, there are ones in the Northwest Territories, et cetera.

And some of the principles that were established in that transfer for the management of risk with respect to certain assets have been followed through in subsequent arrangements between the government and the Power Corporation as ways to manage risk in a way that's acceptable for ratepayers.

MR. ANTOINE HACAULT: And on page 5 of your curriculum vitae, you go further and explain further planning experience as it relates to Yukon Energy Corporation specifically and related to Mayo B?

MR. CAMERON OSLER: Yes, and I referenced that earlier. In the last decade, roughly, there's been a series of major capital projects involving both transmission, the Mayo B. expansion and liquid natural gas plant generation in Whitehorse that we were involved in planning and there actually were hearings before their regulatory body similar to your NFAT process, directions from the government for the regulatory body to please review and report on the justification and options with respect to each of those projects.

MR. ANTOINE HACAULT: And if I turn to page 7 of your curriculum vitae, what involvement would you have had in First Nation agreements as regards Utilities?

MR. CAMERON OSLER: Well, you can see there that in the 1990s some assistance to the Manitoba Hydro with respect to certain issues. And we did some work in that time period with respect to reviewing the whole Grand Rapids agreements. But more recently, with the Tsay Keh Dene First Nation, and the Kwadacha First Nation working for them in settling the long-standing issues with respect to their impacts from the Williston dam because unlike this jurisdiction here with all the problems that we've had, those people had not actually had any settlements at all for something that took place in the 1970s.

MR. ANTOINE HACAULT: And --

MR. CAMERON OSLER: And we managed to reach settlements in each case with BC Hydro.

MR. ANTOINE HACAULT: And lastly, page 8 of your curriculum vitae, you've had experience with respect to the mining sector in northern Manitoba?

MR. CAMERON OSLER: Yes.

MR. ANTOINE HACAULT: We'll move to Mr. Forrest whose CV should be at page -- attached again to the prefiled testimony.

Mr. Forrest, it's my understanding that you've been involved in Canadian federal and municipal public policy and the energy regulatory arena for about twenty-five (25) years?

MR. GERALD FORREST: That's correct.

MR. ANTOINE HACAULT: And you've had various roles, including being the Deputy Minister of Municipal Affairs, Urban Affairs and rural -- Rural Development?

MR. GERALD FORREST: Yes, that's right.

MR. ANTOINE HACAULT: And in your capacity as Deputy Minister, you oversaw the creation of a Deputy Minister or senior officer forum which met to discuss inter depart issues related to interdepartmental liaison and collaboration, which included Manitoba Hydro coming in and making presentations from time to time?

MR. GERALD FORREST: Yes, that's correct. Prior to that time, the departments of government were more or less individualized in as much they undertook their own particular responsibilities, but certainly from my vantage point being Deputy Minister of Municipal Affairs and Rural Development, it was important and whenever we were dealing with our clients that we dealt with them as a whole party issue in -- inasmuch that we wanted to make sure that all the issues that we were dealt with from the government side were truly represented. And indeed, as the -- as the board took hold at that time, it was important to integrate the -- the plans and operation of Manitoba Hydro, particularly, on using land and the environmental considerations.

MR. ANTOINE HACAULT: And am I correct in understanding that part of your role as Deputy Minister was to support and encourage economic development initiatives for rural Manitoba?

MR. GERALD FORREST: Yes, that's correct.

MR. ANTOINE HACAULT: And I'll hit a couple other points.

It's my understanding that you were the past chair of the Canadian Association of Member of

Public Utilities, what -- and as in this industry we refer to CAMPUT.

MR. GERALD FORREST: Yes, I have been -- I was chair of CAMPUT on a couple of occasions over my tenure as Chair of the Board here in Manitoba and through that organization we try to -- and I'm a honourary member today, but we try to help and assist all boards across Canada in so far as understanding their roles, the changing needs in this particular arena and making sure that all of the boards are informed on what's happening across Canada.

MR. ANTOINE HACAULT: And were you involved in a world forum organized by that organization CAMPUT?

MR. GERALD FORREST: Yes, I was on the organizing committee, was chair of the organizing committee for a while as well. Unfortunately, the chair had passed away, and it was the first world forum was held in Montreal.

MR. ANTOINE HACAULT: And it's my understanding that you've lectu -- lectured both nationally and internationally in the field of public administration, public utility regulation, and that you've served as University gue -- guest lecturer and conference workshop speaker across Canada and the

United States?

MR. GERALD FORREST: Yes, that's right.

MR. ANTOINE HACAULT: And since 2004, you have continued to be involved in energy policy and Utility rate matters throughout North America and you've continued to provide strategic advice to Utilities, regulators, government departments, private industries and other stakeholders?

MR. GERALD FORREST: That's correct. Indeed, when I left the Board in 2004 and I let my colleagues across Canada and United States know I was leaving the board, I was offered shortly thereafter a contract to work for a government in Canada and I have continued with that government since that time.

MR. ANTOINE HACAULT: Members of the Panel, please feel free to ask any questions of any of these witnesses as they're making their presentations. The presentation is before you. It'll be initially introduced by Mr. Bowman and then Misters Forrest and Osler will address their evidence, and then it'll be followed, again, by Mr. Bowman addressing the balance of the slides.

There are one (1) or two (2) natural breakpoints in that evidence, so I'll try to keep an eye on the clock and -- and suggest an appropriate time to break around 10:30. With that --

THE CHAIRPERSON: Thank you, Mr. Hacault. Mr. Bowman...?

MR. PATRICK BOWMAN: Thank you, Mr. Chair. The direct examination has been pulled up on the screen, MIPUG-26. And I -- try to make reference to the slide numbers as we move through it for the benefit of the transcript.

If we move to slide 2. As an initial introduction, you'll see that we listed there the exhibit numbers and the exhibits that were prepared and that we have before you today. The intent of the direct is to go over the materials that were prepared. There is some comment I would say informed by new issues arising from the proceeding or new information, but there -- there -- the intent is not to provide any new analysis.

And just as a sort of matter of introduction, as you can tell from the review of -- of resumes, this has been a -- a long-standing MIPUG assignment for Mr. Osler and I and we've sought to approach the project the same way as we've approached previous MIPUG GRAs and -- and -- and similar hearings. Review Hydro's proposals in light of regulatory principles appropriate for a Crown Hydro Utility and take a long-term perspective, that is, an approach that has been asked of us by the clients and it's been consistent. The clients have focused on -- on stability and a principled approach from the outset, and they've -- they've continued to give us that broad set of marching orders, if you like.

At its core, one (1) of the fundamental perspectives that I think overrides this and I'll say possibly a -- frames the issue a bit different than a Court of Appeal quote you heard earlier, which is from the perspective of -- of -- my perspective and I believe from the perspective of the customers that I've heard it. They don't necessarily view these hearings as a contentious issue of at odds of customer interest being competing with Hydro; that somehow implies that Hydro's side looks out for Hydro's financial interest and customers ought not care about Hydro's financial interest. I don't think that's an appropriate summary of our approach or of the way a customer would view it. Hydro's financial strength and ability to deliver stable rates is very important to customers.

And likewise, I would say customer interests and the ability to keep operating and be competitive in Manitoba is central to Hydro's ability to operate. So I don't think we have approached this as -- as quite the same competing set of interests as -- as perhaps is -- it's framed in other places. And I'll say that that does stand out quite uniquely compared to other places where we work, where you will have a private-sector utility and there is a distinct difference between the investors' interests and the customers' interests. Manitoba, we don't have that -- that same distinction. And -- and at times you can get into grey areas, even with government companies which have an investor or a quasi private type of outlook where the government would earn a return on equity from the Utility. We don't have that in Manitoba.

Moving on to slide 3. The immediate reaction on receiving and reviewing the GRA is that it reflects a fundamental change in perspective from Hydro. It's critical to make clear that this is, at its core, can be understood as a difference between a ten (10) year versus a twenty (20) year outlook. And if -- I'm trying to find the right words, I noted there that every -- every other issue is effectively subservient subverted to this issue. Once you put in place a determination that you need to get to 25 percent equity within ten (10) years, every other issue pales because you've just set yourself the challenge of finding an extra 3 1/2 billion dollars above costs within ten (10) years, and that trumps everything.

And it drives you to need rate levels that are way beyond what has been seen before, way beyond what is understood normally in terms of reserves, which you would've heard from Mr. Colaiacovo, where Hydro would make a profit through -- through good and through bad, no longer has a reserve model. It drives you to places where, once you reach the end date, you have to think about dramatic moves to deal with the fact your rates are so high, like, 25 percent rate decreases, as Hydro models in many scenarios, or others -- other approaches like Boston Consulting highlighted.

As a result of identifying this is the key perspective, you know, early on, we thought it very important to deal with the perspective question, and it's -- it's part of the reason that we'll be -- we have Mr. Osler and Mr. Forrest here today, which has -- has not been a part of MIPUG's GRAs in the past.

I have referenced there the documents

we'll be using and relying on as part of what does the consistent perspective look like at the time of -- or the evidence, we used PUB/MH-134 attachment 2, partially because it has such an elegant moniker. It's -- it still has issues.

We've now, through this hearing, had some runs done which have resolved some of those issues. They're now known as Exhibit MH-93, and you'll see some of the materials have been updated to deal with the MH-93 scenario, which has, instead of 3.95 percent rate increases, three point five-sevens (3.57s). And it -- I -- I would say that's the most consistent scenario with what this Board last dealt with in terms of MH-14.

Moving to slide 4, just so we can keep the -- the perspective that we're trying to look at these things over a longer term, I thought it important to highlight that the last GRA which was based on MH-14, I did submit evidence which is available, and -- and could be reviewed, focused on the fact that IFF14 needed to be viewed in the circumstances and the context of what Hydro was taking on, and given the circumstance and the context, it portrayed a Hydro that was doing spectacularly well.

And as you'll see at the bottom, my

focus was on the fact that within a decade, Hydro was looking to absorb five (5) massive impacts, each of which should be thought of as a huge hurdle, together were a -- a massive change to the structure of the Utility, and it was being achieved with no assistance from the government side, even though past developments in other jurisdictions have had that type of assistance, and was being achieved in meeting certain financial targets which are set out on the right-hand side. And in light of -- of the context of the IFF, my comments were MH-14 was -- was doing very well, and we'll be doing some comparisons to MH-14 as we move along.

At this point, I think it's best to turn the mic over to Mr. Osler and Mr. Forrest to deal with their section of the presentation, and then I will -- I will return for the part that goes over the -- the core of my exhibits.

MR. CAMERON OSLER: So moving, Mr. Chairman, to slide 6, I'll talk about the focus and approach we've taken. I'll go through some material on Manitoba Hydro's history, because I'm -- we're going to be talking about history. Mr. Forrest will go through perspectives from the Board side on the same history, and then we'll try and summarize what we think we draw from that, and how it may apply to the current situation.

Our focus has been on Hyd -- what we call Hydro's new financial goal in our evidence, MIPUG-14, which is described as recovering to 25 percent equity level by fiscal 2027. This new goal, from our point of view, drives the requested rate path plan with its increases of 7.9 percent in the two (2) test years, and 7.9 percent in several other years in order to reach this new goal by fiscal 2027 with a -- with a 61 1/2 percent cumulative rate increase over the ten (10) years in the original application.

The fact that this goal is what drives the plan was demonstrated by the -- the Corporation's response to your interim order, which granted 3.36 percent, and the response was, We still have to meet this goal. We have to change the rate path now so that the cumulative increase over the ten (10) years is going to be 77 percent, because we have to reach this goal. The goal is what drives the rate path.

From our prospective, it ref -- reflects a material change in the timing for Hydro's long-standing financial objectives. And when I use the word "long-standing," I'm going back to the 1980s and 90s, not just back to NFAT and other recent events, which -- there's a lot of evidence on how it's changed since then. And from our perspective, this type of a -- an approach presumes, in order to get approval from this Board, which is what's required for it to be implemented, presumes a major change in the Board's principles for approval of rates.

Our focus in terms of what we've been trying to do is to assist -- try and assist the Board by providing relevant historical and regulatory context. The 1988/1996 time period is -- particular is focused on, because that is the time period this Board was active and developed a series of principles which we think are still relevant today. It was also a period that was contextualized by things that happened before, and we'll talk about the early '80s and late '70s, and there will be some references to some things after that time period just to make connections.

1996, why stop there? Because after that, as we'll go through, there was no rates changes for -- after the 1996 hearing for several years. The rate principles were established between 1989 and 1996 to a large extent, and the experience of that year is what we think could be of assistance to the Board today.

MIPUG first appeared and was created as such in 1988 for the first report that PUB receive -- did for the Minister before it got its new legislation. This Board received its new mandate to be responsible for Hydro's rate changes and to make approvals of them in 1989. Hydro's financial goals, as I will go through, evolved during this time period from 1984 to 1995, and the 25 percent equity ratio target emerged for the first time in 1995, and was reviewed by this Board for the first time in the hearing in 1996.

1989/1996 PUB decisions, in our view, set out the key principles for rates and target reserves for Hydro over the time period. Mr. Forrest, who will come along, joined this process in 1992 in terms of the Chair, but from my experience, he was already there in his deputy role in the government before that, and he'll share those perspectives as well.

Going the next slide, 7, briefly, I will go through the Manitoba Hydro mandate, and reserves and rates, and that patch -- picture before Mr. Forrest goes into the PUB side. We are dealing here with a Crown utility that is regulated today in its rates and has customer-funded reserves. By my experience dealing with various people from time to time, the concept of a regulated utility often takes some time for people to get used to the concepts. A privately regulated utility with at least a shareholder putting in money, and having a regulated rate base, and all that type of stuff, people can get their minds around a certain point.

A Crown utility usually requires another stage of evolution, as it did in this Province. The concept of ceding cabinet control to an outside body is sometimes a matter for debate in certain jurisdictions from time to time. And even after you've ceded, how do you manage it?

A Crown utility that is regulated, that has customer-funded equity or reserves, as Mr. Colaiacovo said, this is unique in Canada today. It wasn't unique twenty (20) or thirty (30) years ago to the same extent, but it is really something quite different, and it requires thinking through how you want to deal with that difference from the point of view of financial targets and rates.

Effectively, from the point of view of the customers, it's their money that is making the equity for the shareholder, which is the government, and the customers have an interest in this company being successful in the sense of resilient, but they don't have an interest in the company being successful in the sense of paying out a whole bunch of extra money to the shareholder, particularly when they're putting up funds. So this is quite different.

We reviewed in our evidence the Manitoba Hydro Act, provisions which have been there all the way along, and they make the points that this is, indeed, a recovery approach for rates. It includes provisions for reserves. It talks about what reserves are for, including helping to stabilize rates, and in our view, the primary objectives, as evidenced in that Act for Hydro reserves, are to allow for the stabilization of rates, to provide for the funding -- sinking funds, and to help fund new or replacement construction assets.

KPMG, in its 2014 report, addressed the -- this mandate and commented on it. And in its own words, described it as unique financial objectives. They talked about retained earnings effectively equaling reserves, and made the point that there's no expectation of a shareholder equity funding or a shareholder dividend in the concept, and it made the clear point the private sector utility financial targets are simply not applicable to this organization. Sometimes these things boil down to how distinctive the mandate is.

Next slide, number 8, Hydro financial targets and how they evolved over the decade 1984/1995. And really, there's three (3) steps in this evolution that I'm going to describe, one (1) in '84/'85, one (1) in September '89, and one (1) in September '95. The first step was effectively the Board of Directors in each case making these changes. The Board of Directors of Hydro said, We're going to build reserves, 180 to 200 million for a two (2) year drought, no time period target. Just, We're going to get some reserves for -- to cover a two (2) year drought.

The distinctiveness of this, Mr. Brennan, the president at the time, described to this Board in the 1988 hearing and reported in the Board's report, he said effectively that the 1986 rate increase of 2.8 percent was the first time in the Company's history that it had a rate increase solely to build up reserves. This was an important change.

In September 1989, by -- at which time this Board, now your Board, has received its mandate to approve the rates of this Corporation, any changes to those rates, the Board of Directors of Hydro came up with some modifications to its financial targets, came up with what it called short-term and long-term financial targets. I'm not going to discuss them all, but the ones that are relevant to our conversation included the following: In the short term, a minimum retained earnings target, MRET, which included the 1984 type of drought provision for two (2) years, but it included self-insurance as well, which this Board had recommended in its previous report to them that they should think about. And it had a timing target, now, for 1995 to achieve this.

Effectively, at the time it was discussing this with the Board, its reserves were about 130 million forecast, with a 97 percent debt level, and this target that they were talking about by 1985 would require about 370 million, or almost three (3) times the reserves they had at the time they were talking about setting this target.

They also came up with a long-term minimum debt/equity target of 85/15. I want to make the point that the Board of Hydro made the point that both of these targets were to occur within a -- a rate-stable framework, with rates closely aligned to inflation. The target for the 85/15 debt equity was to be striven for ten (10) years after they achieved the minimum retained earnings target. In that proceeding, they provided an IFF89/3, which is at the back of the Board's report for the 1990 hearing. 85/15 was going to be achieved in twenty (20) years from the date of that hearing. It was going to have about 1.4 billion reserves, and it was occ -- going to occur after eight (8) years of losses during that time period, two (2) for the Limestone project, and six (6) for the Conawapa project, which was then in the planning and expect -- expected to be developed phase in that twenty (20) year time period.

They also provided a version of 89/3 IFF which said, What happens if the government repeals Manitoba Energy Foundation Act, MEFA, M-E-F-A? If they were to do that, which would allow certain funds that were being siphoned off by the government from exports to stay within the Company and help build reserves. If they were to do that, the Corporation forecasted that the 85/15 target could then be achieved under all the same assumptions and rate increases by 1998. That MEFA was, in fact, repealed in March of 1990.

The third stage in the evolution of the targets of the Company, September 1995, the Board of Directors set out some new targets, which included for the first time the 25 percent equity ratio target, and the goal to achieve and maintain this target by the fiscal year 2006. In March of '96, when this was reviewed by the Board, the forecast retained earnings for that year were 343 million. They still hadn't receive -- achieved the minimum retained earnings target, which at that time, if you updated it for all the factors, would be about 650 million. They were just over 50 percent of the way on -- towards getting that. So the interesting question to ask yourself is why did this 25 percent target come up at that time, given where they were with the minimum retained earnings? And we'll discuss that in a minute.

Going to the next slide, number 9, what is the actual history of the reserves and the long-term debt during the period from the early '60s to the 2010? What are the -- the facts? Well, the 1960s -- to -- I'm going to talk about this in two (2) steps, the 1990s -- early 1960s to 1996, and then what was happening after 1996, because they're quite different.

In the 1960s to 1996, Hydro equity -- or reserves were consistently less than 10 percent. In fact, in the late '60s and -- and through late '60s until after 1997, they consistently were always below that level. In fact, in many of these years, they were below 5 percent. This is an era of major Northern development for Hydro in the '60s, and then it -- along came Limestone.

Limestone had a limited initial construction that took place from 1976 to '78, and then they just stopped, because there wasn't enough market. It wasn't making -- it wasn't going to make sense to keep going, which is one (1) of the few cases you've seen of somebody actually stopping a project after they've started building it. It restarted in 1985, when the NEB approved a 500 megawatt export to NSP in -- in Minnesota, and then eventually, the first units started to come on in 1991, and all ten (10) units were on by 1993. So the evolution of that particular project and other things like that led -- during the period 1980/1992 -- to a -- more than a doubling of Hydro's long-term debt, from 2.4 to 5.4 billion. So we've seen doubling of debt before, and this was one of the eras for it.

This was a period that also included low water in the late '70s and the late '80s. One (1) of the worst drought time periods in the Corporation's history was in the late '80s. And it also included major escalation in Provincial charges, which we'll talk about later. Hydro reserves mathematically1, or turned into dollar numbers were, you know, 42, 57 million in the period 1970 to '78, not a lot better thereafter in the '80s and '90s. And by 1996, as I said, they were up to about 343 million.

The thing that you don't get from those numbers is what's changing in the background. What's changing in the background by 1996 is that interest rates have come down, which we'll talk about. This Board is now in charge of rates after 1989, so the great turmoil that we saw before starts to get changed. Conawapa, which had been forecasted in all the forecasts in the '89 -- '89 forecast, '90, '91, '92, it's killed in 1993. Can -- the contract's cancelled. You take Conawapa out of the far -- forward planning, the IFFs and the reserve requirements to achieve target suddenly drops dramatically.

As the interest rates drop, issues drop dramatically. And then you start looking at the rate increases that the Corporation is forecasting in its IFF beyond the test years, beyond the years that the Board's making a decision, and you see these drop from being, you know, 4 or 5 percent for many years starting to become 3 percent. By the 19 -- IFF91/4, all of a sudden, we're talking 1 percent. That's all we'll require for most of the forecast time period. In the 1993-3 IFF, just give me the -- the rate increases I'm looking for in the one (1) or two (2) years I'm before you, and we don't need any rate increases after that. Well, guess what? Once people started looking at that, Maybe we should have a higher equity ratio? Maybe we should have a 25 percent equity ratio, if the world's going to get that good, and we should put that money away for a rainy day. That perspective is very important as to how the 25 percent target emerged.

After 1996, there are sustained reserve growths. In fact, from '96 to 2002, and again from 2005 to 2008, they just go up, up, up. The fiscal 2001 retained earnings, about 1.1 billion, with a debt/equity ratio, in fact, of 80/20 versus the IFF95 slash -- dash 2 forecast of only 506 -- $516 million per retained earnings in that year, with all the rate increases they had in that forecast. This is all occurring after drought and recovery that took place in the 2000s, where they finally achieved the 25 percent equity target in 2008, and again in 2010 to '13. Five (5) years out of all the time period we've talked about, we've actually had this target achieved. The key wasn't increases in rates, it was increases in export prices.

The minimal long-term debt repayment, there wasn't much, and there was minimal reliance on rate increases. There were no rate increases from 1998 to 2004, and the cumulative rate increase that was approved from 2005 to 2009 averaged less than 3 percent a year. So it's quite a radical shift.

And we have two (2) slides. Next one, number 10, shows the picture that I've been talking about to do with equity ratio. You can see that during the time period at the beginning of the slide, it's less than 10 percent all the way through until the year 1997, when it finally goes above the 10 percent line. And in many of those years, you can see it's hovering around the 5 percent line. Then it takes off, and it climbs. And then it comes down again, briefly, with a drought issue, and then it climbs again with some rate increases, finally. And then it comes down again with -- and we see it climbing to the sky on the right-hand side with the proposals of the Corporation.

Those -- that graph, to me, demonstrates two (2) things. Where we are today with all the issues we're talking about is a lot better than where we were when I was appearing in the late

'90s, middle '90s, early '90s, late 2000 -- eight (8) -- eighteen (18) -- 1980s. The worst cases that we're talking about are so much better than people had back then, that it isn't even funny. And the issue on the right-hand side of climbing, climbing, and climbing, it -- it creates all sorts of questions from the point of view of regulation of any utility, let alone a Crown-owned one that has -- it's using customer funds.

Next slide, please. This one looks at the long-term debt. It's just a picture that gives you the feel for it. You can see that the long-term debt did, in fact, double in the late 1980s. As I described, it was pretty stable for a while. It went up again in late 2000, 2002/'3. It's pretty stable for a while. And it's been climbing since then, with all the new stuff. We're about halfway through the climb.

Again, though, we don't see it going down in all that time period in terms of long-term debt being repaid off, until you get to the forecast for -- that's been provided to you in this application when it suddenly trails down, and within the picture, you can see it's almost getting back to where it was when we started. That is not a perspective, again, that's consistent with long-term assets of a hundred years. And -- and looking at from a customer point of view and the regulatory point of view of the 1980s and '90s, where we're not trying to make this generation of people pay off everything. We're trying to make it fair over the life of the assets and the overall development within this Province.

So that's the perspective from the point of view of reserves, and rates, and -- and the whole mandate of the Corporation. Mr. Forrest will now deal with the review of some of the history from the point of view of the PUB itself. Next slide.

MR. GERALD FORREST: Mr. Chair and members of the Board, I would say you that this is the place I expected to be when I left that chair years ago. This -- I'm here today because I think it's such a serious matter that is before the Board. I -- from my particular point of view, I'm glad you have that responsibility and not me. So from that perspective, I'm really pleased to be here today.

What I'm going to try and do is give you a little background of some of the reasons why we're in the situation we are today. And recognizing we have limited time, I'll try to stick closely to my notes. The Crown Corporation Governance and Accountability Act was passed in 1988/'89. That's chapter 23, and given a royal assent on December the 20th, 1988. In doing the background here, I note that in June of 2017, the Act was repealed, and a new Act was passed, and section 25(6), dealing with Efficiency Manitoba is yet to be proclaimed.

From where I sat at the time the Act was passed, and that was next door to the Minister, the Act that was the government's response to two (2) public issues related to the two (2) top Crowns of the day. That was MTS on one (1) hand, and Manitoba Hydro on the other. The MTX affair, as it was named then, was is MTS undertaking commercial activities abroad and losing significant monies.

And then secondly, the issue in Manitoba Hydro had 35 percent rate increases over the five (5) year period '83 to '87 and on which the public had little or no input and culminating with the push back of a 9.8 percent rate increase in 1987 forced the government to act.

Following the Manitoba Hydro Justice Tritschler inquiry report of 1979, which was less than complementary to Manitoba Hydro, and the news release of the day, which I thought was quite interesting. And I quote:

"Improper and poorly scheduled Hydro

development programs in Manitoba, accompanied by both misrepresentation by some senior officials and uninformed political interference have resulted in significant and unnecessary increases in consumer power rates in Manitoba, the Tritschler inquiry into Manitoba has found."

It is also interesting that notwithstanding the activities of Tritschler and the inquiry and his report and recommendation, notwithstanding this inquiry and recommendation, no legislative authority was provided to PUB relative to capital undertakings. To me that was a notable absence in the government Act.

In -- and when I go down the slide that we have, PUB approval was then granted and the Board had the responsibility to determine Hydro's domestic rates. The -- as Mr. Osler said in his evidence that the prime responsibility here was to ensure that revenues were sufficient to cover all expenses, as well as other payments that were required of Manitoba Hydro to the province, and the development of the reserves.

There was -- the Board was also given the authority at that time to consider any compelling policy considerations or any other factors the Board considered relevant to the matter in reviewing rates for Manitoba Hydro. In the lead up there was tremendous amount of rate turmoil in the prior decade. That is the complete decade of the 1980s, which generated a significant amount of public controversy.

In -- including in that time there was increasing Manitoba government water rental and other charges. Insofar as the water rental charges, 46 percent increase occurred in April 1986, and a further 147 percent increase in April of 1987. The horsepower rate for water rentals was one dollar and twenty-five cents ($1.25) in 1980, and it moved up to nine dollars and ninety cents ($9.90) in September 1989. And that information is included in Order Number 43/'90.

The debt charges increased in 1990 from one-eighth (1/8) of 1 percent to a quarter of a percent, again doubling. And -- and again, it went to fifty (50) basis points on April the 1st, 1983 -- 1993. Capital charges, as you well know, the -- Manitoba Hydro for a number years was exempt from the capital charges -- the capital -- that exemption was removed in 1994, which required payment in 1995/'96 of approximately 25 million.

As background here, Limestone came into service, the first unit, in September of 1990, and all ten (10) units in service in September of 1992. As a result, charges to the income statement of Limestone in Board Order 95/'92 was forecasted to be 72.6 million, which was forecasted to contribute to the Corporation's loss of 17.3 million in that year. It is also important to note that low water and the minimum retained earnings target was 310 million, while the forecast revenue reserved, or the stabilization reserve at that time, was about 160 million.

Manitoba Hydro approved a minimum retained earnings target in September of '89 that was short-term for drought and self-insurance, and in 1992 was 370 million for the 1994/1995 timeline, even though at that time MIPUG suggested that the reserves should be about 500 million.

When I was preparing this slide, I also thought I'd look at what happened in inflation because I remembered inflation in that period was somewhat wonky. And, indeed, inflation in 1974 was 11 percent; in 1980 it was 10 percent; in 1983, 5.8 percent; in 1987, 4 percent; in 1989, 5.1 percent; and then 1992 it was 1.4 percent. And so when you're looking at the figures here you note that we went through quite a turmoil at that particular time with respect to CPI.

Hydro rates in 1970 through to 2003, Mr. Osler canvassed a fair bit of it. But there was a lot of controversy started around 1978 and '79, when we had two (2) years where there were big rate increases of 14.5 percent the first year, and 14.9 percent in the second year. And then the -- it was following that that the rate freeze occurred in 1979 and continued to 1983. And as Mr. Osler also indicated, the energy stabilization reserve was in -- the reserve -- or Energy Stabilization Reserve Act was passed, and it was subsequently appealed re -- appealed a number of years later.

In the rate approvals in that period of time, they had two (2) things. The rate increases were significant on one (1) hand, and the Tritschler report was undergoing -- the inquiry was undergoing. There was a great deal public chatter about that. And so the issue in -- it was pretty upsetting for the public at that particular time.

And it was really only -- he started in 19 -- August 1985 when the construction of Limestone resumed by Manitoba Hydro as a result of the National

Energy Board providing a permit for the export sale of 500 megawatts of power from 1993 to 2005 to the Northern States Power Company of Minneapolis as a result of the initial construction activity between 1976 and 1978.

The project was able to commence redevelopment directly on the principal structures, as much of the supporting infrastructure required for construction activity had already occurred. The plant, as I indicated earlier, had full operation in 1992.

Historically, also, there was a big issue in 1990 where there was a sale of a 1,000 megawatts to Ontario Hydro covering the period starting in 2000. So construction commences on Conawapa. Agreement cancelled in 1992, resulting in the postponement of the project.

In 1992, Hydro president confirmed Manitoba Hydro's objective was to propose rate increases closely aligned with the prospective rates and inflation, and the objective to meet the minimum retained earnings target of 370 million, no later than 1995/'96, which was one (1) year postponement from their original schedule.

The financial results of the

Corporation in 1993 started to show significant improvement as a result of the sale to Northern States Power. In 1994 rate objectives were essentially unchanged from the financial objectives of 1989. That is, to reach a debt equity of 85:15 by March 31st, 2005, and to maintain an interest coverage metric of 115/125, which was to reach a retained earning sufficient to withstand the negative financial effects of a two (2) year drought equivalent -- worst on record, together with a maximum loss under the self-insurance program of Hydro. When applying these financial objectives, the required retained earning target was 650 million.

In 1995, before the Board at that time, find -- Hydro presented its new financial objective, which was to achieve and maintain a debt equity of 75:25 ratio in 2005 and '06 and an interest coverage ratio 125:135, which was ten (10) bases higher than previously. And the reason for the -- the change in -- in debt equity target was they wanted to fund all capital construction requirements from internal revenue sources, except during a period of new generation and transmission facilities being added to the system, which we're seeing today.

In 1996 the projected rate in retained

earnings with 343 million, even short of the original objective. And the minimum retained earning target was identified as 650. The Board at that time accepted directionally the target of Manitoba Hydro, that is 85:15 in Board Order 51/'96, but indicated that they would evaluate the reasonableness of the long-term target of 75:25 once Hydro had achieve the 85:15 target. The Board approved rates as noted in 51/'96 of one-point-three (1.3) versus one-point-five (1.5) for each of those years.

In the period of 1997 through to 2003, while there was really limited changes in the rate scenario, there was a number of other things and under -- were undertaken at the time. Manitoba Hydro required Centra Gas, and that was number 1. And number 2, Manitoba Hydro acquired Winnipeg Hydro. And lastly, one (1) of the other significant events that occurred at that time was the special payment to the province of 288 million.

Mr. Osler...?

MR. CAMERON OSLER: So just staying with slide 13 for one (1) second. The numbers are there that show how much the turmoil was there pre-1989. Big increases, rate freeze, a bunch more big increases much faster than inflation. In the background there's elections going on. There are -- the government changed in 1977 when Mr. Lyon came in. The government changed again in 1981 when Mr. Pawley came in. Again in '86, and then Mr. Filmon came in in '88 and was around for a while.

So effectively, there's a lot of change going on. And you can see how the rates that are applied for versus approved by the Board -- the variations over the period 1989 through 1996, but also how the -- the numbers come down, both applied for and approved.

And as I said, in 1996, we suddenly can see the bright future in front of us. We're past a lot of these problems and we have this new target and the new rates. But those rates that you see that were reviewed, applied for, and approved for the test years, there was also a forecast that included rates for every year going forward to get to the target. In fact, there were no more rate applications for a long time, because the world got so much better with the export prices.

The next slide, please. The summary of the picture for the time period of the rate changes versus CPI is in this graph. And you can see how it was flat for a few years in the beginning, the actual red line. And then it was growing a bit faster than inflation. Then it got very stable for another time period, 1990 through to 2004. And then it starts to climb again.

And you can see the choice that emerges from trying to achieve something in ten (10) years versus a longer time period very dramatically from the point of view of rate escalation later on, for the period that's before the Board. What you don't see there is what happens after that time period when you get to the -- this wonderful target within a certain time frame. What happens to rates? Do they just stay flat? Do they go down? Very interesting from the point of view of the consumers who are the people providing the equity reserves for the company. If you're going to put them way up then what are you going to do with them when you get to your target?

Next slide, please. So we'll start summarizing. First of all, from the point of view of rate principles and the decisions that the Board made from -- this Board made from '89 to '96. Overall, I think we could summarize it as a balancing of interests of current and future domestic ratepayers. The people who pay for the equity.

Current day rates and ratepayers, a

target for rate changes at or under inflation. The Corporation supported that. The Board enforced that. And certainly the Intervenors argued for that, if not lower. This priority was retained by the Board, even in a period -- throughout the period when the minimum retained equity target, the protection against drought, was not yet being met, and not just by little bit.

Future rates and ratepayers, a target for longer term rate stability and predictability. The Board talked about this consistently. So did the Corporation. So did the Intervenors. Equity retained earnings are customer reserves to address longer term rate stability for the benefit of everyone, including the customers.

A high-priority to a specific minimum retained earnings target and reserves for the worst drought and self-insurance was a focus of this Board that it got the Hydro Board to adopt, and everybody paid a lot of attention to, even if they couldn't move to it very quickly.

Equity ratio targets supported the concept of added reserves as a cushion, when feasible, without rate increases that exceed inflation. As -- as distinct from stopping rates or reducing them, Okay. If we don't have to have rates bigger than inflation and we've achieved our minimum target and we've achieved the 85:15, okay. et's have a bigger question of the ratepayers who are paying for it. That's the principles as we see them emerging from this era.

The timing to achieve short or long-term financial targets was adjusted as needed. Patient and calm approach, rather than sharp rate changes response to new events or new -- new targets. A message to financial markets, as well as the customers, of rate stability and sustainability of Hydro's operations. And a process of regular updates, review, and readiness to adjust if and when needed to address the clear, current, and specific new challenge to Hydro's ability to fund its cash operations.

Now, when the Board does not meet -- when Hydro is not meeting its minimum targets, you can be sure it's going to come back. We saw what happened as soon as it didn't have that problem. It didn't come back for a long time.

Next slide, please. Mr. Forrest, I think, will comment on the issue of the Board's concerns that emerged during this time period of the decisions.

MR. GERALD FORREST: Thank you, Mr. Osler. During my term as Chair, when we saw the financial wellness of the Corporation or Crown corporations improve, we also saw that the government from time to time made additional demands on the financial resources of those corporations. And, indeed, it was at one (1) of the hearings years ago where Mr. Williams -- Dr. Williams was in attendance where a witness came forward -- forward and talked about moral hazards.

And -- and I think it sort of really identify itself at that time when we saw there was a decision made that we would take funds out of another one (1) of the Crowns, the insurance Crown, to pay significant monies to the education facilities in Manitoba. And as you'll recall there was very significant push back on that issue from the public.

So I just wanted to highlight that this is an issue, and it will be an issue significantly if the plan that is being put forth, the rate path that Manitoba Hydro has. When you start identifying that you're going to be sitting with billions of dollars in a Crown company that you can expect, especially when the revenue streams of the province are not sufficient in order to generate their own -- start their own responsibilities, that there will be likely a push to acquire more funds from those Crowns.

And so when the Board is looking at it, I think you need to identify that is one (1) of the risks going forward. The PUB saw on one (1) hand, too, when the wellness of the Corporation's started to improve, so did their O&M expense improve dramatically. And, indeed, if you even look at Manitoba Hydro today relative to some other Crowns across Canada that the staffing complement is still high, notwithstanding some of the changes that have occurred most recently.

The PUB saw and the consistent changes in the chart -- charges -- increase in charges in the mid-80s and in the mid-90s. And in both cases, it was really associated with the wellness of the Corporation. Those charges, as I indicated earlier, were increased on the -- the debt service fee from one-eighth (1/8) of a percent now to 1 percent, and that is a very significant increase.

While there was a freeze on the water rental rates in 1980 -- '89, and -- but there was a trade-off in that in -- inasmuch that the ratepayers were then going to be responsible for the cost of mitigation of the facilities and new facilities in the north, and that was significant. So while there was the benefit insofar as their water rentals were frozen at that time, there was still an increased cost associated that flew -- flowed through to the balance sheet.

Also in 1994 there was the rescinding of the previous capital tax, which increased dramatically. And, indeed, by fiscal 2014, if you look at it and analyze it, that if every dollar that the ratepayers of Manitoba were paying for Manitoba Hydro rates, seventeen cents ($0.17) of that is associated with charges that are imposed on the Corporation from the province.

MR. CAMERON OSLER: So going to the last line of our presentation, number 17. The relevance of all this to -- for the issues before the Board today. First of all, the earlier -- Mr. Chairman, the earlier PUB rate principles, from our perspective, were retained in this Board's NFAT review and in its recent GRA decisions. The same concepts seem to be on the table and being applied: stable and predictable rates with changes focused on the long-term, and acceptance of the Board's recommendations in the NFAT proceeding for, you know, twenty (20) plus years.

Don't -- don't get hung up on twenty (20) years. It takes a few more to regain a 25 percent equity ratio. And the government of that day accepted that. The -- the concepts were consistent, in our view, from we saw way back in the period we've been talking about.

In summary, Hydro's new financial goal to recover 25 percent ratio in ten (10) years by fiscal 2027 involves the following relative to those goals. A proposal presumes that this Board will deviate from the long-established rate review and approval principles. It asserts a hard date needed within ten (10) years to recover this 25 percent equity ratio and it ignores all the prior history with twenty (20) years plus timing, and -- and no concept of pushing rates up in order to achieve something within a hard date.

It inserts a rate path needed at four (4) times the expected inflation for six (6) years, ignoring any discussion, really, of impacts on people, ratepayers, the province's economy, the North, et cetera, let alone stability, let alone the issue of predictability in the future. What's going to happen when we achieve this wonderful thing?

Ignores the moral hazards of rate --

for ratepayers who are putting up the money for the equity when the 3.5 billion Mr. Bowman described earlier of new equity has been put in the funds. The ratepayers' children and their children's children do not get to earn money on that equity that they put up. In fact, the concept of what will happen to it is very wide-open. But one (1) thing that you can be sure of, aside from what this Board could do to rates, the government has a lot of -- the government of that day has a lot of openings.

The proposal asserts, among other things, that what this Board reviewed and gave rulings on or gave advice to the government on in NFAT and the submissions, reviews, and recommended plans since then on GRAs is not relevant. They talk about people who were here before them making not credible risk assessments when they talked about rates and decisions. They ignore the 3.95 percent rate path, its ability to pass the MRET, the minimum retained earnings target, for five (5) or seven (7) year droughts.

Mr. Colaiacovo went through this in response to questions from the Board counsel. He went through it very well. And I'm not going to repeat it. We meet that test today, even though we never met it during the time period Mr. Forrest and I were just talking about. And yet it's irrelevant in the considerations of the proposal. It fails to establish any credible new threat to justify such a radical change in the whole approach to rate making in Manitoba.

Our recommendations, in summary, to the Board for review of this application. Number 1, retained the Board's long-established rate principles, avoid hard dates to achieve 15 or 25 percent equity ratios. And I would say, from the previous slide, have regular initial re -- you know, reviews and a -- and a process of regular change. Let the markets know that you will adjust if you have to, rather than adjust in advance for what might happen.

Re-establish -- number 2, consideration of the relevance of the minimum retained earnings target. The fact that we're meeting it doesn't make it irrelevant. It is the key requirement from the point of view of fiscal security for customers. We reviewed it in response to question of the PUB to MIPUG, Number 114 for further details.

Third, recommend a ten (10) year deferral of capital tax and debt guarantee fees relating to Bipole III and Keeyask. We reviewed this in response to PUB/MIPUG-16. And based on the answers that have been provided, it looks as though by 2022 this would be worth about 10.6 percent on rates.

There probably are other things that people could look at to how to deal with these types of situation between the government and the Corporation and the Board, but we focused on this one (1) for now. Thank you. Mr. Bowman will go through another series of thoughts more to do with the shorter term issues since NFAT and the time period he's been discussing this stuff.

THE CHAIRPERSON: Yeah, I'm just wondering how long Mr. Bowman's peace will take, if we should be taking a break now or after Mr. Bowman.

MR. ANTOINE HACAULT: So by my count on the slides we're somewhat behind where I thought we were going to be. So I leave it up to the Board's discretion as to how it wants to proceed. There are natural breaks in his presentation that he could probably go ten (10) or fifteen (15) minutes and take a break. It's really up to the Board.

THE CHAIRPERSON: Okay. Can I ask a question first, though? And I'll -- I'll do this to the panel, but it relates to Mr. Osler's. If we can go back to page 15. You've got here the bullet near the bottom, Mr. Osler:

"A message to financial markets and customers of rate stability and sustainable Hydro operations."

Earlier, Mr. Colaiacovo -- just hold it. I just want to look at my note. Yeah, raised this issue and we've heard it a number of times. And -- and it's similar to this, We need to send a signal. We're making this -- this a really big -- a really big matter. We need to send a signal. We've heard it by some parties, We need to send a signal to bond rating agencies. We need to send a signal to the capital markets. We need to send a signal to consumers.

What I would like to put to you is, you know, some of you may know, I mean, my background is a lawyer. So I go to the legislation. We're looking at a rate application to confirm two (2) interim rates and to grant a rate of 7.9 percent. That's what the application says. We respond to applications.

Earlier, to the people in the room, I indicated a concern because we continually were hearing about rate requests of six (6) years of 7.9 percent, followed by 4.54 percent. In -- in fact, the media seems to -- to love that. Not love it. The media continues to convey that. That's not the application.

So when I hear from certain people, We need to send a signal. Or from you that we have to send a message, explain how that relates to the actual application here. Because I would expect that in the next year or so we're going to have another application.

Do we send a signal then, too, and send me -- so, please -- can you -- can you explain how we -- how we're supposed to address suggestions like this?

MR. CAMERON OSLER: Mr. Chairman, I'll go first and Mr. Forrest can give you another perspective. We're very conscious of the framework. In fact, I'm going to try to set my comments out and try to make clear what the test year issues are for this Board in your approval versus this rate path. And I appreciate very much the issue you have in front of you legally and everything else is the -- the test years.

Back in the '80s, without any inference to what we're talking about today, I would've testified that this Corporation's rate applications should be viewed in a long-term context, even though the decision should always be for the test years that you're dealing with. The Corporation should prepare its thinking that way, and the Board should comment on that thinking so that everybody has as much clarity as possible.

In that context it's quite different than some other utilities were the world can change very quickly and you have to respond very much to it. A long-term set of assets with these types of situations merits twenty (20) year forecasts and thinking. But we make decisions based on the test years, always. So the process of trying to think that one (1) through, I think, was there way back and it's there again today. And your decisions are always only for the short-term.

But you are being asked in this instance to just -- the only justification you're being given for 7.9 versus the type of number your -- your predecessors on this Board heard, the only reason you're being given is because of an asserted target that has been met with a certain time period. Absent that reason, there's no basis for changing the rate framework from what the Board looked at last time it met to review Hydro's material.

So the applicant has asked you to de facto consider something beyond the test years to justify what you have -- they're asking you to do in the test years. I -- my suggestion is you probably have to comment on that. You can't avoid it given the nature of the application. Beyond that, I think Mr. Forrest should be the one (1) to comment, because he sat in your shoes. I've only looked at it from the point of view of an Intervenor making comments and -- and try to assist people with advice.

MR. GERALD FORREST: Mr. Chair, I thought I left no burrs in that seat for you, but I understand I didn't. Yeah, I've given that a fair bit of consideration, the dilemma that you face here. Yes, the -- the application is that you're going to deal with the two (2) interim rate increases and you're going to deal with the rate for next year.

But because the -- the application before you has the rate path scenario that you've either got to buy into it or not buy into it, in my opinion. And as pointed out by other witnesses, when I've had a chance to read a bit of the transcript, there's going to be a lot of people out there who are going to read your order in depth. And they will need signals as to which way you are proposing to go.

In -- in my view, it is critical for all the audiences to be before the Board to lay out its logic of how they dealt with this application. Whatever your decision, it should be supported by clear and internally consistent forecasts based on proven regulatory principles which the Board sees as reasonable for today and for tomorrow. For example, if you think Hydro should amortize their costs in a certain way, speak to it. Be clear about your messaging.

From the public's point of view, and certainly from our client's point of view, this could alter the way they do business in the long-term, this application. So however you deal with it, you need to deal with it with the thought in process. Now, you're -- you're fortunate in compared to where I saw myself years ago, where you have new tools now available to you that are much more advanced than the tools that we had at the Board at that time, relative to your uncertainty analysis. So you can see those tools. You can look at it and put in your various choices and options in those tools to determine where you're going.

But as a parent of three (3) kids on financial goals, I'm always stressing for them to have long-term goals. And -- and I don't see this being any different. We need a long-term goal. We haven't had to -- as laid out in '92, '93, and '94, we had goals. The Board looked at those goals. They didn't necessarily sign off and say, This is the goal. But we worked towards those goals in a positive way and not in a negative way. And, indeed, from my particular point of view that's what you're going to need to do.

THE CHAIRPERSON: Thank you, Mr. Forrest. You know what? I think we'll take a break now. We'll take fifteen (15) minutes now. Thank you.

--- Upon recessing at 10:30 a.m.

--- Upon resuming at 10:46 a.m.

THE CHAIRPERSON: Okay, if we could resume. I think we're going to have to pick it up a little bit. But you will get additional time for my very lengthy comment so.

CONTINUED BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: We discussed that during the break and we're going to do our best to do that, Mr. Chairperson.

Mr. Bowman...?

MR. PATRICK BOWMAN: Yes, we will jump back in at slide 20. Slide 19, for reference, is just an outline of the prefiled testimony.

Slide 20 is a summary of recommendations. I don't intend to read. They are in evidence. There are some -- two (2) that have very minor, minor updates reflecting either in one case some updated scenarios that have been filed and I -- I note the 3.57 there that I'll discuss later. And on the which -- is the second bullet.

On the third bullet it is -- I -- I clarified some wording in regards to the interest rate issue that I'll also be discussing, so, I think we can keep moving to slide 21, if that is acceptable.

Slide 20 is there as a reference if people want to work with it.

Slide 21 was not a slide I intended to dwell on. This was simply to help move us along by clarifying that there's a lot of things that were said by Mr. Colaiacovo that are consistent with positions that I've taken and that I believe Mr. Osler's previously taken on behalf of MIPUG that are -- they're -- they're consistent and they've been well said by him. So, I don't believe that there's a lot of need to spend time on them, but they go to the nature of equity and reserves for Hydro, what the reserves are appropriate for, what sort of tests one might apply to determine if ratepayers have been underpaying and the conclusion's that they have not, and, of course, the Bipole III account being over and above this amount.

Some comments that I think echo what Mr. Forrest said just before the break; that the PUB could help define some more refined ratesetting mechanisms using some of the tools that are now available. But, the proposals aren't developed, and as a result, similar to what Mr. Colaiacovo, we would suggest they -- it's a positive direction, but it needs work and I don't think it's realistic to expect the Board to come out of this hearing with a more refined ratesetting framework in detail.

And finally, the concept of self-sufficiency which Hydro's witnesses have previously capital 'H' hypothetical that -- that Hydro would not -- ratepayers would not pay all of the bills of Hydro Mr. Colaiacovo said the same thing, and I would echo that.

Keep moving to slide 22. This is a table that was -- the middle two (2) columns were originally produced in Hydro's evidence. The outer two (2) columns were provided in other materials by Hydro. I've just put them all together here. We had originally only reproduced the middle two (2) columns in the prefiled testimony, but they're the, in essence, if I needed to summarize in -- in one (1) slide why we can come to the conclusion that Hydro's situation is not worse today than it was in MH-14, at the last GRA, you'll see a red box around a set of numbers down below which sets out an eleven (11) year projection of Hydro's net income, and that MH-14 had a eleven (11) year net income of negative 791, which is as you'll note from my earlier comments still needed to be adjusted for significant accounting issues that were not -- accounting changes that were not yet reflected in that.

And the current one, when you move all the way to the left-hand side is Hydro's MH-16 Update with interim that is now reflecting 208 million net income and, similarly, has some accounting issue that would -- would move that upwards and some conservatives built into the forecast that would move that upwards but, nonetheless, the equity ratios are better off as well, the minimum equity to be achieved from 10 to 12.

So at a pure midline best forecast to best forecast basis, comparing this GRA to the last, this was meant to go directly to the point that Mr.

Harper also made, that if you do simple comparisons, there's not a lot of reason to be saying that -- that over the next ten (10) years Hydro's -- Hydro's situation has eroded. If anything, if you're really concerned about things like equity ratios, it's better off.

I'd also note that this is only the base case as used in the IFF which is lower than a P50. We -- we dealt with that with Daymark's witnesses in the -- on the export price panel, and I'm happy to discuss it, but it -- I'm not sure it's the -- something we need to get into.

The next slide 23. This slide actually goes with the subsequent one, 24. And I'll discuss them individually, but I'd also suggest when we're done that, I would look to page 3 of the supporting materials, MIPUG-27. So if the document management had that available at some point, that would be helpful.

Along with looking at the baseline forecast for each IFF, it's also important to look at the degree of uncertainty that can occur around the baseline forecast. And this is a place where when we just looked at numbers and there was some improvement in Hydro's forecast. On the base -- on the midline the area of the uncertainty around that number is where we've seen a massive improvement since the last GRA.

Now, this is the per -- perspective from this GRA. It's based on MH-16. Not MH-16 with update because it wasn't -- it hadn't been provided. This is a graph from KPMG's material. But what it shows and does take a bit of explanation, is a run of the uncertainty analysis that Hydro does which, if you recall, is where Hydro throws at a model a full forecast of the IFF varying export prices, interest rates and water flows. And it does that run multiple times to generate a probability distribution about how the future would look.

This is all of the runs over the period to 2024. It's a total of almost a thousand runs and what it does out of those runs is this graph then picks the minimum equity ratio that arises out of any of those runs. So, it's trying to say, how likely is it that our equity will bottom out at a certain percentage of debt equity. And that percentage is the value shown across the bottom.

So if you look for the blue line on this graph, it is telling you that once you deal with all of those overlapping risks and you take the -- the lowest that the equity will get, the question is: How likely is it that we will bottom out at a given number? And as you can see, the best we can expect is to bottom out at 14 percent before things start to pick up. The worst we expect, the P1, is bottoming out somewhere around between 5 and 6 percent equity. You can see the rest of the distribution, the P50, leads you to somewhere around 12 percent equity, which is pretty consistent with what we've just showed from IFF, that you're going to end up with a minimum of 12 at the mid point, at the IFF type scenario. Sorry, at the mean -- the mean of water flows, actually, but at the IFF type scenario.

And it shows how likely it is that you'll be lower than that. Also note that as the chairman had talked to Mr. Colaiacovo, this is with no rate response. This is where you say, I'm going to go into a scenario with 3.95 percent. I'm going to stubbornly stick to 3.95 percent even if I'm facing the worst drought we've ever seen.

That will drive you to the -- the 6 percent equity so slightly below 6, at the worst.

If we flip to the next page we see the same graph, unfortunately, on a different axis but the same graph as it existed at MH-14. And I can go through this, but I think at this point if the document control will bring up page 3 of Exhibit MIPUG-27, you'll see us having put these two (2) graphs -- I need to be able to see both of them at the same time -- where we've lined up the axis.

So if you compare the upper graph, which we just talked about, you can see the distribution of possible minimum retained earnings -- minimum debt equity ratio over that period and compare it to the bottom graph about the possible futures that IFF14 was looking at.

We now say that our P1 scenario will lead us to about 5 percent equity, if we stick with the 3.95. If you look down at the IFF14, that was approximately the P30. Thirty percent of the possible futures had debt equities worse than that and many of them drop below zero. Some of them as low as negative 6.

So what's happened by letting time go on, getting interest rates locked in and with the evolution in things like export markets is we have pulled in this, in a massive way, this bottom end risk that Hydro faced when we sat here at the last -- at the last GRA. And as we continue to lock in debt that will continue to tighten.

We've also lost some of the top end. We no longer have scenarios that will lead us to 18 percent debt equity at the worst, because we didn't have the stunning export markets and flood conditions, or whatever else would lead to have -- have led to those type of scenarios. But that's the resolution of risk we see as you let the time -- time unfold and you let some of the key variables that are being -- being locked in overtime today get resolved.

And it's a complement the other side, if you like, of the conclusion that says IFF16 is materially improved compared to IFF14.

Now, if we had to MH-16 Update with interim, I'm sure that upper line would move to the left. It wouldn't to the left to the degree that IFF14 had it moving to the left.

If we can move back to the presentation. On the side you'll see that there is just some references to the levels, but I think anyone can take their pen and -- and find the -- the part that interests them so I -- I don't intend to dwell on those.

But if you go to slide 25. This is the -- and just for reference, I'm still working through section 3 of the prefiled testimony on the principles.

This is emphasizing that that section in the -- in the testimony went through many concepts that have been talked about in the presentation to date, the role of the Crown, the role of customer funded reserves, patient capital, things like that. And we've also heard about the use and useful test. So, I don't intend to spend a lot of time on those points, but there were -- there are two (2) things that have been -- risen in regards to that type of material that I thought merited comment.

One is about drought risk. And one (1) of the things that has improved that risk profile we just saw even from IFF14 to 16, but as you look at the numbers here you'll see it's improved in spades since IFF -- the earlier IFFs, like IFF09 and 07, is that natural gas prices are down and export prices have falling. When that happens, your financial results get worse at the mean. Your IFF suffers because you're making less exports at high prices.

But, your risk profile narrows because your business plan for Hydro now becomes less based on making high-priced exports, which are at risk of disappearing during a drought. And during that drought when you need to import power, the ability to go to market and buy power is also much cheaper. So your variability drops dramatically. And we can see that when you compare each of the IFFs and note that IFF07 means the IFF from 2007; O9 is from 2009.

In each of the IFFs Hydro sets out what a five (5) year drought will cost them and you can see how that has changed over time. We've gone from 2.8 billion in IFF07 down to 1.2 billion today. So all the while that we've been absorbing these lower export prices and still keeping our net income up, and that we've been able to build that into rates, one of the things we've done for ourselves is -- is reduce the extent to which we are dependent on the -- the US having high prices. We're actually much less dependent -- or -- and -- on that in -- in the event that we hit the drought now. So that our -- our downside risks are -- are much lower than the -- than they were.

We can go to move slide 26. And this addresses a concept, a comment which was in MH-64, which was the initial presentation of Hydro. It's a concept that was built into the application, but we hadn't -- the word "failed" hadn't been -- hadn't shown up until we saw that presentation and the concepts of the old plan had failed.

And in the -- in the mix of everything

we're talking about with commitment to major capital long-term stability importance of a plan, I wanted to put on this slide which was an image from NFAT, some people may remember it, it was near the end of the hearing, it was MH-192 from NFAT which sets out the decision that the Board made on which path to follow.

And in the midst of all of this jumble, what it's effectively telling you is Hydro is advocating the lower half of the page and the Board went with Hydro in terms of the lower half of the page. The upper half of the page means, I don't build a transmission line. I don't build Keeyask or I build Keeyask later when I need it. It's still got options for Keeyask in 2024. It's got an option for Keeyask in 2031, but it was all about not building the transmission line.

The lower half the page was about building the transmission line which, in my submission, was the key decision at NFAT. It all hinged on the transmission line. We talk about Keeyask now as being sort of the big numbers that came out of NFAT. It's true, but the -- the integration and I think Mr. Cormie emp -- emphasize that this week. The key asset that changed Hydro's future as a result of NFAT was this 750 megawatt transmission line. And its shown by the bottom half of the page.

And I just wanted to emphasize it. If you put your pen on the page, you may be to see where 2017 and '18 are in terms of this decision framework and where we headed off. And it is just a few lines off of the very left-hand side of the page. We're at the very baby steps of the plan that has been put out. We've committed to the first bit of decisions. There's many decisions to come; many things to unfold and I think the conclusion that the plan has failed is premature.

And having watched Utility issues over a lot of years, I've seen similar hasty conclusions be drawn. I have some references there, which I think also underline the need for caution about deciding when a plan has failed. One of them Mr. Osler went over this morning about Conawapa. Manitoba Hydro planned to build Conawapa and make a thousand megawatts sale to Ontario Hydro. It was approved by this Board -- recommended by this Board in 1990. It wouldn't come on line until 2000. In about 1992, Ontario cancelled the deal because they were in a recession and it didn't think they needed the power.

I don't know how many people remember the news from 2000, but in 2000, Ontario's power system was in a mess. The coal plants were running flat out. Toronto had bad air days. There were elections fought over how to -- how to get the power they needed and they would've had a huge power line to Manitoba and a thousand megawatts from Conawapa, which would not have been immaterial part of that -- of that solution had they not made that hasty decision in '92 that the plan had failed and changed direction.

Similarly, again, I think, echoes the comments from before the break. In 2004, Manitoba Hydro sent out a series of letters to four (4) industrial customers who were thinking about expanding in Manitoba and, basically, told them, we're not hooking up anybody new until we review how we're going to get more revenue out of you because our export prices are worth so much we really want to be able to capture the export markets.

That led to a hearing for this Board in 2008, on a proposal called the EIR which was still about how industrial loads were undermining Hydro's ability to chase big export prices. And thankfully, the proposal was rejected by this Board. I think if we now look at the history of export prices, the last thing we wanted to do would've been to chase away load in that era because we were focusing on some export price and throw away the regulatory principles which underline a consistent cost of service based pricing.

And I only emphasize that because I'll tell you, to this day, there is one (1) of the members of MIPUG who -- the first comment they make in every meeting we have is, is Hydro's still going to do that thing that they mailed us a letter about in 2004, because that stopped our expansion. We've never done it.

So in terms of the signalling, it -- just to emphasize with a practical example, up know, pre -- prelim -- or hasty conclusions based on a set of facts, I don't think -- I don't think lead to a -- good conclusions and I encourage the Board not to try to put a moniker like failed on a plan.

Moving to 27. We've now moved into section 4 of the prefiled testimony. Section 4 of the refiled testimony deals with effectively Hydro's rate plan to double the previous plan, focus on plan not request -- not requested approval. Most of this was dealt with by Mr. Osler and Forrest this morning.

I only add two (2) additional comments here, one of which is on this slide that when you have $14 billion of capital coming online, and you decide that you need to fund 25 percent of it through reserves, meaning charging rates that are higher than cost by -- to build those reserves, the number you derive is you need 3 1/2 billion dollars of extra funding in Hydro, extra rates being charged to people over a decade to build up that 25 percent, over and above the cost of those assets. We're not talking about O&M, that will be in rates. We're not talking about the depreciation for the asset being used by today's ratepayers, that will be in rates.

This is another 3 1/2 billion on top of that to pay for the 25 percent equity associated with -- within ten (10) years. And when I say ten (10) years, remember, that's only four (4) or five (5) years after Keeyask comes on service. It's not ten (10) from the date they come in to service.

Once you put that 3 1/2 billion in, you -- you change things dramatically. So that comment is set out in the middle of this page. And at the bottom key is it's -- we did a comparison about definitions of self-supporting, KPMG's definition, which I think is very sensible. It's set out there that in their mind Hydro's would be deemed to no longer be self-supporting once it reaches a position of zero retained earnings, and rates have increased in real terms such that Manitoba can no longer be considered a cost competitive jurisdiction with respect to electricity rates.

And note that KPMG emphasized the 'and'. And I would suggest that there is no prospect of either of these occurring and so in the type of self-supporting definition KPMG was using, I don't see that this leads to the -- the reactions that Hydro has -- has brought forward.

Hydro also provided a definition in response to an -- an interrogatory. We asked -- where we said, do you agree with S&P's conclusion that Hydro is not self-supporting? And they provided that their version that the near-term objective is to meet all of the financial obligations, including debt service and capital investment out of the revenues of the Corporation and they went on to say, This is the definition of self-supporting the Corporation endorses.

We can get into the questions of how these things are measured but I think that's also a -- a reasonable perspective to put into -- into the discussion and I will note that the traditional test for this type of definition is something called the capital coverage target is put in place in the era that Mr. Osler's speaking of. It's been in place ever since, although it was raised. It used to be a 1.0. It got raised to be a 1.2, and it's been in place ever since. And that has met ineffectively almost all years of -- effectively every scenario we're talking about.

The next slide 28. I only put this one in because in the evidence we do a review of the need to move to a 7.9 percent rate increase scenario from three (3) perspectives. One is from the self-supporting perspective. One is from the government perspective; and one is from the customer interest perspective. And on the customer interest Hydro focused on during a calculation of present value of -- of -- of bills to ratepayers and they relied on this slide, which was in their opening presentation.

And you'll note that this emphasizes the issue Mr. Osler speaking of; that when Hydro's asked to run scenarios that go to year 11, pretty dramatic options need to be dealt with to prevent their scenario, their baseline, from spinning out of control, meaning either, you know, dramatically reducing Hydro's debt starting year -- after year 11, or needing to throw in massive rate increases and this is the slide that has the 25 percent rate increase. You'll note this was -- this is one (1) of the slides that Hydro put a 23 -- sorry, decrease. Sorry, did I say increase. A 23 percent rate decrease in 20 -- year 11 in 2027, if you like.

And I only note this in regards to the question of whether that is, in fact, in the customer interest how much the plan with the 7.9 leads you to these very odd outcomes such as Mr. Colaiacovo covered on terms of reserve usage and -- and such as this, rate adjustment needed to prevent -- prevent Hydro's finances from -- from spiraling very, very high.

And also to note that from a ratepayer perspective, the type of analysis Hydro provided in the rebuttal where it does a discount on this, as if the ratepayers were making an investment in Hydro through these early years in order to receive the return that arises with the 23 percent rate decrease. I think it's -- it's questionable of -- as a framework for -- for justifying the 7.9.

I think if you were to use it for a framework for justifying 7.9, I wouldn't call that a low risk scenario for a customer, I'd call that a high risks scenario for a customer because the rate -- return years after the investment years rely on the 23 percent rate decrease that we've, effectively, already heard wouldn't be part of Hydro's plans. And -- and further, I think it raises some of the issues Mr. -- Mr. Forrest talked about in terms of moral hazards and the like.

Moving to slide 29. So at this point in the prefiled testimony section 5, moving to section 5. Section 5 is where we've move beyond the consideration of new plans and new ten (10) year targets, and we've moved into consideration of different IFF forecasts that arise using the old type of plans, the old type of Horizons. The same -- the consistent principles.

That time, we used the PUB/MH-134, attachment 1 scenario, which had 3.95 percent rate increases fixed, and considered whether it was showing a -- a financial performance that should be considered acceptable. And I will say at the end of the day, you'll find it leads to a financial performance that I conclude should be considered acceptable.

I do note these are still plans based on Hydro's baseline IFF. They haven't been adjusted for a number of things that are important, have been discussed in this hearing. I'd note O&M there. I don't propose an adjustment to O&M, but I do note that they have Hydro's forecast for O&M that were difficult to confirm, because they're in such flux.

I don't fault Hydro for that. I've been on the utility side, where you come to a hearing the middle of restructuring, and people want all the detailed data on O&M, and you can't provide it, because you don't know quite how things are going to look when you come out the other side, but I do think that it is that something that will need more attention. But I wanted to note that it's -- the O&M will need further consideration.

It also has DSM activities that I suggest are benchmarked too high, given the facts facing us, including -- at that time, I didn't have the update to marginal costs, that it cut marginal cost by a dramatic amount, and that affects both your costs and your loads, meaning your revenues, and it also doesn't have the appropriate accounting policies and regulatory policies that I'm going to speak to as we move forward.

With these considerations, the -- the scenario that is shown as MH-16 update with interim in the future slides, which is -- the -- the slides to come, which is the orange line, if you see colours the way I do. Some people call it the red line. The orange line would be improved compared to what is shown there.

So now moving to those slides. The first slide we go to is slide 30. This is a slide that's reproduced in the background paper B6, page B6. And what we went to look at is how do the costs, the total costs of Hydro's system that aren't paid by exports compare today to what we considered in a range of outcomes at NFAT?

And we did that for a very specific reason, because I was very concerned that the -- the common sense and the elegance of what was done at NFAT in terms of risk modelling was being lost, and the whole idea that NFAT didn't consider one (1) scenario, it considered multiple -- I think we called them the twenty-seven (27) scenarios at the time -- and it showed a possible future paths, and it considered that things could go adverse on you, considered that all three (3) things, export prices, and interest rates, and capital costs could go adverse on you.

Not all of them considered them going as far to the bad or to the good as they have, but they've gone in offsetting ways. So my basic question is: Are we in the cone, or outside of the cone? Have we really blown through the type of risk scenarios that people considered at the NFAT? And so we wanted to consider that a number of different ways.

And the first slide we looked at was what is the net cost to Hydro's system? How many -- how many millions of dollars will be recorded on their -- on their income statement each year to fund the system that is not paid for by exports? And we -- and this is the graph that arose. You'll see NFAT scenarios are in there with a blue line, and the NFAT risk scenarios are in there with the shading, blue or grey, depending on your eyes.

MH-14's around there in green. MH-15's around there in light blue, and MH-16 update with 3.95 percent rate increases are in there in orange. I'll note this isn't rates, so the only thing that rate increases need apply to the extent to which you carry or pay down debt.

And our basic conclusion was delays and Keeyask, and high water, and lower interest rates have led to improvement in certain years, but the years where -- that matter as you get into Keeyask being online, costs are basically in line with where the NFAT baseline scenarios were, maybe a little higher. Of course, remember, these don't have the accounting changes and the other things we just talked about, or the conservatism built into -- that -- a conservative adjustments that I'll -- I'll discuss as we move on.

These are without contributions to reserves, so there's no -- no debates built into here about what year you're targeting what percentage. This is just the cost that ratepayers need to cover, and it also helps emphasize why ratepayers must first absorb the project costs before your load on extra equity contributions. And I -- I say that by way of the jump you see between about 2021 and 2023/'24, there, as Keeyask comes online. The costs of the system are already going up significantly, and that's going to hit ratepayers through the -- the basic cost structure in the IFF before we start talking about adding reserves.

So during those years saying, I also need rate increases to get the reserves up is like a -- a triple whammy, if you like. You've got Bipole coming online. You have Keeyask coming online. And now you're saying, Along with those cost hits on the depreciation and interest side, I also want to build reserves.

I will say we produced a version of this graph that brought this out to a unitized basis, so it divided it by a load. We use the load, as I corrected this morning, at the generator terminals, and as a result of load decreases, since -- in the --

in the load forecast, you'll see the orange or red line is -- is somewhat higher, but it's still within the range. And I'll -- I'll leave it at that. That is in -- that is also in the prefiled testimony in the background papers.

Moving to slide 31, you'll see the same structure of graph. Again, the blue line is NFAT. The shading is the cone. This time, we're measuring the retained earnings in dollars. And what you'll see is that huge benefit we've had in the orange line, being MH-16 with interim, the huge benefit we've had of the delays and Keeyask and the high water in terms of the ability to build a much stronger balance sheet before the project comes online.

It seems odd it's not advantageous to a capital project to come in late. Keeyask coming in late hurts in terms of how soon you can start to collect some export revenues, and it hurts in terms of the interest costs you have to carry while it's in service, but all the time that it's under construction, you get the opportunity to build your balance sheet to a stronger level before it hits.

We also benefit from the high water during this period, but that is the -- that is in the bank. It's not in the forecast. The forecast is based on mean water. The -- the -- in -- the parts -- it's in the bank from the past. High water is built into here, and as a result, you see that the orange line no longer bottoms out anywhere near as low as we thought it was when we sat here at NFAT. It also bottoms out later because Keeyask comes online later, and its pattern of recovery is somewhat later. It's delayed by three (3) or four (4) years, but it's the exact same pattern at a better level. The other line that's put on here is the -- the red dots, which is effectively Hydro's 7.9 percent plan to emphasize the difference in -- in perspective.

Now, continuing with the same structure of -- of graph, we move to page 32 of the presentation. And this one's the same structure, but a much longer horizon. Mr. Osler already had this graph in his presentation, so I don't intend to dwell on it, but it emphasizes the NFAT again in blue, the shading on NFAT, the red of Hydro's 7.9 percent plan, the orange of the same with the 3.95 percent scenario, again without the benefit of the other changes we're talking about, and purple for those who will recall Hydro's original NFAT scenario. That is the plan with the Conawapa that Hydro had planned. So in terms of absolute levels of debt, we're -- we're not talking the same league as once you put a Conawapa onto it.

This graph, if -- if anybody wanted to argue about erosion, this would be the graph where someone goes to say, You can see where the erosion is. We're going to have a -- a debt that peaks higher than we ever expected it, and that is true because of the capital cost. But as you see from the earlier slides, despite that -- that peaking higher, it has the benefit of offsetting interest costs being lower, and as a result, the cost of the plan ends up almost exactly mid -- straight down the fairway for where we expected the in plan -- plan costs to be.

(BRIEF PAUSE)

MR. PATRICK BOWMAN: Moving to slide 33, we get into the issue of what about WATM, this issue that's been raised about the weighted average term to maturity? And to remind people, this is a question that revolves around Hydro's treasury assumptions in the IFF, and whether by taking on a 7.9 percent rate plan, not only does Hydro pay down some debt faster, but Hydro will structure its debt differently, so as to capture this margin, this small gap between interest rates in terms of its short-term versus long-term rate.

And I wanted to emphasize a couple of things on this. I hope not to dwell on it, although there is about five (5) slides here, but if we're -- as -- as Ms. Steinfeld pointed out to me.

To boil it down to two (2) bullets, the first one (1) there emphasizes this issue has been hugely overstated in terms of the extent to which it's being used to -- to skewer, if I can use that word, certain scenarios. We have Hydro's response to MH-93, which sets it out in clear terms that if you're looking at the twenty (20) year type horizon, the entire issue of the twenty (20) year versus twelve (12) year WATM can be summarized as being .15 percent per year in terms of the rate path you choose.

So instead of three point six (3.6), it'd be three point seven-five (3.75). That's the entire extent of gap we're -- we're debating about, and that is based on the original MH-16 update with interim forecast. Hydro's rebuttal emphasizes that half of that gap has collapsed since then due to the flattening of the yellow curve. So we're not even talking .15 percent on the scenarios anymore. We're talking half of that difference.

So I want that to be sort of clarified

that the -- it's -- it's overstated for any -- any scenarios where you're looking at working from the sort of traditional frameworks. It's definitely not a reason to distinguish between a 7.9 and a 3.95 percent rate path, and I go on to explain the second key bullet I want to emphasize is anything that I put in the evidence, or that I discussed here, is not to suggest that these are treasury recommendations to Hydro.

Hydro has a very competent treasury department. Hydro's treasury department has put out an elegant plan. Mr. Schulz put in place a -- a very smart set of decisions about how to structure debt in the years leading up to Keeyask, and through Keeyask, out of the back end of Keeyask. It -- it has -- it's been executed well, and it's going to require day-to-day attention to make the best decisions of -- of rates on -- on the ground, if you like. I'm summarizing slides ahead so that I can keep moving.

But the question as -- as the Utility moves into a stronger cash position, it's going to have to actively plan how to manage its debt portfolio. Once we move out of the camp and rebuilding phase, Hydro is going to be in a position where it -- it would be expected to be in a position where cash generation under normal water is -- is big enough that it has to have debt -- a debt portfolio that it can manage that cash. In other words, it has to have debt coming due to effectively repay. Otherwise, there's -- to be cheeky, there's nowhere to put the cash. That's what happens when you're done a building scenario.

And so that's what I -- Hydro is managing towards, and -- and I think they've done it quite well. The question is whether for an IFF planning scenario, you should be putting in place an assumption of this ability to capture this -- this spread, because your interest rates are higher, this spread that half of it disappeared on us in a couple of months while the interest rate curves moved around, and in -- in practical terms, is about a quarter (1/4) of a percentage point at the best, about half that since it's collapsed, on -- on an overall interest rate forecast, that is, you'll see move -- has moved by about a half (1/2) a percentage point overall between -- between the scenarios. So it's -- it's well within the range of -- of variability that one would -- would call sort of noise, and getting too clever, I think is -- is -- would not be recommended in an overall rate -- rate plan or IFF.

MR. ANTOINE HACAULT: Unless the Board has questions on this issue, we'll move to slide 38.

THE VICE-CHAIRPERSON: I'm not looking at Ms. Steinfeld when I ask this question, but can we go back to slide 32, Mr. Bowman? I think that's the one where you said if we want to talk about any slide in terms of erosion, this would be the one we should look at?

MR. PATRICK BOWMAN: Yes, I'm there.

THE VICE-CHAIRPERSON: Okay. So you lost me in your argument, there.

MR. PATRICK BOWMAN: What I'm saying is, and I believe this is similar to Mr. Harper, if you want to look at Hydro's forecasts from one (1) forecast to the next, there are two (2) things you need to consider in terms of assessing whether something is better or worse, because better or worse is just a little too simplified. One (1) is, you need to make sure you're looking at an appropriately updated set of assumptions, and the second is you need to clear about what test you're going to apply to determine if something is better or worse.

And I'm suggesting that when you compare the previous GRA to this GRA, on a net income basis, we're better. On a risk basis, we are much better. On a total costs over time, we are approximately equal. On a maximum debt lev -- basis, this is the slide that emphasizes we're a bit worse. So you're going to find this mix of ups and downs, and I -- I think he may have used the term -- Mr. Harper may have used the term, 'it's a wash'. Once you set out your tests and you consider these things, you wouldn't necessarily call this an erosion overall.

If your only concern is max debt, then you might say, Yeah, I'm -- I'm behind, whereas if your only concern is downside risk, you might say you're ahead. But on balance, we consider them, this is one that's on -- on -- in that column, if you like.

THE VICE-CHAIRPERSON: Thank you.

MR. PATRICK BOWMAN: Now, we're headed to slide 37, I believe, which was just that point that I think may have been a bit cryptic without the image. The -- this is the interest rate forecasts that Hydro has for its -- its IFFs, and the orange -- and you can see the interest rates down the vertical axis, and -- and across the bottom. This goes from 2006 to 2034. The orange was the forecast from IFF14. The green is the forecast from IFF15. The jumble of lines below that are all the various forecasts from IFF16. And some of those have twenties (20s), and some of those have -- have twelve (12) year WATMs, and half of the difference between them has collapsed.

That's the base of my point, that in practical terms, this issue is about the average interest rate you can achieve. It's about whether you can be -- if I can use the word sort of clever enough to figure that you've somehow found this -- this gap between the lines. And I'm going to suggest for a long-term forecasting basis, it's a -- it -- it wouldn't be appropriate to build in differing assumptions on that, depending on the rate path.

Slide 38. Now, having discussed all that, we're moving to section 6 in the prefiled testimony. Having discussed all of those considerations about how does -- how does the world look when you're taking Hydro's models of the, I'll call, twenty (20) year perspective? That's section 5. This is now saying, But now let's pierce into Hydro's models and see whether there are some things that -- that also require comment, or attention, or will seek -- be -- be reasons why those lines aren't necessarily the only thing we want to rely on.

This slide is about the issue of capitalization of overheads. As far as I understand it, this issue is largely resolved. Hydro moved large amounts, $120 million worth of things it used to capitalize into wanting to expense, which put a huge burden on rates as that was done. The Board said no to the last 20 million, and said, I want it capitalized again. These are, in my submission, validly capital costs. They should be treated like capital costs. They should be thought of as capital costs. They're not pushing liabilities off to future ratepayers. They're not ignoring our grandchildren. They are costs that are a true and proper part of Keeyask or Bipole, just as any wire, or turbine, or anything of the sort is, and they ought to be con -- thought about the same way.

In doing that, they should be amortized, much like assets are amortized, because they relate to a pool of assets. If Hydro does not want to track them by asset, it can track it as a pool and amortize it, and the suggestion is it should do something like a thirty (30) year horizon, which is the average for all of its assets. It's actually a little higher. And it should to continue to do that in perpetuity. There's no reason not to. It's part of a regulatory standard, and the normal way that a -- any number of these utilities would talk about a regulated is by a set of regulatory accounts and standards that do not always mimic the same as their -- their IFRS accounts and standards. And I think this is a -- a good example.

IFF16 -- MH-16 -- MH-16 update with interim include this deferral and amortization, but only for a limited period. So all of the back end of -- of MH-16 has the extra $20 million in -- in costs rather than being deferred and amortized. That's the sum of that slide.

Slide 39. We have a similar issue with depreciation, which was the WATM of past hearings, if I may say so. And so I'm sure everyone loves to spend time on this, but the Board has made its conclusions that Hydro is to use the average service life procedure until such time as it comes back and convinces the Board to do otherwise, and the Board set out clearly what type of studies it would be looking for to do that. I suggest that the Board continue with the average service life, and that it not make an assumption that by default there will be a change to the equal life group procedure.

In the meantime, the thing -- the very simple point that the Board needs to understand is that both methods of depreciation will amortize your assets by the -- over the life of the asset. You will always recover all of your costs. There's a difference in the timing.

And in simple terms the equal life group method puts more of your depreciation costs in the early years of the asset, which is not only problematic from a regulatory perspective; part of the reason it's not approved in -- in a lot of places, but it's especially problematic when you're bringing on huge projects like Bipole and Keeyask.

Moving to the next slide. Actually, I take it back. Can we go back to slide 39? The principle -- this is -- I'm at the last major bullet. The principle that we're trying to achieve is that the outcome to rates should be the same as an ASL profile. If Hydro wants to do something else, or it elects with its auditors or with its internal accounts to do something else in its own books, it simply needs to provide a true up to be able -- to this Board to be able to implement the decision this Board made, which is to use the average service life procedure. It's not uncommon.

Anything else that's recorded in Hydro's books becomes a difference. And on their books they may have a difference, the -- the part that we've depreciated that we haven't yet recovered from ratepayers. But this Board, by endorsing to this point the ASL procedure, has said, You will recover it from ratepayers appropriately with an ASL methodologies, meaning as time goes on when this ELG approach should get cheaper for any given asset.

And that's the cost profile that we should assume we're trying to achieve. In other words, as long as this stuff is tracked by a vintage, by an asset class, it should be naturally amortizing. In the early years it will build up a balance. In the later years it will pay it down. And I provide an -- an IR response where it shows in Hydro's materials that that is exactly what should happen.

Hydro suggested it will be ever-growing, and I think that only arises if someone puts it is a one (1) line item, and bundles this stuff together. It is only ever-growing the same way as your capital plant in service is ever-growing. Any given capital asset is being amortized down, but you're always adding new stuff, so it's ever-growing. But that's not a reason to reject the approach.

Moving to slide 40. The issue for this hearing is that Hydro's IFF in the first ten (10) years, much less the next twenty (20), includes way too much depreciation cost to meet the Board standard.

They have implemented an approach that actually achieves the Board's outcome for the first number of years. And as you'll see there, it gets an ASL outcome.

And this -- this is table, I'm happy to go through if it fits within our time. But it shows a -- the regulatory deferral account. It shows the net movement. It shows the deprec -- at line 6 it shows the depreciation expense that Hydro built into its books. And at line 7, it shows the depreciation expense that will effectively be assumed in the IFF by year. So line 7 is what's in the IFF.

Line 8 is what should be the IFF, if you were sticking with an ASL procedure. And what you'll see is for the first five (5) years of this table, including '15 -- starting in 2015, Hydro achieves an ASL type outcome. Starting in 2020, Hydro proposes to start amortizing this balance, even though the principal is it would be naturally advertising on its own, as Mr. Kennedy was so emphatic about. Hydro actually starts amortizing it. So we end up with a somewhat higher depreciation expense.

But what really happens is after 2024, where Hydro then reverts to the ELG procedure, assuming that it's going to get that approval, and is also amortizing the remaining balance. And so we end up with rates that are actually higher than the ELG approach would even use. It's like an ELG by attrition. And the total difference over ten (10) years is 352 million. And by the end of it its 80 million a year difference and that will carry into the second decade, 80 million a year difference.

And this is why -- one (1) of the examples of why I'm saying when you look at those red lines, you look at MH-16, any of them. Almost none have been adjusted for this. The only one (1) that has the -- the undertaking exhibit that we put in our book of documents, MH-93.

(BRIEF PAUSE)

MR. PATRICK BOWMAN: The last point about revisions is on slide 41. And this is about the DSM spending. And as I note, DSM spending in MH-16 is still at levels effectively unchanged from MH-15. I put in some slides from Boston Consulting Group emphasizing how big a difference different DSM assumptions can make. Their slides go to 2030, which is not as far as we're talking about.

But the left-hand side shows the

difference in equity ratio by only varying the amount of DSM you do. And a huge part of that is what you do to your loads in your revenues. It also shows the interest coverage ratio and -- and Boston had Hydro run four (4) scenarios, one (1) they called balanced, one (1) they called significant ramp down, one (1) they called government 1.5, and one (1) that was a base.

And I will note that in terms of all of Hydro's forecasts of DSM the -- all the ones we're looking at were prepared with marginal values that were at the -- the start of the hearing, not the levels that have been provided since we're been in the hearing, which dropped by about a third for the generation component. With lower marginal values much less DSM would be cost-effective.

Switching to slide 42. This just is a -- a -- from a PUB MFR. PUB asked Hydro to run different assumptions on -- on DSM and they -- I'm -- I'm sure they are -- were run in a relatively simplified manner. But they emphasize -- the first column is MH -- is the MH-16 scenario of how much retained earnings Hydro will have by year. And the next three (3) columns run different scenario assumptions about DSM, and how much better retained earnings will be if Hydro takes different assumed levels of DSM.

And the one (1) that's really interesting to me is the middle one (1), MFR-77-II, which is the third column in the table. And this is effectively, what if we spend the entire DSM budget, but we fail to achieve the savings? And the answer is we end up with a lot higher retained earnings, meaning a lot lower ability -- ability to charge a lot lower rates.

So this isn't a question of spending. This is -- that -- that's the emphasis about how much the lost revenue from your -- your domestic loads is -- is a big feature. And it goes to what Dr. Yatchew was talking about, is building load in order to help pay for the new assets is -- should be a critical assumption. And -- and I -- I believe he called this an inefficient use of a -- an inefficient assumption, I believe. Definitely unfortunate.

And I would say DSM plans that don't change with changes in assumption in their marginal value, and don't change with changes assumptions about when your next plant is needed are not driven by an integrated resource planning framework, which is what this Board recommended. Sticking to 1 1/2 percent is

-- is not a responsive approach to reflect what -- what would what would be arising from a resource planning framework.

And -- and I have some further comments about that in the -- in the evidence that I think, notwithstanding that the -- that there is a piece of legislation saying Hyd -- the new agency will target 1.5 percent unless the Lieutenant Governor and Council or this Board recommend or -- this Board recommends the Lieutenant Governor and Council concludes otherwise.

I think at this point in time, Hydro's plan doesn't get to 1.5 percent. So I'm -- I'm taking it that they've reached the conclusion they shouldn't assume 1.5 percent, and I think that's a reasonable assumption. I think in light of the facts that are there, pending this Board having the chance to have its first major review of Efficiency Manitoba's plans, I don't see the -- the basis to assume that -- that the -- the largest plans that -- that may have been assumed to be efficient at the time of NFAT should still be assumed to be the type of plan that's appropriate today when we're hearing about the financial issues, and we're hearing about the reductions in export markets.

That is the end of the slides dealing with revenue requirement. I have a few brief comments on cost of service and rate design. Slide 43 -- or slide 44, I apologize, on cost of service. Reviewing the filing, my conclusion was of the cost of service study as filed largely follows Order 164/'16. It's refreshing to have a cost of service study that aligns with and an order and that needs at most some -- some small outstanding directives dealt with. We've been -- it's been a while in Manitoba since we've had that -- that scenario.

The only issue I comment on is customer service C10, and you will have heard some of these issues be canvassed already in this hearing. The sum total of the issue is, in -- in my submission, about $2.6 million being allocated to the three (3) general service large classes.

That is not supported. It's either functions that are not driven by the bulk power systems. They are driven by the distribution system. Or it's functions in which they are already paying for through another route. Or it's functions that don't relate to the type of services that -- that they receive, at least in the vast majority of services are not provided to them. And it's -- it's material in a sense as it's about 1 percent of the GSL cost. It's not earth shattering, but it's -- it's big enough that I think it merits adjustment in the cost of service study.

The other comm -- thing we comment on is the revenue to cost ratios and it -- I'm not sure about the debate over the measure of revenue cost coverages. I just know if I deal with a group of customers who are paying 180 million, and who have costs measured at 160 million, and the gap is 20 million, they would call that greater than 10 percent. 20 million out of 180 million of what they're paying is a greater than 10 percent gap.

Now, Hydro may do some other math to tell them it's eight (8). I would suggest that we do it by the -- the measures that would be relevant to customers, which is 20 million out of 180, and that's the -- the essence of my submission on that point.

Slide 45. I suggested in designing rates attention should be paid to the cost of service. I don't think it's an overriding consideration. I do work in jurisdictions where cost of service is an overriding factor, and it's far and away the biggest item cons -- considered is making sure that a cost of service ratio is at one hundred point zero zero

(100.00) in each and every GRA. I don't think that's the way Manitoba should set rates, just like I don't think it's the way Manitoba should set a revenue requirement without looking at the long-term.

I have a quote there, which is often frequently cited. It goes back to a -- it's quoted in Goodman, which is the -- the lawyer's version of Bonbright, if I can put it that way, on utility rate-making from a case from the 1930s, but which emphasizes that the burden -- the burden should be on the party who is trying to argue that rates shouldn't be based on costs.

I think the zone of reasonableness of 95:105 is appropriate for a large utility with a sophisticated cost of service study. I think examples of small utilities I've worked with, 90:110 or utilities whose cost of service studies have high degrees of -- of uncertainty, or they don't have a very sophisticated approach, I don't -- we're not -- we're not that type of utility.

I think Bipole III will likely have the type of effect people are showing. In other words, if you -- it will have a tendency to put a larger cost in percentage terms on people who make more use of the bulk power system. I think that's a given, the way it's classified. So in cents per kilowatt hour basis, it'll cost a little more for residentials than industrials. But overall, people will tend to pay the same cents per kilowatt hour for Bipole. And as a result, the RCC ratios will pull in somewhat, but I don't -- it won't address the greater than 10 percent that we're facing.

And so I think it's appropriate if you're going to have a cost of service study, to use it to make some adjustments. I also want to note that a zone of reasonableness is not a zone of -- of excuse or a zone of negligence to say you're one at one-o-four-point-nine (104.9). You can stay there for twenty (20) years. It's meant to be variability about a hundred. It's not meant to be -- sit right at the -- at the edge and consider that as good as a hundred.

So my suggestion is there is a room to give a lower than average rate increase to the classes who are above that would apply to the GSL 3,100 and greater than a hundred. It would also apply to one (1) of the GS small classes. I'm not saying dramatic moves like 10 percent. We're talking 1:2. It's a difference of about 2.2 to 4.4 million in Hydro's revenue. And it's -- there is a number that's been calculated that what if we took ten (10) years to get to unity and the number was 1.2 percent.

By the way, there was also claims made at one point that Wuskwatim was going to do the same thing, that Wuskwatim would take care of our revenue cost coverage problem for industrials, because it was going to do the same thing as everyone says Bipole and Keeyask will do. And clearly they did not, so.

The last slide, 46. I hope it's the last slide. On the issue of optional time of use rates, I have been suggesting for some time and the members have echoed in my -- to me the importance of industrials having some options for how they manage their costs. Many if not most jurisdictions, if you walk into sign up for service, you have more than one (1) option. Even here if you looking for service, you have more than one (1) option. There's another rate called a limited use of billing demand. You will make your decision based on your expected load profile.

I'm suggesting one (1) more is needed, which is a time of use one (1). It doesn't have to be a rate design imposed on everyone. It could be done on an optional basis. And that I don't -- what we've seen to date is Hydro is -- is loathe to go down the road of optional. As an example, BC Hydro has an optional time of use versus the -- versus a base one

(1). It's poorly designed and not a lot of people use it, but it -- it is an option.

The problem, of course, is that Hydro hasn't brought forward a rate design, and the proper way to design rates is with an eye to both embedded costs in terms of a fairness sense, but also marginal cost in terms of a rate design sense. And since our marginal cost have changed so much, I think it's acceptable for Hydro to say, I haven't thought through quite how I would do it, even though a couple of years ago they had a proposal.

I would only emphasize one (1) point that seemed to be the theme of a number of the Board's IRs, which is how do time of use rates help anyone if no one shifts load. And my submission is time of use rates help make the rates within a class fairer, even if customers don't shift load.

If customers can shift load they can bring benefits to the entire system. If a customer can bump some of its load from on peak hours when Hydro can get a good price to off-peak hours when Hydro can't, even if it's not a lot of load, that's a net benefit to the system. It will improve our export prices. It'll improve Hydro's flexibility. And I -- and it could be a way that a customer could help manage their bill increases or cut their costs. So it's an upside of a time of use design. It's not central to a time of use design. You don't require load shifting to be able to come up with a time of use design.

MR. ANTOINE HACAULT: With that I'd like to thank the Board for its patience and its indulgence in allowing Mr. Bowman to complete his evidence.

THE CHAIRPERSON: Thank you. Thank you, gentlemen. We're going to have Mr. Williams do his cross-examination. I'm going to ask Dr. Williams if we can defer his until after lunch. Mr. Williams...?

CROSS-EXAMINATION BY MR. KEVIN WILLIAMS:

MR. KEVIN WILLIAMS: Thank you. Mr. Bowman, as you're aware I'm acting on behalf of the Business Council of Manitoba whose primary interest in this proceeding relates to the credit rating of Manitoba Hydro and the province, and the impact of increased borrowing costs on the financial health of Manitoba Hydro. If I could have you turn to your pre-filed testimony, page 4 of 4, please. Under number 3, towards the bottom of page.

You point out, sir, that Standard & Poor's no longer considers Manitoba Hydro to be self-supporting.

Isn't that correct?

MR. PATRICK BOWMAN: Yes.

MR. KEVIN WILLIAMS: And you point out that at least three (3) other Canadian utilities that were similarly reclassified to non-self-supporting, and indicate that the downgrade was driven by a change in Standard & Poor's basic -- basic methodology.

Do I have that right?

MR. PATRICK BOWMAN: Yes.

MR. KEVIN WILLIAMS: And putting aside the reason for the -- for the downgrade, you would agree with me that this is a significant change as to how Standard & Poor (sic) has viewed these his -- utilities historically; isn't it?

MR. PATRICK BOWMAN: Yes.

MR. KEVIN WILLIAMS: And you would agree with me, sir, that this significant change is not likely to have a positive impact on utilities or the provincial's credit -- province's credit ratings, as applicable; correct?

MR. PATRICK BOWMAN: Mr. Williams, not necessarily. In fact, Standard & Poor's actually had documents that were conveniently provided by Hydro. In one (1) of the interrogatories we asked them about this issue of self-supporting government owned enterprises. And they even have a caution in there of saying, Be careful that you don't -- I'll go back a step. The idea that a utility is self-supporting means that when you look at its debt you understand it will take care of its own debt and the province doesn't have to. It's no longer tax supported. It's -- its self-supporting.

And it's self-supported by its revenues. If it's not self-supported by its revenues, then you consolidate with the -- the province, and you look at the total debt burden as well as the total financial capability of those two (2) entities together. In other words, you don't just bring the debt. You bring Hydro's revenues to the province. And there's a definition in -- in one (1) of the Standard & Poor's reports attached to -- I believe, it's MIPUG-8 that sets this out.

There's actually even a caution that says, Be very careful, dear reader, it's their guide about how they do ratings, that you don't sometimes end up bringing self-supporting entities into a parent and make the parent stronger as a result, because the entity you're bringing in, compared to a government, actually effectively has a balanced budget. It's paying its own way. It's covering its costs. That's better than a lot of governments are. So failing to consider something self-supporting doesn't necessarily mean that the parent's going to be worse off. It just means --

MR. KEVIN WILLIAMS: Okay.

MR. PATRICK BOWMAN: -- that it's going to be considered as a bundle.

MR. KEVIN WILLIAMS: Thank you. But you would agree with me, sir, that this -- this change in methodology and the comments as it relates to it no longer being self-supporting, is a signal from Standard & Poor's that they have concerns about Manitoba Hydro's financial health that they hadn't expressed previously.

Isn't that fair?

MR. PATRICK BOWMAN: I -- I think Standard & Poor's words say that Standard & Poor's has concerns. And I think that if you read through that you'll find the -- the -- words to be effect of -- of concerns and high levels of debt and the like. I would be cautious about using a change driven by a change in methodology to say that somehow that is a --

a signal about this utility.

I'm just suggesting as -- as -- that's purely at an analytical framework level. If a methodology change is what drove the change, I don't think one would say it necessarily follows that it was based on the facts of this utility. That -- it's based on the measures that were applied. If you want to find the quotes you're talking about, you'll find them in Standard & Poor's report though.

MR. KEVIN WILLIAMS: Right. But my point is, sir, is Standard & Poor's went out of their way to make some new commentary that it hadn't made ever before regarding concerns it had with respect to Manitoba's self-supporting status.

Isn't that correct? It's in that report and it's there for the first time; isn't it?

MR. PATRICK BOWMAN: I haven't gone back through Standard & Poor's reports going back for the -- the scale of -- of time we're talking about here, but I wouldn't be surprised if it's there for the first time.

MR. KEVIN WILLIAMS: And that, sir, is a signal from Standard & Poor's that they have raised a new concern. They have a new concern about Manitoba Hydro.

Isn't that fair?

MR. PATRICK BOWMAN: Well, it's -- the reports say what the reports say, Mr. Williams. I -- I would hate to put words in their mouth.

MR. KEVIN WILLIAMS: Well, sir, it seems to me that -- that there's only four (4) options that can occur as a consequence of Manitoba Hydro's loss of self-supporting status as -- as Standard & Poor's defines it. That is that Manitoba Hydro's borrowing costs could go down, they could go up, they could stay the same, or you're not in a position to comment on it.

Which of the four (4) would you agree with, sir?

MR. PATRICK BOWMAN: I -- I would give the same evidence as previous witnesses that I don't know that anyone is in a position to comment on what would happen. They -- they sometimes move in the same direction, sometimes move in different directions, and -- but typically, a downgrade or a loss of self-supporting status would be viewed as a -- as a negative affect. Beyond that, what will actually occur is -- is beyond what I think anyone can say with -- with certainty.

MR. KEVIN WILLIAMS: Sir, broadly

speaking, as it relates to the credit markets and interest cost, borrowers with lower credit ratings typically pay higher interest costs.

Would you agree?

MR. PATRICK BOWMAN: Yes.

MR. KEVIN WILLIAMS: Now, in terms of the change in methodology and the fact that Standard & Poor's now notes that Manitoba Hydro is no longer self-supporting, there's -- there's no notice that -- that Standard & Poor's gives of that.

It just happens; right? It shows up in a report one (1) day; correct?

(BRIEF PAUSE)

MR. PATRICK BOWMAN: Sorry, Mr. Williams, I was just discussing with the other witnesses about the definition of notice. I -- I do believe you will find routinely in those reports outlooks, comments, watches, the sorts of things that I would colloquially define as notice.

MR. KEVIN WILLIAMS: Right. But my point is, is that in this case there was a change, and it was that Standard & Poor's indicated they no longer regarded Manitoba Hydro as self-supporting.

We've agreed on that, have we not?

MR. PATRICK BOWMAN: Yes.

MR. KEVIN WILLIAMS: And my point is, there was no advance notice that they were going to do it. It just showed up in a credit report.

MR. PATRICK BOWMAN: That's my understanding. As a matter fact, the response -- again, I believe it's MIPUG-8 -- Manitoba Hydro 8 notes that Manitoba Hydro had no notice either, and they -- after it happened it asked -- the response asked what they did about it. And they -- they emphasize that they did go -- have a number of meetings with Standard & Poor's and -- and do their homework, if you like, to figure out what had happened. And -- and that's when they eventually concluded that it was nothing that Hydro could have done anything about it, and it wasn't necessarily fact driven; it was methodology driven.

MR. KEVIN WILLIAMS: And you, sir, are not in a position to say whether one (1) or both of the other bond rating agencies may not alter their -- or change their methodology, which would result in them not viewing Manitoba Hydro as self-supporting going forward?

MR. PATRICK BOWMAN: I cannot say

that.

MR. KEVIN WILLIAMS: And, sir, on page 4-6 of your pre-filed testimony, you make the comment that DBRS -- and this is in the last full sentence, sir, on the page. You quote DBRS as indicating that:

> "DBRS could consider reclassifying a portion of the utility's debt to be tax supported should the financial health of the utility deteriorate to the point where its expenses cannot be recovered through rates."

You see that, sir?

MR. PATRICK BOWMAN: Yes, I -- and I wouldn't be surprised if that sentence is -- is sort of trite or al -- always present in -- in -- whether it's written or not, in any -- in any credit rating assessment because it's basically the test. It's if rates can't cover costs or rates are not expected to cover costs then the -- the debt is not self-supporting. But one, presumably, must read rates here meaning rates combined with the rate increases one may be able to get if it became necessary.

MR. KEVIN WILLIAMS: And the purpose behind Manitoba Hydro's rate increase in this case, sir, is to -- is to, in part, improve their financial circumstances based on the way they analyze it.

Isn't that fair?

MR. PATRICK BOWMAN: The -- I think we've set out the purpose in -- of Hydro's rate increase request is to get to a 75:25 within -- within ten (10) years.

MR. KEVIN WILLIAMS: Now, sir, you would agree with me that DBRS's comments that you quote is a signal from DBRS that they have concerns about Manitoba Hydro's debt levels?

MR. PATRICK BOWMAN: Mr. Williams, I don't believe this sentence necessarily says that. I don't -- I don't believe this sentence necessarily should be read to be inconsistent with what KPMG said either. There -- there are other places in these reports where -- where metrics are analyzed and -- and the credit rating agencies say where they've seen erosion in metrics. But this sentence is simply saying if this happens, then that would happen, which is -- like I said, it's more a methodology quote than a -- than a shot across the bow, I believe.

MR. KEVIN WILLIAMS: Well, I -- I -- sir you -- you've quoted it and says that -- that this was a concern that -- that DBS (sic) raised. And my point, sir, is -- is, essentially, that -- that that's a signal from DBRS that they have concerns about Hydro's debt levels.

Is it not?

MR. PATRICK BOWMAN: I believe that is over reading into the sentence. In fact, I -- I quote it to emphasize that the same considerations that I speak about above, I believe, if I remember correctly, in regard to -- sorry, directly below on page 4-7 in regards to what Standard & Poor's cares about is also cared about by DBRS.

In other words, nobody has any dispute with the fact that Hydro's credit metrics are different than a commercial utility. They're different than a private utility. No -- no dispute with that. And if you try to apply the metrics that one (1) of these credit rating agencies would apply to a private utility, Hydro will fall in -- in the bottom category, if you like. Significant leverage, I think, is what -- what Standard & Poor's calls it.

MR. KEVIN WILLIAMS: They -- they -- sir, they wouldn't have made that comment if they had no concern about Manitoba Hydro's debt levels.

Wouldn't you agree with that?

MR. PATRICK BOWMAN: No, I'm suggesting that what the comment is emphasizing is the importance of the regulator. It's the importance of the rate regime. It's the importance of being able to adjust rates when it becomes necessary to ensure that the bills are paid. That's what I'm saying, sir. And -- and the next page emphasizes that in Standard & Poor's methodology once you've reached the bottom tier effectively the -- the numbers no longer matter.

What matters is a bunch of other comments of, like, can I trust the regime. Are you in a country that's stable. Are you in an industry that's stable. All of which Hydro passes with spades. And then finally it gets down do you have a regulator that's stable and predictable and understandable. And I don't read the DBRS comment to be saying anything different than that. The rates is the key.

MR. KEVIN WILLIAMS: And -- and what Hydro is asking for in this -- in this whole process is to increase their rates as a consequence of the fact that they allege that they're undergoing increased costs.

Isn't that what this is al about?

MR. PATRICK BOWMAN: That -- that is Hydro's assertion, sir.

MR. KEVIN WILLIAMS: Thank you. Those are my questions.

THE CHAIRPERSON: Thank you, Mr. Williams. We'll adjourn until one o'clock. Thank you.

--- Upon recessing at 12:00 p.m.

--- Upon resuming at 1:03 p.m.

THE CHAIRPERSON: Thank you, Dr. Williams...?

DR. BYRON WILLIAMS: I believe that Mr. Hacault has something he wishes to say, and then My Learned Friend from Manitoba Hydro, Ms. Fernandes had some exhibits.

THE CHAIRPERSON: Okay. Dr. -- Mr. Hacault...? I almost promoted you to doctor, sorry. M. Hacault...?

MR. ANTOINE HACAULT: I'd just point out that Mr. Forrest when he was speaking about moral hazard, he believes he may have used a wrong adjective, "improve" instead of "increase" so we'll check the transcript and if it needs to be corrected tomorrow we'll advise the Board.

THE CHAIRPERSON: Thank you. Ms. Fernandes...?

MS. ODETTE FERNANDES: Thank you.

Good morning, Mr. Chair and panel members. Manitoba Hydro has responses to three (3) undertakings it would like to file. The first one is a response to Manitoba Hydro Undertaking Number 33, which was marked as Hydro Exhibit Number 122.

--- EXHIBIT NO. MH-122: Response to Undertaking Number 33.

MS. ODETTE FERNANDES: The next one is a response to Manitoba Hydro Undertaking Number 36, which is Manitoba Hydro Exhibit Number 123.

--- EXHIBIT NO. MH-123: Response to Undertaking Number 36.

MS. ODETTE FERNANDES: And finally, we have a response to an undertaking which was taken at transcript page 3088 and that would be marked as Manitoba Hydro Exhibit Number 124.

--- EXHIBIT NO. MH-124: Response to Undertaking taken at transcript page 3088.

THE CHAIRPERSON: Thank you. Dr. Williams...?

DR. BYRON WILLIAMS: Yes, and good morning -- good afternoon, members of the panel. Just on your table as well, or your desk as well, should be an -- a correction to the testimony of Mr. Harper, which we would suggest be marked as CC-48.

And for the transcript, it relates to transcript pages 5368 through 5371, and Mr. Harper to facilitate the cross-examination had accepted some figures, subject to check.

Upon reviewing those figures rather than accepting the $150 million figure used by Manitoba Hydro would revise that to $100 million. So that's the short, in terms of Mr. Harper's correction.

--- EXHIBIT NO. CC-48: Correction to the testimony of Mr. Harper relating to transcript pages 5368 through 5371.

CROSS-EXAMINATION BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: Good morning -- good afternoon, I'm not sure what time of day it is MIPUG panel and, Mr. Forrest, this will be the culmination of twenty-five (25) years that you and I have see -- been seeing each others in regulatory hearings; is that correct, sir?

MR. GERALD FORREST: Yes, it is, Byron, and it's been a pleasure all through those twenty-five (25) years, most of it anyway.

DR. BYRON WILLIAMS: I can remember a few early moments that may not have been so.

I wonder if I could pull up from the MIPUG material today Exhibit 26, slide 17; that would be from the PowerPoint presentation today, Kristen.

And Mr. Osler, directing your attention to the recommendation that appears at the bottom of this page, the second last arrow is to re-establish consideration of relevant MRET as key reserve requirement.

That was your recommendations, sir?

MR. CAMERON OSLER: Yes.

DR. BYRON WILLIAMS: And by MRET, just for the purposes of clarification, that refers to a drought target coupled with self-insurance; is that what you mean by that -- that -- that acronym, sir?

MR. CAMERON OSLER: That acronym in -- and as it was defined in the evidence that I reviewed from the '80s and the early '90s came to be equivalent to a two (2) year drought and a self-insurance provision. We were not exclusively limiting it to that. In this hearing, and in recent proceedings, the drought protection has been expanded to a five (5) or seven (7) year droughts, and that would be consi -- consistent with the concept of consideration of a relevant MRET for today.

And the Board may want to include some provision for self-insurance, but certainly the five (5) or -- we were focused on the five (5) versus the seven (7) year type of drought test that is being used in proceedings today.

DR. BYRON WILLIAMS: And -- and that was my point of clarification, sir, you weren't focused on the two-year figure as it was historically used, you were looking at the longer term five (5) to seven (7) year period in terms of a low probability but severe impact event?

MR. CAMERON OSLER: Yes. We were looking at it as the highest single risk as it was back then redefined with modern parameters and numbers and the key thing that you want to make sure that you're paying attention to, in that context, in terms of financial strength of the Company.

DR. BYRON WILLIAMS: Thank you. And,

Mr. Forrest, near the start of your evidence this morning and we'll stay on slide 17. But you refle -- you referred to one of your regrets relating to the accountability legislation introduced in Manitoba in the late 1980s was the absence of Public Utility Board oversight over capital programs.

Do you recall that statement, sir?

MR. GERALD FORREST: Yes, I do.

DR. BYRON WILLIAMS: And you -- you made that statement -- or that observation in the context of the 1980s related to both rate turmoil, as well as the rate -- the findings of the Tritschler reports, sir, is that correct?

MR. GERALD FORREST: That's correct.

DR. BYRON WILLIAMS: Sir, on slide 17 when we look at your's and Mr. Osler's recommendations, we don't find a recommendation for PUB oversight of capital programming on this page.

Do we, sir?

MR. GERALD FORREST: That's correct.

DR. BYRON WILLIAMS: And is that because, in your view, the -- the horse or the cow has left the barn and -- and -- or -- or is it an oversight, sir, or is that a recommendation you would make?

MR. GERALD FORREST: You know, Mr. Williams, that is a very, very significant question. The Board has this application before them and part of the consequences of this application before them, they are dealing with the financial results of what had happened over the past few years and going forward, the results that occur in the years coming ahead.

So from my particular point of view, while I wouldn't have had any difficulty in making that recommendation, I -- I did want to indicate to the Board that that was, in my opinion, what we want -- would like to do in the long term is not to have this problem exist again.

In other words, what I was trying to outline earlier today, we've had the problem back two (2) or more decades ago a similar problem and now we're into that problem again. And as adults, we should at some point in time recognize the process isn't dealing with the issue the way we would like it to be dealt with. So from my particular point of view, in the long term, the Board should have some oversight responsibility on capital programming in Manitoba. It drives your result.

DR. BYRON WILLIAMS: Thank you for that, sir. Mr. Bowman, we can go to slide 41 for a second, if you -- if you wish, but you make the -- you note at the bottom on the right, the observation that lower marginal -- a lower estimate of marginal costs should lead to reduce levels of cost-effective DSM.

You make that statement, sir?

MR. PATRICK BOWMAN: Yes.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: And your bigger picture argument, sir, with regard to demand-side management as it's reflected in Manitoba Hydro's forecasts, is that Hydro's DSM spending assumptions do not appear to be based on integrated resource planning; would that be fair, sir?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: And while in your evidence you may not specifically refer to a cost-effective DSM, you do suggest that in the IRP context one should look at the ability of demand-side management to achieve both economic -- well, economic benefits, including rate benefits; agreed?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: Sir, can I try to pin you down on how you would define "cost effective demand-side management?"

MR. PATRICK BOWMAN: For the purposes of this slide you have in front of you, I'll say that cost-effective would follow -- could follow any definition and come to the conclusion that's set out there. That if you see the value of the power as measured by your marginal costs, whatever way you estimate those, declining, whatever metric you're using to determine cost-effectiveness or -- or efficiency should be responsive to that.

So I -- I don't -- I think that the conclusion on the slide that you brought us to is -- is conclusion independent. Are -- are -- sorry, definition independent.

DR. BYRON WILLIAMS: Sir, at -- at a high level, as amended in the course of this process, would it be fair to say that Manitoba Hydro's marginal costs which they use for evaluating demand-side management are based on the export value of energy, plus a value for capacity started in the early 2030s.

Would that be a fair characterization, sir?

MR. PATRICK BOWMAN: Well, for the generation component.

DR. BYRON WILLIAMS: And Mr. Bowman,

is that a definition you can work with in terms of cost-effective DSM?

MR. PATRICK BOWMAN: It -- it is. I think -- particularly you need to look at the forecast in front of you to make sure that you're working with a sensible concept of what level of DSM you should be targeting. If we're immediately ahead of addition of new plant and your -- your costs are going to be going up in any event, then aggressively applying a definition like what we call the RIM test, RIM test is a DSM moniker meaning no matter how much DSM I do, rates should always be lower as a result of doing the DSM. And so there's -- keep that concept in your head of the RIM test.

If you're about to add a new plant and your rates are going to go up anyway and you're -- someone brings you an alternative running DSM that causes your rates to go up, but not as much as they would have with the new plant; that is cost-effective DSM, even though it would fail a RIM test.

But if you're decades away from adding your next plant or making your next commitment, then I think the -- the rate impact type of test has more relevance. I don't think you should be wedded to it, or strictly use of -- of rate impact type test, but I think it's -- it's a -- it's a good indication that your DSM spending -- you should be very cautious if your DSM spending is leading to rate increases to all the other customers and bill savings for the participating customer. I think that is -- there's -- there's -- that fails a basic principle of -- of sort of cost-effectiveness.

DR. BYRON WILLIAMS: Mr. Bowman, would you agree that proper integrated resource planning involved -- involves placing every resource option, including energy efficiency on an equal footing as a starting part of your analysis, sir?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: And it's important, you would agree, to look at conservation measures as a stand-alone energy resource competitive with other generation resources; correct?

MR. PATRICK BOWMAN: Yes, I was -- I want to just be a little bit cautious because I think that's may be, in some cases, a little bit too narrow a definition of -- of -- of energy efficiency or of conserv -- the role they can play. For example, at NFAT, you know, we had a -- a path and Hydro looked at some DSM plans and many of the DSM plans were -- were economic regardless of which path you followed. So they were sort of resource plan agnostic, if you like.

So it's not only about does a DSM plan help you meet a resource need. It also could help you on a -- on a cost front separate from, do I build now or do I build later. But I -- I think that's a -- it is -- it is a fair characterization if you're going to do -- if you're going to do a resour -- integrated resources planning, DSM should be one (1) of the resources you're assessing.

DR. BYRON WILLIAMS: And you would agree that proper integrated resource planning should lead to optimized outcomes for consumers?

MR. PATRICK BOWMAN: You know, people will often use the concepts of integrated resource planning with sort of a least cost planning framework; that overall it will lead to the -- the lowest overall cost for the -- for the system and, ideally, for any given customer on the system, although you don't always get the benefits to flow through to different customers equally.

DR. BYRON WILLIAMS: Mr. Bowman, you'd agree that cost-effective DSM would have benefits for consumers over the long run, including the potential to defer expensive new load?

MR. PATRICK BOWMAN: You know, as an

overall program, cost-effective DSM or DSM in general can, obviously, affect your ability to -- to meet load or to build a new plant, if that's the -- the core of your question. As I say, this may not be the only part of DSM you're doing and -- and it may not be the only justification for it.

But it's -- it's one (1) piece of why -- why one would assess DSM and it's one (1) of the concerns you'd have about large DSM programs at this point is sort of ability to defer the next plant is -- is -- is very intangible.

DR. BYRON WILLIAMS: Mr. Bowman, perhaps going to some of the points you've been making in my previous questions, you'd also agree for individual consumers who are able to benefit from programming, cost-effective DSM has the potential to mitigate bill impacts as well, sir?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: And, sir, to the extent that export opportunities exist, and that export prices are equal to or greater than the Utility's cost of demand-side management measures freed up domestic load used for export sales can serve to mitigate or avoid the costs associated with DSM measures?

MR. PATRICK BOWMAN: Yes. It -- avoid. Maybe can serve to mitigate, offset, justify. I'm not sure about "avoid" but, you know.

DR. BYRON WILLIAMS: And, Mr. Bowman, you're aware that the Efficiency Manitoba legislation was proclaimed today?

MR. PATRICK BOWMAN: I -- I was aware there was a press release today about Efficiency Manitoba. I'd have to admit I've been tied up this morning.

DR. BYRON WILLIAMS: Sir, you devoted a number of pages in your evidence to discussing the implications of -- if any, of the Efficiency Manitoba legislation on -- on integrated resource planning in Manitoba; agreed?

MR. PATRICK BOWMAN: I have some comments of that in the -- in the testimony, yes.

DR. BYRON WILLIAMS: And, sir, in terms of trying to get to the heart of your conclusions there, would it be fair to say that while you accept that the Act specifies a predetermined value as a savings target, you would also acknowledge that the Act provides for a role for both the agency and the PUB to comment on the appropriateness of the target; agreed?

MR. PATRICK BOWMAN: Yes. And, actually, I believe Manitoba Hydro's as well, and others. Not just the agency and the PUB.

DR. BYRON WILLIAMS: Thank you and -- and ultimately, sir, it's your conclusion as well that the Lieutenant Governor in Council may also, by regulation, adjust that target?

MR. PATRICK BOWMAN: Mr. -- Dr. Williams, I -- I don't need to get into interpreting legislation, but my understanding is the Lieutenant Governor in Council is the only one who can adjust the target.

DR. BYRON WILLIAMS: Okay.

MR. PATRICK BOWMAN: The rest make recommendations.

DR. BYRON WILLIAMS: Mr. Bowman, Bipole III will be coming into service at an estimated cost of $5 billion in the foreseeable future?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: And Bipole III is not yet included in the -- the cost of service 18 or the cost of service study, agreed?

MR. PATRICK BOWMAN: Most of Bipole III is not included. There's actually a -- as I went through in my -- my response to Manitoba Hydro IR --

an issue which Manitoba Hydro called an -- an error, curiously but about $40 million of the costs of Bipole III is actually in -- in rates before Bipole III comes into service, and that's -- some of that is the Riel 230 kV station and some of that is the capital taxes associated with Bipole III, which are not capitalized to the project. Capital taxes on all of those big projects are flowing through -- through rates today, they're not -- not capitalized.

DR. BYRON WILLIAMS: So the 4.9 billion or more of Bipole III is -- is not incorporated in the current cost of service studies, sir?

MR. PATRICK BOWMAN: Well, I'm -- I apologize, I am referring to the annualized cost.

DR. BYRON WILLIAMS: Ah, annualized.

MR. PATRICK BOWMAN: So Bipole III's annualized cost is somewhere in the $300 million range; of that 300 million, about 40 is currently in rate.

DR. BYRON WILLIAMS: Thanks.

MR. PATRICK BOWMAN: And then there's another tranche to come in. Obviously, the -- the bulk of it once it's in-service.

DR. BYRON WILLIAMS: And when -- it

would be fair to say that the -- it is not fully incorporated into the cost of service study?

MR. PATRICK BOWMAN: I'm sorry, yeah, that absolutely is not fully incorporated into the cost of service study.

DR. BYRON WILLIAMS: And when it is incorporated into the cost of service study, sir, you would expect the result to be that bulk power costs in the cost of service study will be higher; agreed?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: Notably higher?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: I wonder, Kristen, if I can get you to pull up Board Order 116/08, page 347. And towards the bottom of that decision.

And here you see, Mr. Bowman, back in 2008 an Order for Manitoba Hydro to prep -- to prepare a thorough and quantified risk analysis and can -- include improbabilities of -- of identified operational and business risks, sir?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: And among the factors identified are interest rates and drought; correct?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: And while Kristen is turning up the background paper, appendix C to your evidence, you heard this morning, Mr. Bowman, Mr. Forrest advert to the fact that there was a new tool available to this Board, namely, uncertainty analysis that was not available to the Public Utilities Board back when -- when -- when he and I were somewhat younger in the 1990s or 2000s?

MR. PATRICK BOWMAN: Yes. I'll -- I'll just say, for the record, the -- the recommendation you took me to I believe if you scale back in that Order, you'll find that it -- it arises -- linked to testimony I gave the Board about things they should be thinking about. It eventually led to a hearing called -- which was called the Risk Hearing and came out of it with Hydro being pressured to do more quantification and I believe there's a straight line from that to the uncertainty analysis as -- being framed as a response to a Directive coming out of that. So, I think the two (2) are -- are well linked.

DR. BYRON WILLIAMS: And -- and, in essence, Mr. Bowman, the uncertainty analysis is new in the context of General Rate Applications for Manitoba Hydro; agreed?

MR. PATRICK BOWMAN: Yes. The first that we saw it was in the -- the previous interim rate application, but it was determined that it wasn't part of the scope of that. So yes, it's absolutely the first.

DR. BYRON WILLIAMS: And we did see versions of it, not in the GRA context, but in the NF -- Need For and Alternatives con -- context, both from -- from Manitoba Hydro, as well as from Morrison Park; agreed?

MR. PATRICK BOWMAN: I'm going to suggest that -- Morrison Park I completely agree with. There's -- their -- their submission fully dealt with uncertainty analysis and -- and some probabilistic modelling.

Manitoba Hydro did some scenario modelling, certainly across the twenty-seven (27) cases we're talking about. I -- I don't think that model was, at that point, refined enough to do anything like we're talking here, although I -- like I said, I will say Morrison Park's probably was -- actually a step ahead of where -- where Hydro's material is right now.

DR. BYRON WILLIAMS: And, sir -- and thank you for that clarification.

The uncertainty analysis as presented in this General Rate Application differs from previous Hydro analysis, I'll suggest to you, in -- in the fact that rather than looking at single risks, it is able to explore a combination of risks, such as export prices, water flows and interest rates; agreed?

MR. PATRICK BOWMAN: Yes. I guess just to clarify on that. The IFFs have always had a risk section. They always assess single risks and they show you the impact of that and I was quoting things like the five (5) year drought cost from that.

NFAT moved the ball some ways by doing twenty-seven (27) scenarios that had multiple risks considered at the same time, but they were only considered, like I said, across twenty-seven (27) scenarios without weighting, and with -- with just a high/low base set of assumptions.

DR. BYRON WILLIAMS: And in terms of moving the dialogue as well rather than consider just a single scenario, what the uncertainty analysis allows for is a combination of future scenarios, sir, that gives some sense of the probability of a given outcome; agreed?

MR. PATRICK BOWMAN: Yes, exactly. That's my point. The NFAT had a -- like, twenty-seven

(27) but it didn't tell you how to weight them. This gives you a sense of how to weight.

DR. BYRON WILLIAMS: And out of the uncertainty analysis, sir, Manitoba Hydro is able to produce a set of pro forma financial statements, including income, balance sheet and statement of cashflows; agreed?

MR. PATRICK BOWMAN: Do you mean for every one of the input assumptions? I -- I presume that's the case, we didn't really have -- we didn't have a focus on, like, the six (6) page output for all of a thousand scenarios. We would focus on, choose a variable and graph it across the probabilities associated and that's what you'll see in this backup paper.

DR. BYRON WILLIAMS: Okay and thank you. And, sir, I'll suggest to you and ask you to confirm that the assumption within Hydro's methodology is that the three (3) risk factors, namely, interest rate, export prices and water supply variability are mutually independent; agreed?

MR. PATRICK BOWMAN: The modelling has them mutually independent.

DR. BYRON WILLIAMS: So in effect, sir, variation in one (1) parameter is independent of the variation in another?

MR. PATRICK BOWMAN: Correct.

DR. BYRON WILLIAMS: No correlation is assumed?

MR. PATRICK BOWMAN: That's my understanding of how the model is run.

MR. MATTHEW GHIKAS: Mr. Chairman, if I might just interject here. I've -- I've let this go for quite a while and I certainly let it go with My Friend Mr. Hacault was asking questions of -- of My Friend Dr. Williams' witnesses, but these are two (2) wit -- Intervenors who have cosponsored financial evidence from Mr. Colaiacovo -- anyway, you know who I mean.

THE CHAIRPERSON: Yes.

MR. MATTHEW GHIKAS: And we're now into the nitty-gritty of finances and it's very clear to me that questions are leaving somewhere where they both agree on what the answer should be and, in my submission, it's -- it's simply well into the range of friendly cross and, in my submission, it -- it should be discouraged.

THE CHAIRPERSON: Dr. Williams...?

DR. BYRON WILLIAMS: With -- with respect to My Learned Friends, just as one example, Mr. Chair. There's no evidence from Mr. Bowman in terms of correlations in his appendix C; that's something that is flagged by KPMG as a limitation of this analysis. It is something we'd like to understand his position on in terms correlation just as one example.

So from our client's perspective, this is evidence put on the record by MIPUG that -- that we are exp -- entitled to explore where they come down on some of these issues.

THE CHAIRPERSON: We'll allow to proceed and determine how much weight we want to give to it at a later time.

CONTINUED BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: Mr. Bowman, while you expressed some concerns about the uncertainty analysis as presented by MIPUG and -- and also as adopted and explored by KPMG, you are generally positive about the developments, sir?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: Sir, you're aware that KPMG in terms of the Manitoba Hydro analysis in its 2015 report found at appendix 4.1., takes some issue with the fact that it does not take into account correlations; agreed?

MR. PATRICK BOWMAN: Yeah, I reviewed that at one point, I -- yes.

DR. BYRON WILLIAMS: And certainly -- there has been some suggestion, certainly in the KPMG report, that Manitoba Hydro management believes there may be some correlation between interest rates and energy prices; agreed, sir?

MR. PATRICK BOWMAN: Yes, and we heard the same at NFAT.

DR. BYRON WILLIAMS: And, sir, in essence, since energy prices tend to improve Manitoba Hydro's far -- fin -- financial performances, while higher interest rates tend to hamper it, I'll suggest to you that the resulting financial impacts may be partially off -- offsetting?

MR. PATRICK BOWMAN: Yes.

DR. BYRON WILLIAMS: And so, sir, to the extent that the analysis assumes no correlation, I'll suggest to you it is more conservative and suggests higher var -- variability then the presence of correlation would suggest?

MR. PATRICK BOWMAN: Dr. Williams, if you're saying if the two (2) variables don't operate completely independently, they tend to move with some degree of overlap, to use a colloquial, and they have offsetting impacts on Hydro, that would mean that the cone of probabilities may not be as wide as presented, because the -- the bad from one will tend to arise when the good from the other does. Then I -- I -- I would agree that's what KPMG is saying and I think that is -- that that is possibly a -- a limitation of the model. I -- I didn't spend a lot of time covering it. I don't know that it would be material, but I think it would be part of the -- of the type of advancement work someone might want to do.

DR. BYRON WILLIAMS: And Mr. Bowman, for the purposes of your review of uncertainty analysis of Manitoba Public -- Manitoba Hydro, did you review the dynamic capital adequacy testing undertaken by Manitoba Public Insurance for the purposes of setting the rate stabilization review?

MR. PATRICK BOWMAN: No.

DR. BYRON WILLIAMS: You did not explore whether or not that analysis incorporates management action as a possible response to adverse events, sir?

MR. PATRICK BOWMAN: No. I comment on that concept in some detail in the background papers but I didn't review whether MPI uses that, no.

DR. BYRON WILLIAMS: Mr. Bowman, would you see value from a regulatory perspective in exploring methodologies that other Crowns regulated by the PUB employ in testing the adequacy of their reserves for rate stabilization purposes?

MR. MATTHEW GHIKAS: Mr. Chairman, I'm sorry, risking trying your patience here, it -- it's -- this is clearly a very friendly cross and, in my submission, it's inappropriate, not just something that should go to weight. It should be discontinued.

THE CHAIRPERSON: Dr. Williams...?

I'm just -- I'm wondering about the suggestion of the DCAT and the RSR, and how that, you know --

DR. BYRON WILLIAMS: How it -- how it relates, sir?

THE CHAIRPERSON: Yeah. I mean, if you -- if you want to raise that later on in terms of this witness, though, I'm not sure --

DR. BYRON WILLIAMS: Well, sir -- sorry, I didn't mean to interrupt.

THE CHAIRPERSON: No, go ahead.

DR. BYRON WILLIAMS: Certainly, all I was meaning to point out, sir, is that this was an analysis that Mr. Bowman had not undertaken. To me that's a bit of a limit to his evidence, but I -- I see that the Board is wondering whether I'm straining -- straining this so I'm prepared to move on.

CONTINUED BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: A final point, Mr. Bowman, you recognize, sir, that while you compare the approaches of KPMG in terms of -- in terms of the analysis of table C3 and table C4 in your evidence, comparing their 2017 results versus their 2015 results.

You recall doing that this morning, sir? You recall doing that --

MR. PATRICK BOWMAN: Can you give me the reference again just to --

DR. BYRON WILLIAMS: It's just -- C -- page 3 of Exhibit 27.

MR. PATRICK BOWMAN: Oh, yes, yes, yes, absolu -- I'm sorry, I'm with here.

DR. BYRON WILLIAMS: And, sir, you'll accept that the methodologies in -- in -- in doing the examination of MH-14 were somewhat different from the methodology from doing MH-16; agreed?

MR. PATRICK BOWMAN: The -- the key difference that I'm aware of is that once scenario uses nine hundred and eighteen (918) runs and one uses two thousand six hundred and seventy-three (2673) runs which is discussed in some detail in Hydro's evidence as -- as being a practicality that they've adopted to make the model easier to run and -- and more workable and they provide us quite a bit of discussion showing that it makes effectively no difference in the results. So that it was a -- a -- I will call a model improvement. But otherwise, the -- the intent is that it doesn't lead to different results.

DR. BYRON WILLIAMS: The methodological differences, sir, don't change your conclusions?

MR. PATRICK BOWMAN: That's my understanding and that's Hydro's submission as well, and that -- those -- that's the key difference I know between these two (2) graphs.

DR. BYRON WILLIAMS: Mr. Chair and members of the Panel, I thank you for that.

THE CHAIRPERSON: Thank you, Dr. Williams. Mr. Orle, I believe it's your turn.

CROSS-EXAMINATION BY MR. GEORGE ORLE:

MR. GEORGE ORLE: Thank you, Mr. Chair. My first question is directed to -- to Mr. Bowman and it's in regards to page 12 of his prefiled evidence. And I'm starting at the line number 8, Mr. Bowman and your discussion in regards to DSM.

And your suggestion is that the Board should reduce its assumptions for -- for DSM in its calculations?

MR. PATRICK BOWMAN: Yes.

MR. GEORGE ORLE: And when you say "reduce your assumptions," would I be correct in saying that what you're saying is reduce either the programs or the amount of money to be saved through DSM programs?

MR. PATRICK BOWMAN: It could be the range of programs. It would be -- probably -- probably the biggest one would be the -- the -- the range and scale of -- of the programs, yes.

MR. GEORGE ORLE: And to the extent that that would affect low income participants in the programs, this would have a higher impact upon them than it would upon other ratepayers?

MR. PATRICK BOWMAN: Well, Mr. Orle, the assertion here is that if you're going to do DSM consistent with integrated resource planning, and your marginal costs drop by a third and they were already significant down from when the plan was developed, your DSM should respond in order to achieve an economic level of DSM.

The low efficiency programs have never been justified on the basis of being an economic program of DSM. If you look at Hydro's test across DSM, there's always a -- a large bar, if you will, on the end which is the type of affordable energy and low-income DSM programs that have -- have not passed the same type of economic thresholds and so I don't think changing the -- changing the tests are likely to affect that component of the programs.

MR. GEORGE ORLE: But if the purpose is to mitigate the impact of rate increases then, really, how would a low income electrical ratepayer be able to mitigate the impact of rate increases without having an effective DSM program available to them?

MR. PATRICK BOWMAN: Well, I'm saying, Mr. Orle, that the -- that all Manitobans including low income would be better off by starting with a lower rate on their bill.

The fact that someone could get their load down and their units down as a result of participating in a low income program would be a supplement to that. And I'm -- I'm not suggesting in any way here that -- that some type of low income program that there was never judged on this threshold to begin with be reassessed because the -- the numbers that go into the -- the threshold changed.

MR. GEORGE ORLE: My next question is for Mr. Osler and it's in regards to slides 16 and 17 of today's presentation. Thank you.

And this is in respect to -- to your finding that the ratepayers are funding $341 million a year for capital debt and water rentals which are direct payments to the -- to the province?

MR. CAMERON OSLER: Yes.

MR. GEORGE ORLE: And in your suggestion to the Public Utilities Board, you indicate that a ten (10) year deferral by the province would save a significant amount of money to Hydro, and I believe that you've got that set out in the last line on slide 17?

MR. CAMERON OSLER: Yes.

MR. GEORGE ORLE: And you indicate there that there would be a reduction of cost to Hydro of 130 million in 2018?

MR. CAMERON OSLER: Yes.

MR. GEORGE ORLE: And I note, sir, and I don't know whether this is an error or -- or not, but when you talk about the 341 million, you include the water rentals but in your recommendation of a ten (10) year deferral, you don't mention water rentals?

MR. CAMERON OSLER: That is correct. For the reasons that I gave earlier that we were just focused on the capital portion. We -- we were not meaning to the little water rentals.

MR. GEORGE ORLE: Okay. The water rentals, if they were included, would increase the amount of the saving to Hydro?

MR. CAMERON OSLER: It certainly would, sir. And the exhibit that the information comes from is PUB-Manitoba Hydro 1-21. So you can -- the Board and any interested party can figure out how much more it would increase the numbers. In 2018...

(BRIEF PAUSE)

MR. CAMERON OSLER: MIPUG 26, page 8 of 23. I'm sorry, MIPUG-27 I'm told.

And the Keeyask impact is shown there as separate from the other one. So the 2018, is that the first... date that we gave in that answer?

MR. GEORGE ORLE: Yes.

MR. CAMERON OSLER: Okay. So Keeyask is not doing any water yet in terms of generation. By

2022 it's only $4 million, sir, for -- yeah. But it goes up dramatically in 2023 to 14, 15 and 18, et cetera. So, Keeyask doesn't start generating until you see these water rentals start to have an impact in these numbers, but you can -- you can get the relevant information from that exhibit.

MR. GEORGE ORLE: So if I just wanted that and included it within the ten (10) year period that you're talking about, I would just take the -- the numbers from 2022 and add it on to the numbers going up to two twenty-eight (228), and that would be added savings for Hydro?

MR. CAMERON OSLER: They would be added savings taking that exhibit and looking at it. You'd have to get for different years the -- the right numbers, but right.

MR. GEORGE ORLE: And I've just done some rough calculations and looking at the numbers that you've set out, not including the water rentals, am I correct that when you set out 130 million in 2018 that's an annual saving and that wouldn't continue for the full ten (10) years?

MR. CAMERON OSLER: It's an annual saving, but when you go look at the exhibit, it will vary a bit by year -- year-by-year but not -- in the time periods we're talking about it doesn't vary materially. The water rentals, if I had included them, would have been zero and then four (4) and they would have gone up quite a lot once the plant started working.

MR. GEORGE ORLE: No, my --

MR. CAMERON OSLER: They do vary a little bit, but it's in the context we're talking about it's nickels and dimes as distinct from billions.

MR. MATTHEW GHIKAS: Okay. I was -- my question was to the effect that that's not the -- the total amount that we save, that's the annual amount that would be saved?

MR. CAMERON OSLER: That is correct, sir.

MR. GEORGE ORLE: Okay. And adding that up for the four (4) years before 2022, and then adding the 198 million -- that 198 million, that's not on top of the one thirty (130), that's the -- the amount that comes in in addition to the one thirty (130) by the year 2022?

MR. CAMERON OSLER: It's the equivalent, several years later per year. It's 198 million in 2022. It's only 130 million in 2018.

MR. GEORGE ORLE: Okay. And again, by my rough calculation over the ten (10) year deferral, I come to a number of approximately $1,200,000,000 as the total savings to Hydro in the event that the province deferred just the -- the capital and the guarantee fees?

MR. CAMERON OSLER: It would seem to be in that order of magnitude. If you wanted to get a number we could do it, subject to check, but...

MR. GEORGE ORLE: Okay. And when you took these numbers and dealt with them on a ten (10) year deferral, am I correct at the very end of the -- the last line there's an expectation that this would be done with the 3.9 percent rate path?

MR. CAMERON OSLER: we used that number simply to show the magnitude of the impact in a get -- in the year 2022 relative to the rates if you had a 3.95 percent rate path. It wasn't advocating any particular rate path it was just saying in the range of the paths that this Board has examined in previous hearings, which is in that range or lower, it is -- it -- the impact is that type of percent.

The lower the rate increase, the bigger the percentage impact of -- of this particular measure.

MR. GEORGE ORLE: You'd also given in your testimony, your -- your calculation that $0.17 out of each dollar paid by ratepayer is the money that goes back to the provincial government?

MR. CAMERON OSLER: That -- I think Mr. Forrest referred to that. And again, it's from the -- I think the KPMG numbers that we cited in our evidence, yes, sir.

MR. GEORGE ORLE: Okay. And that number would increase if the water rentals were taken into account, or do they take into account water rentals?

MR. CAMERON OSLER: I believe it took into account water rentals for the year in question.

MR. GEORGE ORLE: And that $0.17 that's paid out of each dollar by a ratepayer, it -- it makes no difference if it's a low income ratepayer, or if it's a high income ratepayer, if their electrical bill is the same they're each paying $0.17 out of that-- each dollar towards the government?

MR. CAMERON OSLER: To the extent that their rates reflect these charges, they would be the same for each ratepayer.

MR. GEORGE ORLE: Okay. One (1) point in the sub -- in the submissions that were put forward earlier someone on your panel had referred to these as hidden taxes.

Would you agree with that characterization of these amounts?

MR. CAMERON OSLER: They have certain features that lead people to describe them that way. The money goes to the same source as a tax and people don't really realize that they're there; in that sense they're hidden but I think I'll let Mr. Forrest elaborate.

MR. GERALD FORREST: I would just answer the question by saying it is the ratepayer that is compensating the taxpayer by that amount.

MR. GEORGE ORLE: And to that extent, it's the ratepayer that's paying a tax that's not being paid by the general taxpayer?

MR. GERALD FORREST: That's correct.

MR. CAMERON OSLER: And -- and to elaborate, one (1) of the comments that's been made in certain proceedings that I've been around, if the government was seeking to raise revenues, there's fairer ways to do than through electricity bills.

MR. GEORGE ORLE: Thank you. Those are all my questions. Thank you, Mr. Chair.

THE CHAIRPERSON: Thank you, Mr. Orle.

Mr. Gange...?

CROSS-EXAMINATION BY MR. WILLIAM GANGE:

MR. WILLIAM GANGE: Thank you, Mr. Chair. Mr. Osler, thank you very much for the presentation this morning. It was fascinating from my perspective to hear a detailed historical look at -- at how the debt equity ratio has -- has developed.

Sir, on this point you also mentioned that -- that -- that although Manitoba Hydro structure is unique in the Canadian landscape now, there used to be a number of different entities that were set up in a similar fashion; is that correct?

MR. CAMERON OSLER: I did make that remark, sir, yes.

MR. WILLIAM GANGE: And -- and how many others were there, that -- that were similar to Manitoba Hydro? And in -- I don't need you to be exact on that.

MR. CAMERON OSLER: Well, and I can't be exact without going and doing some checking.

But it -- when we were discussing this with my colleagues way back, the point we were making about how it was unique and -- and the reference was made that when we go back and look at the reviews of different Canadian public Crown utilities earlier, in the records of some of the earlier Board Orders that we referred to, they weren't all rate based Utilities. Some of them were certainly customer funded more so than you would see today. And I think that was the point that was being made. I think somebody referenced Newfoundland and maybe -- maybe one or -- maybe Ontario as well because I remember -- yes, Ontario certainly wasn't rate based regulated back in that era anyway.

So it -- in simple language, the Crowns can either be rate base regulated, like I -- when I'm working in the Yukon, and the Crown put up the money for that investment, or it can be cus -- customer funded, which, in my experience, I learned about mostly in the evolution in Manitoba, but it was there when I was in Ontario, and we just weren't thinking about it in that context.

MR. WILLIAM GANGE: When there were other customer-based utilities, did -- did they also have a target with respect to the debt/equity ratio?

MR. CAMERON OSLER: In the eras that I was dealing with them, it -- it wasn't something that was front and centre, but it -- it's -- most of these utilities have some targets that relate to debt/equity ratios and everything else because they have financial advisors, and they have similar thought pro -- process, like, what should this target be for this utility, the other one?

The question is, how much does it affect rates and the regulatory process? That's really where I was coming from.

MR. WILLIAM GANGE: Right. Since I've been involved in this, and obviously it's -- it's much less than -- than you, and also less than Mr. Bowman, who's a greybeard as far as -- in -- in comparison to me. But with -- with respect to that, sir, since I've been doing this, the 75/25 target has -- has always played a role in the hearings before the Public Utilities Board. And -- and what I'm interested in is it is that target, 75/25, has it been a common type of -- of measuring stick from -- from your historical perspective?

MR. CAMERON OSLER: When you say "common," sir, are you thinking of it in the context of Manitoba, or -- or --

MR. WILLIAM GANGE: No. No. I -- I -- what -- what I'm trying to do is to say the other jurisdictions, did they have a 75/25 ratio as well?

MR. CAMERON OSLER: The -- the --

there is nothing that I'm aware of any magic in 25, okay? They would -- if -- if you look at the evidence in the -- look at the Board's review of the evidence in its various Orders in the period I was referencing, you will see evidence from consulting firms working for Manitoba Hydro as to what the debt/equity ratios were, and the targ -- and some of the targets for different utilities in Canada. So you can find it by reading Board's Orders from that era.

But they -- the actual number changed a fair amount, depending on which utility we're talking about and its own history. And I think some of the evidence that we dealt with back then was, what was the basis of change, and why were there differences between the different utilities? And I think I remember a comment that I made a couple of times in different evidence at that time was, whatever the reason is, it -- it doesn't look as though their change in -- in a -- one (1) utility is changing a great deal from you over time, but there are differences that are quite material amongst them. But I don't -- I don't have the numbers or the history in front of me today, and I can't give you much more help than that.

MR. WILLIAM GANGE: Okay, thank you.

But -- and -- and one (1) of the concerns that we've heard is the -- the bond-rating agencies having concerns. From -- from your -- or can you say from your experience, sir, of looking at these, that -- that debt/equity ratio is -- is a magical formula to the rating agencies?

MR. CAMERON OSLER: I have no evidence, Mr. Chairman, that the 25 percent ratio is of magic to anyone other than perhaps a few people, but it's certainly not to rating agencies as such.

But human beings are capable of all sorts of things, and without messaging, and without constant reinterpretation so people understand its historical and current relevance, I wouldn't be surprised to find somebody surface and, say, Wait a minute, you've had a 25 percent ratio, why didn't you meet it? You know, messaging is important.

And secondly, what Mr. Colaiacovo made the point about how unique this was, the more unique something is, the more dangerous it is in dealing with a group of people who are dealing with everybody, rating agencies, or whatever, you know, your messaging and your thought processes may have more difficulty getting through, because they're not used to it, just like somebody with a financial background but doesn't have an interest in Crown utilities or in regulation may not understand what the 25 percent means, and how come we've gone away from it. We have to get back to it quickly.

From their background, it's -- absolutely makes sense to say that. They just don't have a regulatory background. They don't have a Crown utility background. They don't have a background that I went through with all the history of the rates. So you have to continually re-assert, review, and re-explain if you want people to understand.

MR. WILLIAM GANGE: Okay. Thank you, sir. Mr. Bowman, if I could look at page 49 of your prefiled testimony, MIPUG number 13. And at about line 22, sir, you -- you are discussing the -- the unique circumstances of ratepayer groups whose alternative uses of funds come at a much higher cost than Hydro's rate to borrow.

And -- and you -- and you give a couple of examples, there, sir, and one (1) of them is the industries who have investment opportunities at a higher internal rate of return than Hydro by borrowing costs, correct, sir?

MR. CAMERON OSLER: Yes.

MR. WILLIAM GANGE: And -- and your

concern there is that -- that this -- the -- the increased rate may be uneconomic to those -- those industries, correct, sir?

MR. PATRICK BOWMAN: Well, I think it's broader than that.

MR. WILLIAM GANGE: Sure, you could -- and you can broaden it. I'm -- I'm not trying to box you in, here.

MR. PATRICK BOWMAN: The -- the point you raised is one (1) that was dealt with in this submission. It was further comments around Hydro's rebuttal, but follows on an approach, a method that people spent some time on it at NFAT, where we were in more of an investment thinking than a -- than a rate scenario analysis. But the idea is that if the promise of a development path, or the promise of a rate increase is pay more now for your own benefit later, some people's minds go to, Well, you know, what kind of return my getting for this promise?

And Hydro did that type of analysis in the -- in the NFAT, which we disagreed with their approach. They used a stunningly low discount rate, I think below both Mr. Colaiacovo on behalf of the Board at the time, and -- and my own evidence suggests that that was -- that was not reasonable, because the customer is committing actual money to this concept. You've got this development plan, or this -- this higher rate increase in exchange for future rate decreases, and, you know, time value of money is a simple concept, and we can -- we can take a look at it.

But when you're doing so, you need to think about which money you're talking about, and what is the value of it over time. And you get into this issue of, do different customers have a lot more value for their funds as an alternative to socking away in Hydro? And I -- I think the -- the point there, which I think is echoed in Boston Consulting's material, is with certain groups like industrials who have an alternative investment awaiting them somewhere else, or, you know, individuals, residences who are carrying high debt, or have other household living needs, their alternative use of funds has a pretty attractive option, and socking them away in Hydro for a promise of a -- a rate decrease eleven (11) years in -- in the future is -- is a -- is probably a pretty poor use of those funds.

MR. WILLIAM GANGE: And I -- I take it, sir, just expanding upon that -- that last point about residential customers, that would apply especially so, would it not, to those people that fall within the energy poor category?

MR. PATRICK BOWMAN: Yes.

MR. WILLIAM GANGE: Thank you. If -- if we could look at page 28 of today's presentation. The -- the -- now, just to -- to refresh my memory, or my understanding, the dotted blue line represents what, sir?

MR. PATRICK BOWMAN: Well, to be clear, it's -- it's Hydro slide that I've pasted in. But the dotted blue line represents the -- I'm just trying to look at the axes here to give you -- the -- the dotted blue line should be read on the right-hand axis, which are the cumulative rate increases, and that's what it represents is how -- what -- what are the -- starting in the -- first, we're in the graph with this 2018, what are the cumulative rate increases faced by the customer in that year?

MR. WILLIAM GANGE: And -- and when you commented in your direct testimony on this, you -- you indicated that -- that the sharp decline in 2027 to 2028 is a potential, I think you said 25 percent rate decrease at that point?

MR. PATRICK BOWMAN: I believe I said twenty-five (25). I think the scenario is twenty-three (23), if I'm not mistaken, but it's -- it's a series of years. One (1) is nineteen (19). One (1) is three (3) and a bit, but I think it adds up to somewhere between twenty-three (23) and twenty-five (25).

MR. WILLIAM GANGE: Your point, as I read your evidence and -- and listen to you today is that -- that suggestion of a rate decrease is -- is somewhat tenuous, and it may never occur. Is that correct?

MR. MATTHEW GHIKAS: Mr. Chairman, I'm going to object again. That was about as softball as you get.

MR. WILLIAM GANGE: No -- no. But I -- Mr. Chair, in response, I'm going to move on from that. I'm not -- I'm not trying to -- I -- I'm just trying to set the stage for the evidence that's been given, or -- and -- and the question that I'm about to ask. I'm not attempting to elicit friendly testimony here at all.

(BRIEF PAUSE)

MR. PATRICK BOWMAN: Perhaps it's best repeat the question for the --

CONTINUED BY MR. WILLIAM GANGE:

MR. WILLIAM GANGE: Thanks. You -- the -- the evidence that you gave in your prefiled testimony and the evidence that you've given today is that although this -- this chart shows a potential rate decrease of 25 percent, you indicated that -- that may not occur?

MR. PATRICK BOWMAN: Well, I was -- yes, and I was also echoing the cross-examination of Hydro, where they indicated that may not occur. They then actually indicated that would probably not be our plan, just like they indicated staying up would probably not be their plan. So I'm just -- I -- I think it's unlikely, but I don't think I'm on my own on that.

MR. WILLIAM GANGE: Okay. Thank you. With resp -- with respect to Hydro's plan to increase reserves during this time period prior to 2027, so that's what I'm focusing on, during that time period, sir, would you agree with me that -- that the likelihood is that the costs of solar electricity and wind powered electricity is likely to decr -- decrease on a regular basis during that time period?

MR. PATRICK BOWMAN: Mr. Gange, all the evidence in the -- in the trade literature in the marketplace says that that is the -- the general direction of manufacturing trends on solar. Whether it actually decreases in practice may depend on other things like policy choices, but on the -- on the manufacturing side, there is considerable discussion about the -- the trends on the cost side.

MR. WILLIAM GANGE: Which -- which just follow that -- that the trend is downward?

MR. PATRICK BOWMAN: Yes.

MR. WILLIAM GANGE: Okay. And -- and so -- so part of my memory of -- of these hearings is a -- a few hearings, ago evidence was given that -- that it was unlikely that the cost of solar was going to be competitive with hydropower, and -- and yet, we see that -- that in fact, the -- the cost of solar energy has decreased quite substantially and rapidly during this last seven (7) or eight (8) years, correct, Mr. Bowman?

MR. PATRICK BOWMAN: Well -- well, it has, but I think you want to be careful comparing different types of power. Hyd -- hydraulic generation has characteristics that are significantly different than -- than wind or solar in that it's -- things like it's -- its firmness, it's -- the life of the facilities, and things like that. But I think that's

-- that's very important to the overall context.

But there's no doubt that's per kilowatt hour for the type of kilowatt hour generated by solar, the -- the cost has come down, and expectations are, at a manufacturing level, that it will continue to come down.

MR. WILLIAM GANGE: And so as -- as an example, what you just referred to, wind is not dispatchable, correct, sir?

MR. PATRICK BOWMAN: That's the term that's often used, yes.

MR. WILLIAM GANGE: And -- and so that wind, for instance, requires backup power or storage, which -- which hydroelectric power doesn't require?

MR. PATRICK BOWMAN: Well, hydroelectric power has a different type of -- of storage, but -- but I -- I can take your -- your comment for the purposes of this -- of -- of moving forward.

MR. WILLIAM GANGE: Sure. And so would you agree with me, sir, that the other development that -- that is going to have a -- a potential quite significant impact upon all of these discussions is the development of -- of -- the -- the development of -- of properly-functioning batteries?

MR. PATRICK BOWMAN: Stor -- storage is the -- is the -- the big game, Mr. Gange, in terms of transformation of the marketplace, if it was able to be done on a -- on a -- a cost competitive basis.

MR. WILLIAM GANGE: And -- and would you agree with me, sir, that -- that potentially, wind and solar, plus very effective batteries, there is a potential in the future of that undercutting Hydro rates?

MR. PATRICK BOWMAN: Well, I guess you'll have to clarify what you mean by rates. You usually won't --

MR. WILLIAM GANGE: I'm sorry, the cost -- the cost of production of hydropower.

MR. PATRICK BOWMAN: Okay. So again, at a -- at a cost of production level, wind, and solar, and batteries that are able to function as a complement, if your suggestion is they could be a -- a valuable resource for consideration in the 2030s, as we're considering whatever next plant to build for Manitoba Hydro, I would say that -- that ought to be entirely within a -- a part of an intricate resource plan, and I wouldn't rule out that -- that any -- any given option might rise head and shoulders above the others at that time.

MR. WILLIAM GANGE: And -- and sir, would you agree with me that -- that one (1) of the concerns that -- that any electrical utility has now and in the foreseeable future is grid defection by customers who find self-generation cheaper?

MR. PATRICK BOWMAN: Mr. Gange, it's -- it's definitely a -- a concept that can be -- that is talked about, and -- and can be talked about in terms of places. I'm working down South, for example, where they have very large subsidies for solar, and utilities are -- are pushed to have certain renewable, and feed-in tariffs, and the like.

And it's -- it's leading to all sorts of other problems on the system, but there is a significant concern that -- that some customers at a small scale put their own solar on the roof, for example, in Arizona, where we're doing some work, drop -- drop their load, continue to have a wire serving their house, continue to have the backup of a -- of a plant, but buy very little power to actually pay for all that stuff, and lea -- leave the bill for their neighbours.

And it -- it's -- it is -- that causes big sort of public policy level issues that -- that a lot of utilities down South are trying to work through. It also causes resource planning issues of, you know, shifting the -- the load on the -- on the bulk power system that utilities are trying to work through, and I think it -- it's possible if they don't solve that, it could get -- could become bigger issues if -- if it's wholly dropped.

I don't -- I -- I don't -- my mind doesn't automatically go to that in -- in Manitoba, where we have a low variable cost, and where we're not, at this point, at least, putting in place the kind of -- the kind of subsidies for customer-sited solar that -- that they are down in -- down in the South. And -- and also, where the rates are -- are much, much higher than here.

MR. WILLIAM GANGE: But -- but at present, sir, is it -- is it -- would you agree with me that -- that one (1) of the potential problems that Manitoba Hydro faces is the interest cost that -- that's built into the rates?

MR. PATRICK BOWMAN: Well, interest is a substantial component of the rates.

MR. WILLIAM GANGE: Is it therefore possible that if interest -- or debt levels, pardon me, are reduced early on, as Manitoba Hydro proposes, that Manitoba Hydro would be in a better position to compete against these alternative technologies?

MR. PATRICK BOWMAN: You -- you know, Mr. Gange, I think in the range of -- of the type of hypotheticals we're talking about, the idea that we better hurry up and pay for 25 percent of Keeyask over four (4) or five (5) years of service, and may be rushed to pay off another 50 percent of it over the next ten (10) years of service because we might find that -- that it doesn't have value in the future, I think those are the types of issues that -- that people assess at an NFAT, that you would continue to look at.

I -- I don't think, based on the evidence we have here, and based on the evidence from a whole bunch of utilities who are -- who are -- who have rates somewhere between where we are and where the utilities are like California and Arizona, who are -- who are starting to run into a -- a bit of these problems, I -- I don't -- I don't think that those are -- are items that would -- one would put looming on the horizon. And that -- and I don't see it in Hydro's risk assessment documents, either.

MR. WILLIAM GANGE: And -- and Mr. Bowman, just in terms of that answer about the rate level that you just referred to, Arizona, or

California, can -- can you give me a number? What is their rate level in terms of a percentage of the Manitoba rate? Are you able to tell me that?

MR. PATRICK BOWMAN: I don't have that at -- at hand. I would have to also think about the fact that it's US dollars. But in the -- on the wire side, and I -- I'll emphasize, this really gets raised there as an issue on the wire side, that if you're -- if you're offsetting generation, most of these utilities have an alternative for -- for, you know, selling their generation elsewhere, or -- or contracting in a different way for generation or saving fuel.

It's really the recovering the cost of the wires that is the -- the biggest deal. And -- and the transmission and -- and distribution component of the rate there is -- is, I'm going to say, is actually -- it -- just -- just the transmission/distribution component is larger than the entire rate would be Manitoba, just to give you an -- an idea. But I -- I would have to go and -- and dig up the numbers.

MR. WILLIAM GANGE: That's okay. I -- I can find those numbers just as -- well, not just as easily as you, but I can find them. Thank you. Those are my questions. Thank you, Mr. Chair.

THE CHAIRPERSON: Thank you, Mr. Gange. Mr. Monnin...?

CROSS-EXAMINATION BY MR. CHRISTIAN MONNIN:

MR. CHRISTIAN MONNIN: Thank you, Mr. Chair, members of the Board, members of the panel.

Mr. Osler and Mr. Forrest, I'm to your left in the back row over here. My name is Christian Monnin, Chris Monnin. I am counsel for General Service Small and General Service Medium customer class in addition to Keystone Agriculture Producers.

I'd like to start some questions with regards to O&A. And at slide 20 of your presentation today -- pardon me, slide 16. Keep that for there, but one (1) of the recommendations that is being made is to fully pursue the O&A expense reductions. And -- and Mr. Bowman, in your prefiled testimony, you state that:

> "Hydro should be encouraged to fully pursue O&A expense reductions, including the -- the plan to achieve levels at or below earlier levels, 2011/2012 or before, plus inflation."

And Mr. Forrest, during your

presentation today, and looking at slide 16, on the -- the second bullet under consistent PUB concern about moral hazards, the domestic customer rates, where it stated:

> "Do not want higher rates to reduce Hydro incentive for efficient operation."

I believe -- I took some notes, and I believe you -- your evidence was that staffing -- the staffing complement is -- is still high, notwithstanding the recent cuts that were made.

Is that -- do I recall correct -- correctly?

MR. GERALD FORREST: Correct.

MR. CHRISTIAN MONNIN: And I also understand MIPUG's evidence in -- in Mr. Bowman's prefiled testimony to be that due to the significant scale of changes having recently been imposed, much of the normal details filed in support of O&A forecast is unavailable. Is that fair?

MR. PATRICK BOWMAN: Yes.

MR. CHRISTIAN MONNIN: So when MIPUG is suggesting that these -- this endeavour ought to be supported, what does it mean by that? How would that look, and how would this Board support that -- those endeavours?

MR. PATRICK BOWMAN: Mr. Monnin, my suggestion is that the Board remain vigilant, that the materials Hydro is expected to file and update the board on, and the expectations of the board coming back for its next GRA should make clear that materials detailing the O&M plans and what's been able to be achieved are -- are laid out.

The types of information is not available today because they're in the midst of -- of this type of restructuring, which, as I noted, I don't fault Hydro for at all. But at some point, those changes need to be built into budgets, and that assessments need to be made by looking at those budgets in the context of -- of relevant benchmarks, which both can link to Hydro in the past, or to -- to other utilities' performance.

I -- I made some of the comments in light of -- and I believe the reference is in there, that in light of the fact that there was Board Orders year after year through the 2000s that said, you know, This is -- this is -- you get -- reduce your O&A, reduce your O&A, reduce your O&A. It's not like there's one (1) -- I believe it's in the 2012 Order, where it says, Hydro has added nine hundred (900) people in the time that it's -- it's gotten no difference in its set of functions. You know -- you know -- I -- I don't know if that's a -- a bit of the rationale for the reduction of nine hundred (900) people now is to sort of back out the increases that occurred over that period. But certainly, if you go back to the period they were talking about, to the other -- I believe that was -- that was the 2004 to 2011 period, if I'm not mistaken, 2010.

Even when you go back to the start of that period, 2004, there were comments in a Board Order about -- about keeping O&A under control. So the -- I -- I think the -- the idea is the recommendation should -- should encourage Hydro to follow through, and should encourage Hydro to file the data that this Board can then assess how that turned out, and whether -- whether further pressure is required.

MR. CHRISTIAN MONNIN: And -- and would anyone else on the panel care to add to that?

MR. GERALD FORREST: Treading where angels fear to tread. The unfortunate part in Canada, every utility is structured differently. It is -- some have hydraulic generation with a mix of gas. Some have coal with a mixture of gas and water, and --

and there's a variety of different structures.

The second thing is, geographically, across Canada, we have centres like Toronto, an area that is high concentration of population in a small geographic area, whereas in other parts of the country like Manitoba and Saskatchewan, where we used to -- and I say "used to" -- have probably one (1) or two (2) residents or farms on a particular section of land, now we have maybe one (1) on ten (10) sections of land. So the cost of service to service the customer in, say, Manitoba and Saskatchewan are quite a bit more difficult than it is in some of urb -- other urban communities.

But overall, Patrick is correct, that -- that there needs to be, in my view, inside the organization today, business optimization programming where you look at the most effective way to deliver a service at the least possible cost. At the same time, don't sacrifice safety and reliability in your organization.

MR. CHRISTIAN MONNIN: Thank you, Mr. Forrest. Kristen, if you could please go to MIPUG-14, page 5 of 2 (sic). I hope that I'm driving everyone to the correct page -- 5-2. Yes. Under this bullet number 6, and this -- directed to Mr. Osler and Mr.

Forrest, lines 14 to 17. When you're going through the -- the history of -- of the rate design, it speaks to, "The Board recognized" -- and this is a '94 Hydro rate review:

> "The Board recognized that the rate increases as approved may not be sufficient themselves to achieve this target by March 31st, 1997, and that Hydro must achieve further internal efficiencies, organizational improvements, and cost reductions to achieve this target by that date."

My takeaway from that is that a certain ask is being made by the Utility for a rate increase, and the Board said, You -- you're going to have to find the savings internally in order to get to the numbers you want to get to.

Is that a fair layperson way to look at it?

MR. GERALD FORREST: Unfortunately, I signed that Order, so yes, that is correct.

MR. CHRISTIAN MONNIN: And is that something in your view that this Board in these proceedings could apply to the current circumstances?

MR. GERALD FORREST: Certainly, it's one (1) of the considerations the Board should certainly examine.

MR. CHRISTIAN MONNIN: Thank you. I -- I'd like to ask you some questions. I believe these would primarily be answered by Mr. Osler or Mr. Forrest. It deals with the race to the equity thickness of -- of 25 percent. And this -- this would be page 3-1 of -- of MIPUG-14, again.

And starting at line 6, this -- this evidence speaks to Hydro's new rate approach, raises a range of obvio -- obvious and material concerns related to the sharp increase now proposed in the interim rates. And -- and in particular, item number 3 is a concern raised with regulatory pricing principles related to rate stability and intergenerational fairness. And I would like -- I would like you just to take your time to read those -- that -- line 17 through 24, please.

(BRIEF PAUSE)

MR. CHRISTIAN MONNIN: Please let me know when -- when you've had the opportunity to -- to finish them.

(BRIEF PAUSE)

MR. CAMERON OSLER: Okay.

MR. CHRISTIAN MONNIN: And my -- my appreciation of this is that it talks to essentially the -- the fairness to the ratepayers -- today's ratepayers of -- of the assets being made in this rate application, but it's also my understanding it would be the proposed rates going forward.

And I'd like to know your view -- keeping this in mind, I'd like to know your view on -- on a piece of evidence that was given by Manitoba Hydro, in particular, Mr. -- Mr. McCallum, who happens to be here today. This is at page 260, please, of -- of the transcript, lines 10 through 18.

And this is the section that reads:

"Finally, we'll hear this isn't fair to the current generation of ratepayers. Well, it most certainly isn't fair to park an overinflated and unsustainable debt burden on the next generation. Moreover, it's clear that there's -- that rates haven't kept up with the cost of the system, and effectively no material

contribution to reserves have been
made in almost ten (10) years, so if
anyone has been treated unfairly, it
has not been today's ratepayer."

And -- and mindful of -- of My Friend, Mr. Ghikas's objections about softball questions, I'm just curious, what would be your view with regards to this position that's been advocated by Hydro in its evidence?

MR. MATTHEW GHIKAS: Well, Mr. Chairman, I will jump in, because we can be mindful of that, because that was another softball, and I think My Friend appreciates that.

MR. CHRISTIAN MONNIN: Well perhaps --

THE CHAIRPERSON: Well, you know what, I'm going to -- I'm going to allow it, Mr. Ghikas. We -- we had the Business Council of Manitoba that was here, and no one objected, but I was going to interject. We -- we have a wide -- wide latitude of the questions. We'll determine whether there's any weight shouldn't be given to it or not. I'm very mindful in terms of the question.

I mean, he's asking a state -- he's asking a comment on a statement that's already in the record, so I'm going to allow it.

MR. MATTHEW GHIKAS: Thank you.

CONTINUED BY MR. CHRISTIAN MONNIN:

MR. CHRISTIAN MONNIN: Thank you, Mr. Chair.

MR. CAMERON OSLER: I had read I think this part of the evidence that had -- given earlier. In this particular paragraph that you've referenced for comment, overall, I don't think that the comments that were made by the Hydro's officer were very helpful to the types of issues that a regulatory body has to come to grips with. They reflect more somebody looking at the world from another angle entirely, and being puzzled about how it all adds up.

So if I could, the comments that we're making, that you referenced first from MH -- from our Exhibit 14, number 3 on page 3-1 is taking the normal perspective from a regulatory point of view of an issue that people grapple with in various jurisdictions, and the issue becomes much more important when you're dealing with a jurisdiction where most of your assets are capital-intensive, long-lived, and don't vary a great deal, depending on the actual generation that you make in a given year, such as this one with Hydro.

When you haven't asked that the last hundred years, what is the fair way to distribute the rates for those costs over that hundred years? Many regulators and others have grappled with this issue in many jurisdictions. There have been different approaches that have been taken. But you can't put your head in the sand and ignore the issue, is the first point, and secondly, MIPUG's position and evidence that I've given over the years have always been focused on, these are long-term assets. We want to see stable and predictable rates that reflect the lives of these assets and do not get unnecessarily deviated in the short run by other issues.

Now, if we have a crisis because assets run into problems, or because we have a -- a very extended drought that pushes us to the limit, the regular review process that we recommend is intended to protect you against that, and to tell the financial community that we have in place a process by an independent regulatory body rather than a cabinet that's making decisions based on politics, that's based on principles, and it does have the ability to review this regularly, so you do not need to worry that we are making a decision today that we are going to live with for absolute certainty for the next ten

(10) or twenty (20) years without any chance to change it, and we better get it absolutely right. So that's what this -- this point is making.

Whether of the rates for a capital-intensive asset should be flat over the life of the asset, climbing over the life of the asset, or declining over the life of the asset is a material issue in various jurisdictions. If I have a rate-based regulated utility, such as in Yukon, which is Crown-owned, but has a rate base, and -- and everything -- we build a -- a capital-intensive asset, a Hydro asset, the rates are going to be higher in the first year, and they're going to decline with each year of -- of reductions in the -- due to depreciation.

And people that work in that jurisdiction, private or public sector, will say, How many years before we cross over, before the point where we're not charging ratepayers more, we're actually getting the benefits? And frankly, in that type of a context with a sensitive interaction between the government and the Utility, you might even come up with methods of handling your debt with the government such that you don't have to worry about that question, and I'll leave it at that, because the government's interested in ratepayers, but also interested in taking the risk and -- and making sure the rates climb over time.

There have been rates historically. Northern Canada Power Commission had them at one (1) point where the depreciation -- where the depreciation climbed over time. Manitoba had a deal for the Bipole -- original Bipole with Canada, where the cost to Manitoba from that Bipole that was leased to it by Canada, climbed over time. You can -- you can arrange things differently. IPPs, so to get contracts with utilities to do an asset that the Utility, twenty (20) years ago would have done itself often have a rate structure -- a -- a pricing structure with the Utility where the rate climbs with inflation over time, even though it may be a capital-intensive wind generator or something else.

There are various ways to do it, but it should be based on the assets, the life of the assets, and a consistent approach to pricing of similar assets in that jurisdiction, and not something that you change capriciously, or you don't pay attention to. That's the point there.

The point of the other per -- the evidence you referred me to is -- I took it to be musings of someone looking at it saying, My goodness, the costs go up.

Yes, they do. Capital assets get to be more expensive. The only asset that I've seen in my lifetime in the -- of a generation nature in this jurisdiction where everybody bragged about the cost coming down was Limestone. A lot of the other ones that had similar problems with geotechnical or other things, and the costs have gone up during the process of building them.

But we're talking about regulation of a Crown utility. We're talking about cost-based regulation. We might get into marginal pricing for certain ways to incent people, but we would still have a cost-based regulation. We're recovering enough money from the ratepayers at a given point in time to cover the costs plus reserves. Musings about marginal cost pricing, how things go up over time, doesn't help a great deal to that basic requirement legislatively mandated on this Board.

MR. PATRICK BOWMAN: Mr. Monnin, if it helps to add, one (1) of the things I made sure I -- I done my homework on was the capital coverage target, which is talked about nowadays in this hearing. And I -- I did manage to confirm, it's -- the application of that target, and -- and one (1) of the things in -- in the context of that was appearing in 2004, where Hydro's -- Ms. Lyn Wray, who was one (1) of Hydro's skilled long-term utility financial people, was -- was testifying, and this is in the context of -- you remember the capital coverage target was about whether the internally-generated cash is paying for the assets, much like the CFO to Capex ratio we're talking about now, with some tweaks.

And Mr. Bob Peters was cross-examining her and saying, So why do you leave out major generation? She says, Well, basically all of our -- our -- virtually all capital's in it, except for new -- major new generation and transmission, and it should count towards our target of one (1), which was the target at that time, not one point two (1.2) like today. But she says, The reason for that is that obviously, that would drive the target down, and it would be unfair in our view to try to seek rate increases, for example, to get it back to one (1) when, in essence, you're investing in a long-term asset with long-term benefits.

And I think summarized really well the way that a financial person who -- who would spend their time in a regulated utility, and understanding how a Crown worked looked at the targets and how you deal with handling a -- a capital expansion. And I think it -- it stands in distinction to the type of -- of quotes you put to us.

THE CHAIRPERSON: I hate to be miserable, but at the beginning of the -- of this entire process, I asked if questions and answers could be clear and concise. So if we could sort of move in that direction, Mr. Monnin?

CONTINUED BY MR. CHRISTIAN MONNIN:

MR. CHRISTIAN MONNIN: Your comments are well-taken, Mr. Chair. I'll move on to questions with regards to the zone of reasonableness.

Mr. Bowman, I believe -- well, if we can go to 712, page 712 of your prefiled testimony, in particular, lines 5 to 7, and I believe your -- your evidence earlier today, Mr. Bowman, was that you recognize that in addition to your clients, the GSL classes, there are others who were paying above the zone of reasonableness. That's fair to say?

MR. PATRICK BOWMAN: Yes. As a matter of fact, on page 73, I showed that the -- the highest is the -- the GS small non-demand.

MR. CHRISTIAN MONNIN: That's right.

And -- and at page -- or slide 45 of your -- your presentation deck today, on the second bullet, or the second main bullet, by GSL 30 to 100 kV, GSL greater than 100 kV classes have been well above the zone of reasonableness of 95/105 for a very long time with perpetual claims adjustments not appropriate since COS study was in flux and needed review.

Is it fair to say this would apply to those other classes that are outside the zone of reasonableness?

MR. PATRICK BOWMAN: Mr. Monnin, it -- it would apply. I'm not sure that any of them have been quite as -- far outside quite as long, maybe further outside now, but -- but certainly, it would be the same comment for any class that has -- has been -- would be outside the zone of reasonableness.

MR. CHRISTIAN MONNIN: And I'd like to go back to page 3-1 of MIPUG-14 and just ask some questions with regards to bullet number 4, which pertains to adverse impacts on customers and the Manitoba economy. And I won't belabour this point, but I'll give you the opportunity to read those lines 25 through 33.

(BRIEF PAUSE)

MR. CHRISTIAN MONNIN: And you would agree that members of the -- of the -- the MIPUG panel, you would agree with me that in -- in the evidence that's been filed, MIPUG has stated on several occasions that, for example, at Mr. Bowman -- and I apologize for making everyone bounce around -- Mr. Bowman's prefiled testimony, page 4-10 lines 25 through 29, the first full sentence:

> "The Hydro filing provides no apparent estimate of the econom -- economic impact on Manitoba of raising rates outside the lim -- limited concept of inc -- incremental elasticity, how much less power might be used on an incremental basis due to higher rate increases due to customers' price response."

And again, at -- at page 4-11, lines 6 through 8, along with potential industrial impacts related to risk of shutdown, on job loss, there's no information as is provided by Hydro regarding the basic broader economic -- broader economy -- economy impacts of the higher revenues being charged by Hydro solely for the purpose of Hydro's own debt reduction.

And -- and once again, at page 4-13, I said I wouldn't belabour the point, but clearly I am by underscoring again at lines 23 to 24, again, a comment about the limited information regarding the potential adverse economic impact.

And -- and so my -- my question is -- is going: Would you agree with me that based on these comments, and -- and the underscoring of the fact that there is limited information, the economic impacts -- so based on this, would -- would you agree with me that it would be of benefit to these proceedings, and of particular benefit to this Board if it could review a properly conducted macroeconomic analysis which addresses the full impacts of the projected rate increases?

MR. PATRICK BOWMAN: Well, Mr. Monnin, I -- I think my best answer is I -- I hope not. And -- and I say that because I have never had to go through this type of process to assess an applicant's application before, because I've never opened an application that says we're going to raise rates to a significantly different degree than has ever been done in relation to inflation, and it's for the benefit of the government and the benefit of ratepayers, and -- but then not say another word about how it's going to affect the -- the economy, which would be, I would think, supporting points about that basic case.

I would rather not have to assess that basic case. It seems to me that there is plenty of room to deal with the cost pressures in the IFF in a normal, regulatory context, the way I would in any jurisdiction, and -- and in those jurisdictions, I wouldn't -- I wouldn't begin, you know, how many jobs are going to be lost.

But if someone says the credit-rating agencies, we rely on the government's credit rating, and we need to help fix it. And in fact, the government's credit rating is based on things like GDP, but they don't make a comment about how them fixing it are going to affect the GDP. It -- there's -- there's a link missing. I -- I -- you have no idea how much I would prefer not to have to get into assessing the -- the assertions made in terms of -- of completing that link. But I think it's a -- it's a significant -- it's a significant hole in -- in the material provided.

MR. CHRISTIAN MONNIN: So when we say -- say that, to summarize that answer is that you hope not, but it -- it -- there's -- there's the possibility of a benefit for -- for proceeding with such a macroeconomic analysis?

MR. PATRICK BOWMAN: I -- I'm suggesting that if you're going to impose rate changes that are -- that are many multiples of anything that people have experienced here before, and your assertion is that those -- that is being done for the -- for -- to achieve certain benefits, I think you're -- the obligations on you to support that those benefits would arise and that they wouldn't be undermined by your very actions.

MR. CHRISTIAN MONNIN: Mr. Forrest, you're -- you're looking at me. Did you want to -- to add to that?

Mr. Chair, this -- I have one (1) last question, and -- and I do proceed with some trepidation, knowing what My Friend, Mr. Ghikas's previous objections, and -- and I will put that question forward is Mr. Bowman, why are you so popular? You don't need to answer that. Thank you.

THE CHAIRPERSON: Thank you, Mr. Monnin. You know, I've never had that question asked of me. We'll adjourn for fifteen (15) minutes. Thank you.

--- Upon recessing at 2:40 p.m.

--- Upon resuming at 3:04 p.m.

RULING

THE CHAIRPERSON: Before you begin your cross-examination, Mr. Ghikas, I'd like to issue a ruling on Board direction related to legal arguments.

On Thursday, January 18th, 2018, at transcript page 5482, counsel for the Consumers Coalition advised the Board and all parties that the Consumers Coalition has identified potential legal issues that may have arisen in the course of the proceedings, and that if any party intends to present legal arguments in their closing submission, that party should provide notice of such intent.

Counsel for Consumers Coalition also advised the Board that he would communicate with all counsel for all parties regarding its request that notice of legal argument be provided by any party intending to raise legal arguments in closing submissions.

On Tuesday, January 23rd, 2018 at transcript page 5849, counsel for Manitoba Hydro recommended that the Board provide direction to all parties that they provide written notice to all parties and the Board as to any legal arguments that they anticipate raising in closing submissions.

Counsel for Manitoba Hydro went further to suggest that if any constitutional arguments are intended by any party, sufficient detail of such argument should be provided to allow others to understand the whole argument.

While Manitoba Hydro counsel stated that she was getting ahead of herself, she also indicated concern that if any party suggests the Constitutional Questions Act has to be invoked, Manitoba Hydro will need to understand the rationale and how to respond to such suggestion.

Having considered the request from counsel, the Board directs that all parties intending on invoking legal arguments in closing submissions provide written notice to all other parties of such intention on or before 5:00 p.m. Monday, January 29th, 2018.

Written notice to parties should summarize the intended legal arguments, including reference to any legislative provisions that underpin those legal arguments. If counsel suggests any legal arguments require notice pursuant to the Constitutional Questions Act, that information is also to be provided.

Lastly, the Board recognizes there is still oral testimony to be heard from additional witnesses. Should any of the subsequent testimony give rise to further legal arguments that will be included in closing submissions, parties should also provide written notice of those legal arguments to all other parties, and the Board on a timely basis.

I would ask if our legal counsel would ensure that this is directed to all counsel of record. Thank you.

Mr. Ghikas...?

CROSS-EXAMINATION BY MR. MATTHEW GHIKAS:

MR. MATTHEW GHIKAS: Thank you, Mr. Chairman. Good afternoon, panel. My name is Matt Ghikas, G-H-I-K-A-S, and I'm one (1) of counsel for Manitoba Hydro, as you may have guessed from my objections earlier.

I wanted to, first of all, deal with some questions for Mr. Bowman on the self-supporting principle. And I'd just ask you to confirm that the issue of Manitoba Hydro as a self-supporting entity that fully recovers its costs has been a core concept for rate setting going back before the late 1980s?

MR. PATRICK BOWMAN: Yes, that's correct.

MR. MATTHEW GHIKAS: And under that principle of rate setting that has been in operation since before the late '80s, domestic ratepayers ultimately bear the burden -- sorry, ultimately bear the cost of operating, and maintaining, and renewing the system; right?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And if we turn to your contention, as I've read it, sir, is that you believe the contention about concern of self-supporting status to be, in your words, poorly supported or highly speculative.

Those are -- those words ring a bell?

MR. PATRICK BOWMAN: I -- I believe that's a quote, yes.

MR. MATTHEW GHIKAS: Yes, it is. And if we go to page 1-2 of your report, sir, you'll see there on page 1-2 at the bottom there are bolded words in line 27, "maintain self-supporting status" there.

And you'll see that bullet deals with maintaining self-supporting status, right?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And the self-supporting status, again, is a significant topic of discretion in section 4 of your report, correct?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Okay. Now, first of all, Mr. Bowman, the question of whether or not an entity is self-supporting or not is a finance matter.

You'd agree?

MR. PATRICK BOWMAN: I don't think it's entirely a finance matter. I think there's a -- one (1) of the issues that leads to Manitoba Hydro's definition as a self-supporting entity arises from Manitoba Hydro Act, so I believe there is a -- a legal aspect to that.

But in practical terms, when we sit in this room or we sit in other places dealing with -- with rate matters, certainly, the intention is to develop rates that allow a Utility to recover its costs, which is part of an overall self-supporting concept.

MR. MATTHEW GHIKAS: Okay.

MR. PATRICK BOWMAN: I think there may be a narrow definition you're referring to, which is more of a -- a credit rating determination, which would be a part of a finance matter.

MR. MATTHEW GHIKAS: Okay. Well, the

-- leaving aside just specifically the credit ratings, you'd -- you'd -- you'd agree with me that whether or not the capital markets consider Manitoba Hydro as self-supporting is a question that involves consideration of -- of the capital markets themselves, right?

MR. PATRICK BOWMAN: Right. But I guess when I say "credit rating agencies," capital markets is a -- is another audience within the bubble of finance, but in terms of any number of other assessments that are done as part of a Utility analysis, that -- that have an aspect of assessing whether a Utility covers its costs, it's -- it's not only about -- about lenders.

MR. MATTHEW GHIKAS: No, we'll -- we'll get to the rate setting aspect of things, sir. I'm -- I'm asking from the perspective of whether or not the markets consider Manitoba Hydro to be self-supporting or not, that involves consideration of what the capital markets believe, right?

MR. PATRICK BOWMAN: You're -- you're focusing on one (1) aspect of that definition. I'm suggesting there are more than one (1) aspect of that definition and that it -- can -- it would also consider things like -- like the setting of a revenue requirement, which is not -- not about -- about capital markets and lending, it's a -- it's about all of the things are go into a -- a regulatory proceeding and ratemaking and economics.

MR. MATTHEW GHIKAS: Manitoba Hydro gets its debt, it's -- it's borrowing from the province of Manitoba, correct?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And the province of Manitoba gets its borrowing from the capital markets, correct?

MR. PATRICK BOWMAN: In -- in each case, you should assume my "yes" means predominantly, yes. But yes, that's correct.

MR. MATTHEW GHIKAS: Well, I think -- I think, in this case, the province of Manitoba gets its -- its debt or is -- is debt financed from the capital markets, isn't it?

MR. PATRICK BOWMAN: Right. I was -- if anything, I was referring to the previous response. Manitoba Hydro gets most of its debt from the province. I -- I'm -- I don't want to quibble, but I want to make sure that the record is clear. There are aspects of -- of, you know, credit facility that Manitoba Hydro doesn't get through the province, we heard.

MR. MATTHEW GHIKAS: Okay. Your expertise is not in the capital markets, is it, Mr. Bowman?

MR. PATRICK BOWMAN: It's not in capital markets.

MR. MATTHEW GHIKAS: Or -- or finance, for that matter, right?

MR. PATRICK BOWMAN: Well, Mr. Ghikas, I don't -- I -- I don't work in capital markets. I have been involved with Utilities establishing financing. I have been involved with meetings with lenders. I have been involved with -- with setting up financial arrangements for capital projects. I have been involved in regulatory approvals for Utilities who are establishing lending instruments. There are many Utilities that are not allowed to issue debt without the approval of their regulator. And I have been involved in those proceedings on behalf of the Utility justifying why a particular bond issuance is -- is appropriate and when it's needed and why that the terms are favourable.

So I think, you know, --

MR. MATTHEW GHIKAS: With respect to your education, sir, you have a Bachelor of Arts in

Human Development and Outdoor Education?

MR. PATRICK BOWMAN: I do.

MR. MATTHEW GHIKAS: And a Masters in Natural Resources Management?

MR. PATRICK BOWMAN: Correct.

MR. MATTHEW GHIKAS: You don't have a business degree.

MR. PATRICK BOWMAN: I don't.

MR. MATTHEW GHIKAS: You don't have an MBA?

MR. PATRICK BOWMAN: Nope.

MR. MATTHEW GHIKAS: You don't have any education in corporate finance?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: And with respect to your work experience, you went straight from school into your own consulting firm it seems?

MR. PATRICK BOWMAN: It's not my consulting firm. I started as a researcher at the consulting firm. But my -- as I noted my -- my background, although natural resource management, was focused on topics related to natural resource economics, and as -- as part of the -- the practice since that time, I've been involved in a number of Utility matters which includes all the financial related topics you're -- you're talking about, including business planning and financial plans and the like.

MR. MATTHEW GHIKAS: You've never worked for an investment bank?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: You've never worked in the treasury department of a utility?

MR. PATRICK BOWMAN: I've never worked for a Utility.

MR. MATTHEW GHIKAS: And you have never worked for the treasury department of any corporation, have you?

MR. PATRICK BOWMAN: I -- I -- my professional career has been in consulting not in -- within a corporation.

MR. MATTHEW GHIKAS: Right. And with respect to your involvement in bond -- bond issuances, you weren't involved in advising the -- the lender in that respect, were you?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: So you've never advised major investors who buy provincial bonds or credit -- or credit rating agencies for that matter?

MR. PATRICK BOWMAN: I've never had

those as a client, no.

MR. MATTHEW GHIKAS: And in terms of the three (3) pages of work highlights and the chronological lists of Utility regulating matter -- regulation matters dating back to 1998 that you've included, not one (1) of those retainers that you identified in your CV is involved in assessment of the capital market conditions?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: And you've never testified as an expert on capital market matters, correct?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: Mr. Osler, you made a comment earlier that I noted down that in response to a question you received about the significance of 25 percent equity.

Do you recall that?

MR. CAMERON OSLER: I don't know which comment you're referring to.

MR. MATTHEW GHIKAS: The -- the comment I'm referring to, sir, is your response was to the effect that 25 percent has no magic to anyone except maybe a few people.

Do you recall that?

MR. CAMERON OSLER: I recall that comment, yes.

MR. MATTHEW GHIKAS: And, Mr. Osler, did you reach that opinion based on a detailed capital markets assessment?

MR. CAMERON OSLER: No. My question was -- my answer was referencing the range of discussion that I was having with a person asking me the question.

MR. MATTHEW GHIKAS: And -- and you're an economist, sir, aren't you?

MR. CAMERON OSLER: Yes.

MR. MATTHEW GHIKAS: And your specialty is with respect to rates and project work?

MR. CAMERON OSLER: It includes those things, yes.

MR. MATTHEW GHIKAS: Yes, it's not -- not focused on capital markets matters, is it?

MR. CAMERON OSLER: No, and this particular proceeding Mr. Colaiacovo is the one who is the expert on that matter from the team that we're talking to.

MR. MATTHEW GHIKAS: I see. And not Mr. Bowman?

MR. CAMERON OSLER: He's just given

you his answer, sir.

MR. MATTHEW GHIKAS: Okay. And in terms of your comment about the 25 percent -- the significance of the 25 percent, are you aware, sir, that the rating agencies are all in their reporting citing the target of 75 to 25 percent in their credit reports?

MR. CAMERON OSLER: Is your question referencing Manitoba Hydro or all Utilities in Canada?

MR. MATTHEW GHIKAS: Are you aware that for Manitoba Hydro, DBRS, for example, is citing the fact that Manitoba Hydro has a target of 75:25 debt/equity ratio?

MR. CAMERON OSLER: I am not aware. I haven't reviewed their material. But I would expect each rating agency would be reporting on the targets that Manitoba Hydro specifies that it has.

MR. MATTHEW GHIKAS: And do you recall hearing Mr. Colaiacovo me question him? Were you -- were you listening to that or reading the transcript of the -- my cross-examination?

MR. CAMERON OSLER: I heard parts of your cross-examine, sir.

MR. MATTHEW GHIKAS: And do you recall the -- the portions of the cross-examination where I referred him to his NFAT evidence where his -- in his NFAT evidence he was also making reference to the fact that the rating agencies refer to 25 percent equity as a target?

MR. CAMERON OSLER: I vaguely recall it but yes.

MR. MATTHEW GHIKAS: Now turning back to you, Mr. Bowman, to your bullet on page 1-2 and over on 1-3, in the context of self-supporting status.

On line 3 of 1-3, you -- you're referring to the recent pattern of increases of 3.95 percent being more than sufficient and you say, on line 3, quote:

> "Central to this finding is that regulatory certainty, continuity and transparency is important. Concerns exist that Hydro's proposals reflect instability, a lack of transparency and, most notably, a lack of continuity in ratemaking, which may serve to undermine the perception of Hydro's regulatory risks."

Do you see that, sir.

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: So in your view,

the -- the importance of regulatory certainty, continuity and transparency is central to your self-sufficiency assessments, sir?

MR. PATRICK BOWMAN: Mr. Ghikas, the quote is about the mix of definitions of self-supporting status that I was using, and that part of that it specifically references regularly certainty, continuity and transparency and, in particular, if you want to go to it it's part of the -- the S&P criteria as well. But that was what I was referencing.

MR. MATTHEW GHIKAS: I -- I will go to that later, Mr. Bowman. Just in terms of your reference to concerns exist, whose concerns might those be?

MR. PATRICK BOWMAN: I -- the evidence -- it's my evidence, Mr. Ghikas, so I think I was voicing my own concern, but I also -- that there's a -- I think there would be a basis for -- for a general concern of -- of an inconsistent treatment.

MR. MATTHEW GHIKAS: So just to be clear, that -- that is your concerns that you're expressing as somebody with -- whose education and experience falls outside of capital markets and finance, sir?

MR. PATRICK BOWMAN: Mr. Ghikas, it's

not a point on capital markets and finance. It was never intended that way and if -- if it's read that way, I do apologize.

Mr. Chair, the intent of this section was to deal with the -- the importance of a -- of a regulator and -- and the importance of the orders and the consistency in the regulatory regime and the regulatory orders and the different audiences they're used by. That's all.

MR. MATTHEW GHIKAS: Well, Mr. Bowman, you just referred me to S&P. Is S&P a rating agency?

MR. PATRICK BOWMAN: S&P is a rating agency.

MR. MATTHEW GHIKAS: Right. So I'm -- I'm suggesting to you that if you just referred me to S&P, this comment must have something to do with the capital markets and the rating agencies; is that not so?

MR. PATRICK BOWMAN: I think it's -- Mr. Ghikas, I think it's fair to say it's broader than that. I -- the -- I was -- within this bullet I'm referencing three (3) different concepts of self-supporting that are embedded in the evidence that I was asked to test and -- including KPMG's and Hydro's and the -- the various rating agencies. I didn't get into running the tests that the rating agencies use. I didn't have access to the confidential reports of the rating agencies. If anything, you'll find for my direct I focused on KPMG's and Hydro's definitions.

KPMG's definition is if anything focused on competitiveness of rates and the ability to raise rates when you need to, which is not to me a finance question, is very much a rate regulatory question. And the remainder of this is talking about regulatory stability and how a Board's decisions and Orders and -- and a Utility's rate paths are to be understood; that's something I deal with every day.

MR. MATTHEW GHIKAS: And -- and just to be clear, Mr. Bowman, no rating agency told you that they were concerned about instability, lack of transparency and lack of continuity in ratemaking, did they?

MR. PATRICK BOWMAN: No, I'm not suggesting it's a rating agency's conclusion. I'm -- I -- I mentioned, this is my submission.

MR. MATTHEW GHIKAS: Okay. And no -- no lender or participant in the capital markets told you they were concerned about instability, lack of transparency, and lack of continuity in ratemaking, did they?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: Nobody in provincial government expressed that concern to you, did they?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: Now, in terms of what the rating agencies think regarding this central consideration of transparency, you'd agree with me that Manitoba Hydro has filed thousands of pages of information in this application regarding its financial position?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And that it's responded to in excess of 2000 IRs from multiple parties?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And that it's provided updated information on its financial position during the course of the proceeding?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And that we're in the middle of a multiweek oral hearing focused on, among other things, the Company's financial position?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Can you point me

to any instance where any rating agency has expressed concern about lack of transparency on the part of Manitoba Hydro?

MR. PATRICK BOWMAN: No. As I said, Mr. Ghikas, it's not a -- this -- this section of the evidence was referencing things that it is -- it said in the evidence are important to various parties, including agencies, but not only agencies and coming to my conclusion that there's a basis for concern.

MR. MATTHEW GHIKAS: Well, sir, you're saying that they're important to the agencies, but there's nothing in the DBRS reports expressing a concern about transparency, is there?

MR. PATRICK BOWMAN: No --

MR. MATTHEW GHIKAS: And there's no --

MR. PATRICK BOWMAN: -- not that I'm aware -- not that I'm aware of, sir.

MR. MATTHEW GHIKAS: And there's nothing in the Moody's reports pressing concern about transparency, is there?

MR. PATRICK BOWMAN: Not that I'm aware of, sir.

MR. MATTHEW GHIKAS: And there's nothing in the S&P reports expressing concern about transparency, is there?

MR. PATRICK BOWMAN: I have to admit that that one I'm -- I'm not aware. I don't remember what -- S&P was one that we spent a bit more time reviewing but I -- I don't recall.

MR. MATTHEW GHIKAS: Are there any rating agencies that I've missed in terms of those who are rating Manitoba Hydro's debt?

MR. PATRICK BOWMAN: No. Not that I'm aware of, Mr. --

MR. MATTHEW GHIKAS: Okay. Now, in terms of the -- the central importance or the centrality of importance of certainty and continuity in ratemaking.

So, from what I understand you're saying the concern is that the pattern of rate increases of three nine five (3-9-5) -- that asking for an increase that differs from that pattern may be a risk to the Company's self-supporting status or credit negative because it -- it suggests regulatory risk.

Is that -- is that how I should read lines 5 to 7?

MR. PATRICK BOWMAN: Mr. Ghikas, it's a one (1) sentence attempt to summarize an entire section of the evidence, but -- which I'm happy to go through, if you like.

But the -- the -- the issue -- it may be best done by going to the section.

MR. MATTHEW GHIKAS: All right. Well, you have cited here:

"...most notably a lack of continuity in ratemaking which may serve to undermine the perception of Hydro's regulatory risk."

Are you telling me that doesn't reflect your evidence elsewhere?

MR. PATRICK BOWMAN: I'm not suggesting that for a moment, Mr. Ghikas. I'm suggesting that if you go back a page, you'll see the context that we were asked to review. You'll see the assignment that we were asked to undertake. If you move to section 3, you'll see the principles that we applied, and -- to come to the conclusions or that I applied to come to the conclusions and you'll see that they focus on the regulatory and rate question. They focus on rate competitiveness. They focus on the importance of loads and building loads. They focus on the importance of certainty to customers. And they focus on whether, combined those things, give rise to questions about Hydro's commitment to a plan that it put in place, supposedly with the support of many people around it including this Board, and whether a -- a dramatic change in the way Hydro's unfolding that plan gives questions to continuity.

MR. MATTHEW GHIKAS: And we are -- let's put ourselves in the shoes of the holders of provincial bonds for a moment.

Would you agree with me that their interest is in seeing that the province pays its interest payments and repays the principal on the -- on the amounts owing?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And credit ratings are looking at Manitoba Hydro from the perspective of a bondholder who wants to recover its interest and principal too, right?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And so I'd suggest to you, sir, that regulatory risk from the perspective of a bondholder is the risk that the regulator won't increase rates when required, and won't allow recovery of appropriate costs.

Wouldn't you agree?

MR. PATRICK BOWMAN: I guess at a very simple level, Mr. Ghikas, but you have to understand that if you've watched the Utility industry for very long, instability can arise in rates and in the finances of a company and in the competitiveness of rates and in the ability to maintain your loads from a bunch of different sources.

And the idea that a Utility that has a long-term plan will change that plan on a dime without substantial change in the underlining facts but will change them on a dime would -- surely, gives rise to the concern that the next time a different group of people come in, they will change it on a dime again and you have significant concerns about the stability of that -- of that jurisdiction.

The reason things like regulars are put in place, as Mr. Osler went over, is to deal with things like the political side of -- of interventions and other interventions that give -- give -- would give rise to the concerns of -- of a -- of a lender -- not only lenders, of a customer, of someone who wants to build a plant, of a -- as I noted, as an industrial customer who's thinking about expanding, of all the things that are needed to make a Utility run successfully.

MR. MATTHEW GHIKAS: You'd agree with me, sir, that Manitoba Hydro's cash flow would improve, among other things being equal, if rates increase more than 3.95 percent?

MR. PATRICK BOWMAN: Yes, this time if -- the turn is to drive more cash to Hydro.

MR. MATTHEW GHIKAS: And improved cash flow is better for bondholders, other things being equal?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And it's easier for the Company to cover the interest payments, right?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And it raises the probability of principal being repaid, right?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And it reduces the likelihood of financial distress necessitating the province stepping in for Manitoba Hydro, right?

MR. MATTHEW GHIKAS: Unless it chases away the loads that are needed to pay the bills, yes.

MR. MATTHEW GHIKAS: And higher rate increases would also help reduce leverage, other things being equal?

MR. PATRICK BOWMAN: Subject to the caveat I made, yes.

MR. MATTHEW GHIKAS: And -- and they

would also provide some financial flexibility through the ability to borrow more, right?

MR. PATRICK BOWMAN: I -- I guess. I'm looking at a plan and I'm wondering where in there it suggests Hydro wants to borrow more once it finishes Keeyask, but -- but, yes.

MR. MATTHEW GHIKAS: And it would also lower the -- the impact of unforeseen increases in interest rates, wouldn't it?

MR. PATRICK BOWMAN: Well, I think, Mr. Colaiacovo did the -- did a nice summary about how that -- the interest rate changes as -- as debt comes due. It's not like an int -- debt changes as a shock overnight.

MR. MATTHEW GHIKAS: From the perspective of a bondholder having less debt is -- on the -- on the books reduces the risk of interest rate exposure, doesn't it?

MR. PATRICK BOWMAN: From the -- I -- I would expect from the perspective of any lender, the person you're lending to having less debt is favourable.

MR. MATTHEW GHIKAS: Okay. If we can turn to the -- I've handed out, Mr. Chairman, a book of documents for this cross-examination. It's -- I understand it's to be marked as Manitoba Hydro Exhibit 116-2. And counsel for MIPUG has received copies of these in advance as well and we'll go through these documents as we -- as we do it.

--- EXHIBIT NO. MH-116-2: Book of documents for cross-examination of MIPUG Panel.

CONTINUED BY MR. MATTHEW GHIKAS:

MR. MATTHEW GHIKAS: First of all, if we can go to tab 3 of that book. There's just some excerpts from appendix 4.4 of the -- of the application, Manitoba Hydro's application, and there's just some DBRS reports. And I've only included the most recent ones.

MR. ANTOINE HACAULT: Mr. Chair, I know throughout these proceedings, and I don't want to interrupt any cross-examination by Mr. Ghikas, that we're referring to a number of credit rating agencies' reports.

I know that this proceeding doesn't follow the normal rules of evidence where you would have to call somebody from DBRS and Standard & Poor's and Moody's. But I do just want to put on the record that I urge the Board to be mindful of the fact that we have nobody that has testified with respect to any of these reports, or anything that's said in those reports. And nobody's been brought by Manitoba Hydro to do that. And in previous questioning some of the questions assumed some things that those witnesses might've said and incorrectly so.

So, with that general comment, I'll let Mr. Ghikas continue his cross-examination.

THE CHAIRPERSON: Understood. Mr. Ghikas, could I just ask, this specific report, is this in already?

MR. MATTHEW GHIKAS: Yes, it's -- it's in the GRA application, appendix 4.4.

THE CHAIRPERSON: Thank you.

CONTINUED BY MR. MATTHEW GHIKAS:

MR. MATTHEW GHIKAS: If we can go, first of all, this is just talking -- dealing with your -- your -- your suggestion about lack of continuity in ratemaking may serve to undermine the perception of Hydro's regulatory risks.

And I just wanted to draw your attention, sir, to something that DBRS said here over on the first page 1 of 40, on the right-hand column, you'll see there's a reference about six (6) or seven (7) lines down to the BCG report.

"Also noted, the rising leverage at the Utility as a result of the substantial capex. Debt to capital at Manitoba Hydro has risen to 83 percent at F2 2016, and had been expected to peak at 88 percent, significantly above the target capital structure of 75 percent debt. A new Board appointed at Manitoba Hydro in 2016 intends to limit the deterioration in the Utility's balance sheet. As a result, the Utility has begun reviewing initiatives to help alleviate pressure on its key financial ratios, such as improving operational efficiencies, requesting annual rate increases higher than the previous plan 3.95 percent, as well as a potential equity injection from the province. DBRS sees these initiatives, if actualized, as positive to Manitoba Hydro's

financial profile as they will
provide some financial flexibility
for the Utility, especially in the
event of adverse drought conditions
or further cost overruns on the
project."

Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Okay. Now, sir, does that statement by DBRS strike you as an expression of concern about potential rate increases above 3.95 percent?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: Now if we go to tab 4 of the book of documents, sir, for a moment. These are -- the original exhibit that these -- this is excerpts from the Moody's report and the Moody's report is already on the record confidentially and I've just ask excerpt them. I -- from Exhibit MH-61 just to protect the confidentiality of them.

But, just looking at the first excerpt, you'll see Moody's is saying:

"Manitoba Hydro operates in a stable
regulatory framework with steady
yearly rate increases. It had an

interim rate increase of 3.36 percent effective August 1st, 2017 that will flow into the Bipole III deferral account. While rate increases are nominally set on a cost of service basis, rate increases in recent years have clearly not kept up with costs as evidenced by ongoing weak financial metrics. The MPUB independently oversees the ratesetting process and has a supportive environment for cost recovery. Residents in Manitoba continue to pay rates that are among the lowest in North America. Revenues from exports to the US and other Canadian provinces account for over 20 percent of electric revenue alleviating pressure to increase rates and contributing to the current low rates in the province."

Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And that,

presumably, doesn't strike you as an expression of concern about further rate increases either, does it?

MR. PATRICK BOWMAN: I -- I don't read that. I read it as an expression of -- of confidence in the -- in the Board. I don't know how it accords that -- what support of a -- apparently a support of a Board is implementing rate increases that they're asserting are incorrect or too low, but I don't read it is as a concern about -- about rate increases, I read it as a concern about stability --

MR. MATTHEW GHIKAS: And is that --

MR. PATRICK BOWMAN: -- sorry, a confirmation of the benefits of an independent regulator and stability.

MR. MATTHEW GHIKAS: And does that comment apply to the previous sentence, which says:

"While rate increases are nominally set on a cost of service basis increases in recent years have clearly not kept up with costs as evidenced by ongoing weak financial metrics."

MR. PATRICK BOWMAN: Mr. Ghikas, as I said, I cannot accord a statement that says your rates are being set too low, and then a statement says that your Utility Board is doing a good job. I -- I don't know how to read those two (2) together. I'm not sure how any reader does.

But, as I read this, it -- it underlines what I was saying that in an independent regulator is -- is an important aspect of -- of a rate regime. And I don't -- I don't read this as saying anything different than that.

MR. MATTHEW GHIKAS: And if you see in the second quotation, you'll see the reference by Moody's to the fact that:

> "Manitoba Hydro's financial metrics are among the weakest, if not the weakest, of any of Manitoba Hydro's peers, including vertically integrated, provincially owned Crown corporations in Canada."

Do you see that?

MR. PATRICK BOWMAN: Yes, Mr. Ghikas.

MR. MATTHEW GHIKAS: And does that strike you as Moody's being concerned about rate increases above 3.95 percent, sir?

MR. PATRICK BOWMAN: I -- I don't see mention of rate increases in that section.

MR. MATTHEW GHIKAS: You'd agree with

me, they seem to be expressing concern that Manitoba Hydro is the weakest or among the weakest, if not the weakest, metrics?

MR. PATRICK BOWMAN: I -- I see that that's referenced, yes. Says "weakest, if not -- "weakest, if not the weakest," is the phrase.

MR. MATTHEW GHIKAS: All right. You mentioned S&P's methodology previously. And I want to go to that. Page 407 of your report, please. Okay.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: So on -- on page 4 -- are you with me, Mr. Bowman?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Page 4-7, okay. So here you pick up on the theme of regulatory stability again and you have -- you'll see that -- in line 7, you say:

"If anything, a key conclusion from the above material is the lack of a need for a 7.9 percent per year rate increase today, but instead a significant requirement to communicate regulatory support and

reliable regulatory regime to
lenders and credit rating agencies.
This is specifically cited in the
desirable characteristics that play
into the ratings criteria from S&P
provided by -- provided in MIPUG-MH-
1-8 (a) to (k) as follows."

And you cite regulatory stability and regulatory independence and insulation.

Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And then you cite in your footnote the IR and then the ratings direct criteria, key credit factors for regulated Utilities industry.

And so I wanted to turn to that IR where we've -- this is MIPUG-1-8. And I believe the PDF page number where this starts is page PDF 249. All right, brilliant. Okay. So it's -- it's called up on the screen.

So this is what you were referring to, was it, sir?

MR. PATRICK BOWMAN: That is where that section is quoted. I -- I believe I probably relied on the -- it being quoted in the IR response itself in -- in MIPUG-1-8 (a) to (k) but it's in here as well.

MR. MATTHEW GHIKAS: Okay, so then you -- you didn't read the S&P criteria themselves?

MR. PATRICK BOWMAN: Oh, Mr. Ghikas, I -- I reviewed the response, I reviewed the attachments.

MR. MATTHEW GHIKAS: Okay.

MR. PATRICK BOWMAN: I'm -- I'm just saying that the -- the source before the footnote is -- is from the IR response itself but....

MR. MATTHEW GHIKAS: Okay.

MR. PATRICK BOWMAN: That's fine, we can use this.

MR. MATTHEW GHIKAS: Okay. So in the -- the -- I see -- I see in the IR response where you're referring to, okay. If -- if we need to go there... Well, let's -- let's -- let's use this.

If we can go -- scroll down to paragraph 21. So this is page 5 of the document or PDF 253. You'll see in paragraph 21 they're discussing:

> "The regulatory framework regime's influence is of critical importance when assessing a regulated Utility's

credit risk because it defines the
environment in which the Utility
operates and has significant bearing
on the Utility's financial
performance."

So stopping there, S&P's ultimate concern then, sir, is how the framework affects the Utility's financial performance, right?

MR. PATRICK BOWMAN: Of the regulatory framework, yes, absolutely. This is the point I was underlining in -- in spades. And -- and actually if we go to the IR response at some point, I'll -- I'll show you why it's so critical.

MR. MATTHEW GHIKAS: Okay. And then you'll see in the next paragraph they talk about how they:

"...base their assessment in terms
of regulatory stability, efficiency
and tariff setting procedures,
financial stability and regulatory
independence to protect -- to
protect a Utility's credit quality
and its ability to recover costs and
earn a timely return."

Do you see that there?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Now, in paragraph 23 you'll see S&P say:

"When assessing regulatory advantage, we first consider four (4) pillars and sub factors that we believe are key for a Utility to recover all of its costs on time and in full and earn a return on its capital employed."

And then you'll see that two (2) of those are the ones that you quoted in your evidence; right?

MR. PATRICK BOWMAN: Yes, that -- those are the key ones in regards to the regulator.

MR. MATTHEW GHIKAS: Right. And you've -- and -- so you've quoted paragraph 24 and 27, and in paragraph 27, the second bullet says:

"Protecting the Utility's credit profile even during a stressful event..."

That would be code for increasing rates as necessary, right?

MR. PATRICK BOWMAN: I -- I'm trying to keep up with you, Mr. Ghikqw, can you point me to where you were quoting?

MR. MATTHEW GHIKAS: Sec -- second bullet in paragraph 27.

MR. PATRICK BOWMAN: Oh, yes, absolutely. And you'll see that -- that's also what I quoted in my evidence. I thought you were suggesting it was one I didn't quote.

But if you go back, the -- the key there -- and I think this is critical to Mr. Osler's and Mr. Forrest's testimony this morning is the risk of political intervention, which is among the things that I was highlighting that if you have an independent regulator committed to a long-term plan, that gives -- that has the ability to give everyone from customers to governments to, I will submit, lenders confidence about how a plan unfolds.

What we had seen before there was a regulator in place Manitoba was political intervention so that rates would go up a bunch; rates would get frozen. Nobody knew when. Act -- the Act would get put in place for the energy stabilization. It would get repealed. That type of -- of mess causes a high level of uncertainty. This -- this bullet is not necessarily just about the regulator, it's about the political intervention in the regulator's work.

MR. MATTHEW GHIKAS: And -- and so S&P, although it's citing four (4) pillars, you're only identifying two (2), right?

MR. PATRICK BOWMAN: I -- I was putting the two (2) that were related to the regulator in front and centre, yes.

MR. MATTHEW GHIKAS: Okay. And -- and both of the pillars that you omitted were concerned with the recoverability of costs in full?

MR. PATRICK BOWMAN: Mr. Ghikas, they're in the IR. It -- it is not an intention to omit. It was an intention to keep the length of the document down and focus on the aspects to deal with the regulator. Recovery of costs in full is absolutely a principal of Manitoba Hydro through the entire structure of the Manitoba Hydro Act in its entire history.

MR. MATTHEW GHIKAS: And -- and financial stability, right?

MR. PATRICK BOWMAN: Yes, absolutely. And I emphasize that is a key customer concern as well. They do not want to be served by a Hydro that is not financially stable.

MR. MATTHEW GHIKAS: And attractiveness of long -- attracting long-term capital?

MR. PATRICK BOWMAN: Right. Now, this one, let's be a little bit careful, because attractiveness of long-term capital is an essential component of how you set up a regulatory regime and what type of capital you're trying to attract. If you're dealing with a place that has private sector utilities, you have to set in place a regime that gives certain certainties that you can attract in the companies who will bring their equity and also some debt with them to build the assets in your jurisdiction.

We don't have that problem. In Manitoba, here, we do it ourselves. So we don't have quite the same attract equity or -- or give the investor certain protections and guarantees that you'd have in all these other utilities. It's one (1) of the reasons I sort of expressed concern about some of the -- the comparisons. It's a different framework when we're more of this almost quasi-co-op model, much more than they were -- or -- I believe Mr. Colaiacovo called it the cost-based recovery model as opposed to something that's more as along the lines of a rate base, or a return equity model.

MR. MATTHEW GHIKAS: And you'll see in

paragraph 26, the last bullet there, one (1) of the principles is capital support during construction to alleviate funding and cash flow pressure during periods of heavy investment. Do you see that?

MR. PATRICK BOWMAN: Sure. Yeah. If I'm -- if -- if I'm someone who's involved in dealing with a -- a utility, I want to know that if they start on a project, they're not going to run out of money halfway through.

MR. MATTHEW GHIKAS: Now, the -- first of all, the credit factors for regulated utilities, you understand they -- they only modify the corporate methodology for S&P?

MR. PATRICK BOWMAN: I think we should go back -- it may help to go back to the -- the IR response, which walks through the -- the full logic. Is that --

MR. MATTHEW GHIKAS: Well, it might be -- it might be easiest if you just see the section -- sorry, paragraph 4 of S&P on the second page, I believe. Paragraph 4, you'll see right at the end of that section 4, there, there's a reference to all other sections of the corporate criteria applying to the analysis of regulated utilities.

So you -- you understand that this is -

- sort of supersedes some of those sections, but that the other -- the cau -- the typical corporate rating methodology applies generally?

MR. PATRICK BOWMAN: Yeah. Can -- can we go to that IR? It would be MIPUG --

MR. MATTHEW GHIKAS: Sure.

MR. PATRICK BOWMAN: -- 8(a) to (k), and you'd want to go to page 3, which is, I think, the critical one to sort of deal with this. And the first methodology they apply, which I believe is what you were referring me to, is set out in this table 18. And this is all walked through in that -- in that entire IR.

And the -- the critical one, and Hydro puts it here, analysts focus mostly on FFO to debt. It's in the second line below the table. You go to the table of FFO to debt, and it sets out the most important ratings criteria, and you go down that list, and you see whether utilities, or your company, in this case, is going to end up in -- anywhere between minimal and highly leveraged, right? Highly leveraged is anything that is less then nine (9) FFO to debt.

As you go down to the bottom of that paragraph -- no, don't move the document, but as you look at the bottom of that paragraph, it notes that

Manitoba Hydro's FFO to debt is two point two (2.2). So Manitoba Hydro, in regards to S&P's assessment, Manitoba Hydro has no prospect of being anywhere but the highly leveraged category. And we had -- we asked a second follow-up IR that says, Do you have any prospect -- any plans? Is your intention to get out of this category? And they say, No. That's where they gave the Manitoba Hydro's definition of self-sustaining is as follows, that I put in my -- in my presentation.

So we're at two point two (2.2). We have to get over nine (9) to get out of that bottom row. And in effect, what you'll find if you read through this IR is once you're in the bottom row, you now have to start to look at different things than financial ratios, because your financial ratios don't -- aren't comparable anymore to other -- other utilities -- or other -- other companies they're comparing you to.

And as you move down, you'll find that it leads you to say, you need to consider things like the country you operate in, the industry you operate in, and your regulator, and all those four (4) points you put, which I had quoted two (2) of.

MR. MATTHEW GHIKAS: Yeah. Mr.

Bowman, we're -- I think we're -- we're ships passing in the night, here. I'm -- I'm still focused on your statement on paragraph -- sorry, on page 1-3 that:

"Concerns exist that Hydro's proposals reflect instability, a lack of transparency, and most notably, a lack of continuity in ratemaking, which may serve to undermine the perception of Hydro's regulatory risks."

That's where I'm at, and -- and so we're -- we're looking here. You've cited S&P as support for that, and I'm walking you through the methodology. And so far, we've discussed the methodology in that their -- their concerns with respect to stability and ratemaking are all about from the bondholders perspective, right? They're concerned with the financial position of the company, right?

MR. PATRICK BOWMAN: Right, and we agreed I was talking about more than that, but I'm happy to go down the road of the bondholder, and that's -- that -- in this context, S&P is about the bondholder.

MR. MATTHEW GHIKAS: Right. And so if we can go to --

THE CHAIRPERSON: Sorry, if I could -- I just want to correct something. Did you say S&P is the bondholder?

MR. PATRICK BOWMAN: No, I said S&P's perspective is from the perspective of informing a bondholder, someone who -- whose interest in Hydro is lending to Hydro, not someone whose interest in Hydro is buying from Hydro. That's fine.

THE CHAIRPERSON: Sorry. I misunderstood your comment.

MR. PATRICK BOWMAN: Yeah. Thank -- thank you for --

CONTINUED BY MR. MATTHEW GHIKAS:

MR. MATTHEW GHIKAS: All right. If we -- if we go to the general corporate methodology -- actually, sorry, one (1) -- before we do that, I'm sorry, paragraph 20 of the Utility methodologies, so this is PDF 252. Paragraph 20, PDF 252. Thank you.

All right. So this is -- this is explaining putting this in the context of competitive advantage, so in the standard methodology, you have a concept of competitive advantage, and this is making a point that one (1) of the utility methodology principles that kind of takes us outside of that, because there is no competition in a monopoly setting. So this is where -- one (1) of these areas where this methodology steps in.

So I want to take you now to the general corporate methodology of S&P. And that's on PDF 173, and see where this competitive position fits in the overall -- and I'm looking at the diagram, here. Right. So you'll see it's one (1) of three (3) factors that goes into business risk profile on the left. Do you see that?

MR. PATRICK BOWMAN: In the blue?

MR. MATTHEW GHIKAS: In the blue, that's right. All right. And so this whole discussion that we've been having about the -- the centrality of rate smoothing, Sir, or smooth and stable rates, you'd agree that where this fits in the picture is in that competitive position box, right, as far as S&P is concerned?

MR. PATRICK BOWMAN: Well, it's -- it's -- my understanding is it's in -- effectively in -- a replacement for the -- the competitive type of considerations the regulator stands in as your -- your rate setting, rather than the market being your rate setting.

MR. MATTHEW GHIKAS: Okay. All right.

So now I want to go to the KPMG report, because you've cited -- you've cited the KPMG report on slide 27 of your presentation. You've quoted from it. And if we can go to -- this is appendix 4.1, the KPMG report, the -- 4.1 of the -- right. And turning to page 115, I believe.

So you've included one quote, sir, and I just wanted to bring to your attention something else on this page. If you can go down to the paragraph that says, "as discussed," and you see it says in the middle the paragraph:

> "Loss of such status could potentially be avoided if Manitoba Hydro immediately take steps such as increasing rates to increase its equity position. On the other hand, support -- self-supporting status could be affected at equity ratios above zero in the event that its ongoing financial trajectory appears to be negative, and there are no steps being taken to correct this. The above discussion is not meant to suggest that reaching a zero equity ratio is possible without

considerable risk to Manitoba Hydro's or the Province's financial standing. The discussion also emphasizes the fact that the exact point at which self-sustaining status could be lost is not clear."

Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And you'd agree with me that that is important context with respect to the KPMG quote that you included in your presentation?

MR. PATRICK BOWMAN: Yeah. As a matter of fact, the quote that I put in the presentations from page 7, and it has a similar type of wording, where it describes that -- that we are -- the point at which rating agencies might deem Manitoba Hydro and its debt to be no longer self-supporting is not clear. It may not be clear when debt reaches a level where it cannot be -- reasonably be expected to be paid by ratepayers.

However, to create a working definition of financial distress for the purposes of scenario analysis, the following general approach was used, and that leads into the quote. That's page 6 of the report. So I -- I think it's a -- I -- I agree with you, Mr. Ghikas. It is a -- a component of understanding that anybody who takes a definition of -- of self-supporting and puts their -- their neck out, if you like, to say, This is what I mean, other parties might mean something different.

MR. MATTHEW GHIKAS: Okay. Maybe we can go to slide 27 of your presentation, Mr. Bowman, please. So there, you've included the KPMG definition there, and you've added your own commentary below:

"No prospect of either of these outcomes occurring, much less both of the -- at the same time."

Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Would that be you sticking your neck out with respect to the KPMG definition here?

MR. PATRICK BOWMAN: I don't believe it's a question of necks, Mr. Ghikas. I'm happy to go through either point, if you like. There's two (2) tests they put out. One (1) is -- is what happens if you reach a position of near zero retained earnings, and the other is what happens if rates increase such that Manitoba can no longer be considered cost competitive, and I think there's an analytical basis for saying neither of those should be assumed from any of the financial forecasts we've seen, much less both of them occurring.

And if you want me to go through the -- the tests that would apply to it, I would consider that. I'm happy to do that.

MR. MATTHEW GHIKAS: Well, the point -- the point I was making to you, sir, is that if you also read the passage on page 115, there is -- it's -- it's by no means as equivocal as the path -- the paragraph that you've quoted, is it?

MR. PATRICK BOWMAN: I don't think the paragraph is a -- is inappropriately quoted alone. My -- as I said, the definitions all have some variability in them, and KPMG puts on certain caveats. I'm not sure I could have fit more on the slide, but it's not at all inconsistent with saying that someone else might use a somewhat different definition.

And -- but within the bounds of what KPMG has -- has set, I would suggest we are -- there's two (2) critical things. One (1) is we are miles away, and the second is that I completely agree with KPMG that it's about more than measuring a financial metric. It's about measuring the competitiveness of your rates, because that is the fundamental power and tool this Board has, is that when you get into a pickle, if you get into a pickle, if you're heading towards a pickle, this Board has the power to raise rates as long as it's not fundamentally undermining the economy. And that power resides with this Board, and it will twelve (12) months from now when we do the next review.

I don't see that written in very often into the -- the other pieces you -- you note other than by saying, Oh yeah, Manitoba Hydro has low rates. But KPMG actually talked specifically about this competitiveness aspect.

MR. MATTHEW GHIKAS: If we can turn, please, to -- this is MIPUG's opening statement. This is Exhibit -- MIPUG Exhibit 22, slide -- or it's page 14, I think. Or -- or section 4.3.

I wasn't sure, Mr. Bowman, are -- are you the author of this, or is MIPUG the author of this?

MR. PATRICK BOWMAN: It's Mr. Hacault's document.

MR. MATTHEW GHIKAS: Okay. So there's a statement there about Manitoba Hydro making clear that the most important criteria for the credit rating is a sound, predictable, and consistent regulatory and rate-setting process. And there's a reference to MIPUG/Manitoba Hydro-1-8, yet the proposals seek to fundamentally undermine rate setting consistency.

MIPUG/MH-1-8 was the IR we were just looking that appended the S&P methodology, right?

MR. PATRICK BOWMAN: Right.

MR. MATTHEW GHIKAS: And could you point me to anywhere in Manitoba Hydro's response in that IR where it says that the most important criteria for the credit rating is the sound, predictable, and consistent regulatory and rate-setting process?

MR. PATRICK BOWMAN: Mr. Ghikas, I'm -- I would point you to things we've already looked at, which that -- that Manitoba Hydro currently fails the financial and numerical metrics. When you move down from there, you see that the weights become placed on things like the jurisdiction you're operating in and the industry. We are not a tech company. We're not in Ghana. We're in -- in Canada, and with a utility, so those -- those fall away, as Hydro describes there. And so you're left with the assessment, which is fundamentally based on your regulator and its ability to act.

Central to that is not -- to -- to me, central to that would be, can the regulator practically act to raise rates, because your rates are actually low enough to be able to -- to have some action if -- if you run into a pickle. If I'm sitting in the Yukon, and my rates are already at a rate that -- that makes it very difficult to move, if I'm sitting in Northwest Territories, my rates are a dollar a kilowatt hour in some of the -- the communities, I can have a real problem thinking that I can go ahead and raise rates to sock -- to -- to get the Utility out of a problem if it gets into one.

But that's not where we're sitting in Manitoba. What that IR says, though, and it's the -- actually, the exact bullet you took me to is that there's a concern about politically influenced or unstable regimes tying the hands of the regulator, in my words. And I'm -- my suggestion is that the regulator provide inconsistency (sic), and stability, and pushing back on that will help address the exact type of things that -- that Mr. Forrest went through this morning about why the regulator was put in place, regimes which change from high rate increases to rate freezes without anybody actually assessing Hydro's revenue requirement.

And if I'm a lender, I would get, you know, I -- I think it would be perhaps a -- a little shortsighted to say, I'm going to get excited about a regime that raises rates when it's -- it can't set out a cont -- a -- a consistency to a plan, knowing that the next time around, they might decide to freeze rates for whatever political reason. We don't have that. We have a nice and stable, predictable regulatory regime.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: So if we can go to in the book of documents, Tab 7, please. This is a Moody's document that was discussed in the -- with -- with Mr. Colaiacovo. And did you have a chance to look at this?

MR. PATRICK BOWMAN: Not in any great depth, but we -- we can proceed. I'll let you know if we go beyond anything that I'm comfortable.

MR. MATTHEW GHIKAS: Okay. All right. Now, this is for US utilities, but it's a group of utilities that Mr. Colaiacovo drew our attention to. And I just wanted to draw your attention to something on page 8 of it, which deals with this issue we've been discussing here, Why it Matters. If we go -- just factor 2, Why it Matters. This will be -- sorry, it's a -- you've got the hard copy, page 8. There we go.

So under factor 2, willingness and ability to recover costs with sound financial metrics, 25 percent weight, Why it Matters. So Moody's is saying:

> "Willingness to use the independent and local ratesetting authority guided by sound bond covenants and governance is extremely important consideration and heavily weighted rating factor. Unregulated public power utilities may have the ability to raise rates, but there can be meaningful differences in their willingness to do so for a variety of public policy reasons that may have the effect of placing ratepayer concerns ahead of sound financial policy. Regulated public power utilities must have both the willingness to seek rate increases and the ability to obtain the necessary regulatory approvals, in either case, implementing rate

increases in a timely fashion in order to maintain sound financial credit strength has been a fundamental credit strength for most issues -- issuers in this sector. Credit risk increases in the absence of stability and certainty that maintenance of a financial buffer provides in mitigating the impact of moderate credit stress events. Political risk, or when applicable, lack of regulatory support can result in unwillingness or instability to establish sufficient rates to maintain sound financial metrics. Without sound financial ratesetting that is predictable and timely, debt service coverage ratios or liquidity are likely to be compromised. This factor may be a leading indicator of the direction of future financial performance for US public power utility with generation ownership exposure."

So stopping there, Mr. Bowman, you'd

agree with me that Moody's seems to be concerned with predictability of ratesetting in the sense that there is a predictable willingness of the regulator and Utility to raise rates when it's required for sound financial policy?

MR. PATRICK BOWMAN: Yeah, and I think it's -- it's exactly the thing that we've just been talking about.

MR. MATTHEW GHIKAS: Right, predictability, and not placing ratepayer concerns ahead of sound financial policy?

MR. PATRICK BOWMAN: Mr. Ghikas, that's -- that's the quote. I think the -- the key point and -- that I was emphasizing is that predictability would mean that when you head into a financial plan that has a fifty (50) day hearing, and is signed off by your regulator, and is signed off by your minister, and you move forward to develop projects, and your costs are still straight down the middle of what the projects were going to be, and your -- if anything, your interest rates are offsetting anything that's going on with your -- your capital costs coming in and -- and imposing a new regime because -- because you -- you've decided for some reason that -- that the world looks different than that in the last guy's who came in and vehemently said that these credit-rating agencies understood exactly what they were doing, and they were entirely behind us when we were going to borrow $35 billion, much less 25.

That, to me, is instability and I don't understand how -- how I would read through these sections and not see that instability goes into -- effectively into both -- both directions. Just because this time is changing the rates in a direction that is favourable to your ability to cover your bonds, if a jurisdiction doesn't have a commitment to a set of principles, there's no saying the next time, it doesn't change in a way that's unfavourable to your ability to recover your bonds.

MR. MATTHEW GHIKAS: Okay. If we can turn to your report, again, sir, page 3-1.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: And...

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Sorry, you'll

have to bear with me for one (1) sec, here. I've lost my spot.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Okay, sorry. It's on page 3-3.

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Line -- line 22, and you'll see there, there is a reference to Bonbright. And this is again in -- well, in line 12, you're -- you're again talking about the critical concepts of rate stability, and you're saying, for example, Bonbright notes that:

> "Pricing methods should not deprive customers of those expectations of reasonable continuity of rates on which they must rely in order to make rational advanced preparations for the use of services."

Do you see that?

MR. PATRICK BOWMAN: I -- I believe you were quoting from page 3-2. It's -- it appears I actually have that quote in twice. I apologize.

MR. MATTHEW GHIKAS: Do you? Okay.

MR. PATRICK BOWMAN: Yeah. It's -- it's also on the bottom of page 3-3, but it's the -- I think you were quoting from the middle of 3-2.

MR. MATTHEW GHIKAS: That's right, yes. Yes, thank you. Right. Okay. I've managed to confuse everyone. Yes, page 3-2, line 12 to 16. Thank you.

MR. PATRICK BOWMAN: I apologize. It's unlike me to be redundant.

MR. MATTHEW GHIKAS: No, it's -- that's okay. So just in terms of the comment that you've -- that you've made in lines 12 to 14 there about the critical concepts of rate stability, those are your words and not Bonbright's, first of all, right?

MR. PATRICK BOWMAN: Bonbright's quoted in quotes. The part you're talking to is -- is my words.

MR. MATTHEW GHIKAS: Okay. And you'd agree with me that Bonbright isn't -- when you're -- when you're talking about that quote, he's not talking about that a regulator should look beyond the test period only to take into account rate stability, right?

MR. PATRICK BOWMAN: You know, I -- I

can't say what was on the pages adjacent to that, but I -- I would emphasize what was said earlier about Mr. Bonbright's work, that the -- the vast majority of the Utility -- economic and Utility theory in the book is about private sector Utilities who need to have a -- a regulated test year concept, a revenue requirement that's -- that's fixed, and that they earn a return in that year. So it's -- it -- I -- I don't know that it is -- this section would be understood to very well apply to -- to Manitoba Hydro, looking beyond the test years.

MR. MATTHEW GHIKAS: So -- but you've invoked the Bible of Bonbright here in support of the principle of rate stability, and you're -- correct?

MR. PATRICK BOWMAN: I -- I think it -- it well sets out that it's a reasonable expectation of customers for continuity of rates. I -- I don't disagree with the principal at all.

MR. MATTHEW GHIKAS: And you're -- you're advancing that principle, sir, I'd suggest to you, in the context of suggesting that changing rates from a 3.95 percent rate trajectory to something greater than 3.95 percent violates this principle that Bonbright is espousing, correct?

MR. PATRICK BOWMAN: I -- sorry, I

think you've overstated the -- the submission. This is in a section on the core regulatory principles we -- I applied. It's -- it's actually a section that's been repeated from previous hearings, and is -- I -- I update each time to make sure it -- it addresses the -- the hearing at hand. But it's not to suggest that three point nine-five (3.95) couldn't be something different.

It's to suggest that ratepayers who go through a -- a NFAT review and -- and understand that Hydro's proceeding with a set of developments premised on the idea that -- that Hydro is going to be patient have the rug pulled out from underneath them when Hydro becomes impatient, and that -- that is, in -- in my submission, inconsistent with this principle that, as I said, Bonbright echoed quite well.

MR. MATTHEW GHIKAS: Okay. So you've cited the Bonbright there in footnote 16, so I included it in our book of documents, and maybe we could go there to Tab 1 of the book of documents, Manitoba Hydro Exhibit 116-2, please.

And I think if you go to page -- of Bonbright's page 396, which is on page 11 of 161 of the -- I apologize for the way it was copied.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: So on 396, towards the bottom there, you'll see -- just at the very bottom of the page, you'll see a quote that you've referred to:

> "In short, the price elasticity of demand for utility services can be expected to be much greater in the fairly long run than in any very short period of time, but if utility rates were to be made as volatile as would be required by the mandate of conformity to short run marginal costs, they would deprive customers of those expectations of reasonable continuity of rates and rate relationships on which they must rely in order to make rational advanced preparations for the use of services."

Do you see that?

MR. PATRICK BOWMAN: Yes, as I -- yes.

MR. MATTHEW GHIKAS: And you'd agree with me that the context of that quote is discussing conformity to short run marginal costs?

MR. PATRICK BOWMAN: Yes, Mr. Ghikas. As I noted, I accepted the principal. I wasn't necessarily dealing with the -- the particular issue to which Mr. Bonbright was applying it.

MR. MATTHEW GHIKAS: Then can we agree, if you go back one (1) page, that this is from a section on the philosophy of marginal cost pricing?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And it's a critique of the prosal -- proposal to fix rates on short run marginal costs?

MR. PATRICK BOWMAN: It -- yes, because of the issues with rate stability, which are -- violated our rate design criteria.

MR. MATTHEW GHIKAS: And you'd agree that on 395, He's referring to the -- his -- his response as being a -- a rebuttal to a, "far more drastic proposal for setting rates"?

MR. PATRICK BOWMAN: I'll accept that.

MR. MATTHEW GHIKAS: Okay. And on three (3) -- if you go to 387, last full paragraph on 387 that starts with "impressed." So this is on the beginning of the marginal cost pricing chapter, and he says:

"Impressed with both the theoretical and practical difficulties of any attempt to secure a sound structure of individual rates subject to the constraint that rates as a whole must cover costs as a whole, one (1) important group of modern economists has proposed to seek riddance from this constraint, let all rates be set at marginal costs, but if the resulting revenue should fall short of meeting total financial requirements, let the deficiency be made good by a tax finance subsidy."

Now, I'm just stopping there for a moment. You're not recommending a departure from cost of service regulation?

MR. PATRICK BOWMAN: No. No, Mr. Ghikas, I'm -- I -- but I -- I will note, I'm impressed you found the 1961 edition. And I'm -- it's -- it's amusing to read about the time when marginal costs were viewed as being much lower than average costs.

MR. MATTHEW GHIKAS: And you're not advocating that taxpayers should support Manitoba

Hydro, right?

MR. PATRICK BOWMAN: No, no. I'm -- I'm just advocating that revenue stability is a relevant rate criteria, and this was a -- a well-said reason for it. That -- that's all the quote is meant to say. I think you'll find revenue stability mentioned a few times in his -- the book.

MR. MATTHEW GHIKAS: Yeah, and I -- I -- let's go to something a little more timely, which is the mod -- more modern version of the Bonbright, the 1988 version, if I can call it more modern, 1988 version, which is at Tab 2 of the book of documents. And we'll just leap to the -- the same quote appears. We don't need to go there. It appears in the same section, and discussion. I more want to just switch to the attributes of a sound rate structure, which appears on page 382.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Right. So you'll see on 382 of Bonbright's excerpt, and you'll see the high -- the heading there, 'Attributes of a Sound Rate Structure'?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Okay. And over on 383, you'll see the Bonbright principles listed?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And those are the same principles that I -- that I think MPA included in -- in their report as an appendix, right?

MR. PATRICK BOWMAN: It -- it could be. It's -- this is the ten (10) principle version. There is an eight (8) principle version, it -- but, yes, in general, yes.

MR. MATTHEW GHIKAS: Okay. And you'll see the list at -- prefaced at the top of the page, saying that they're not in any order of importance, right?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And then you'll see at page 384 at the bottom, you know, there's a heading, the 'Primary Criteria Are Based on the Objectives of Regulation'. Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And over on 385, you can see that the authors say rate -- just above where the page breaks in the middle, there, they say:

"Based on the objectives -- based on those objectives, we propose the following three (3) primary criteria by which to judge the soundness and desirability of a rate structure for public utility enterprises."

Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Okay. And rate stability, just confirm for me, isn't among those?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: Okay. And if you go over to page 387, you'll see the heading that says Stability and Predictability of Rates, A Secondary Criterion.

Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Okay. Now one (1) final point on -- on this, in your report on page 3-2, where you're referring to the critical concepts of rate stability and you quote Bonbright that we were -- we were looking at.

You've -- you've placed that discussion in the context of discussing revenue requirements in -- in section 3.2, haven't you?

MR. PATRICK BOWMAN: Well, it's in the context discussing revenue requirements, but -- but as

I'm -- as I'm sort of putting away this document, let me note that the quotes we were talking about was -- was about continuity. In that regard, there's comments about both predictability and stability. And stability is sometimes put as a secondary one and people are cautious about using it because to certain people it means the rate should never change and predictability is actually more of a phrase that -- that we -- we've tended to use with the members.

But perhaps I've -- I've erred towards stability. I'm certain they're not advocating rates don't change. But in the context of this, yes, the quote is under a section called Revenue Requirement.

MR. MATTHEW GHIKAS: Okay. So if you can go back to the Bonbright bit that we were looking at and just go back to 373 for a moment.

Under where it says Part 4, the rate structure. And you'll see just under the quote it says:

> "Thus the chapters of part 3 were concerned with the rate level determination under the standard of fair return. Now, we turn to discussion of the far more complex problems involved in establishing an

appropriate rate structure."

Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: So the principles that we were looking at, sir, they -- those are in part 4 of Bonbright on the rate structure?

MR. PATRICK BOWMAN: They are.

MR. MATTHEW GHIKAS: And they're not in the sections dealing with the health of the Utility under the fair return standard and recovery of costs?

MR. PATRICK BOWMAN: Right, because we're -- we're not talking about a fair return standard being applied in Manitoba. It has no relevance. That's the exact think we were talking about for Utilities that have to set a test year revenue requirement to recover a particular exact dollar amount in a given year. We don't do that in Manitoba.

MR. MATTHEW GHIKAS: The ongoing health of the Utility, though, continues to be relevant, irrespective of whether it's a Crown owned Utility, doesn't it?

MR. PATRICK BOWMAN: Mr. Ghikas, I think I've said that three (3) or four (4) times. It's critical to customers. It may be critical to

Hydro inn -- in your client's submission, but I'm not disagreeing because it's -- it's critical to customers being served by a Utility.

MR. MATTHEW GHIKAS: Okay, if we could go back to -- we can put that aside. Bonbright is thankfully and mercifully done for today.

Back to page 1.3 of your report, Mr. Bowman, please. And this is 1.3 -- sorry, page 1-3 starting at 31, line 31. And you'll see there's a discussion about protecting the province of Manitoba.

And you've referred here to the fact -- you referred here to bond spreads. Do you see that?

MR. PATRICK BOWMAN: I do.

MR. MATTHEW GHIKAS: Bond spreads are a function of events that go well beyond events that relate to the province of Manitoba, aren't they?

MR. PATRICK BOWMAN: Yes. Although here we're talking about the spread -- Manitoba's spreads over other provinces. So the -- and -- and Mr. Colaiacovo went over the issue of Manitoba spreads in relation to Canada. So those are Manitoba driven factors.

MR. MATTHEW GHIKAS: Right and --

MR. PATRICK BOWMAN: Not only Manitoba driven factors, let me correct --

MR. MATTHEW GHIKAS: Well, if you're measuring your spreads against something else, wouldn't factors affecting the other province also be relevant?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And general macroeconomic factors as well, correct?

MR. PATRICK BOWMAN: Assuming they affect the province's differential, yes.

MR. MATTHEW GHIKAS: And it's impossible to isolate the impacts on a single factor, isn't it?

MR. PATRICK BOWMAN: It's impossible to isolate any of the factors in terms of what people will lend. That's -- that's why the -- it's such a black box in terms of being able to say this or that will cause this or that outcome.

MR. MATTHEW GHIKAS: Now, you've also referenced in that passage there, the fact that government charges a guarantee fee.

You'd agree with me, I assume Mr. Bowman, that the fact that the government charges a guarantee fee isn't a license for Manitoba Hydro to act in ways that would harm the province's credit rating?

MR. PATRICK BOWMAN: I think there are a lot of things that stand in the way of Manitoba Hydro acting in ways that would be imprudent but I -- I don't think the guarantee fee is -- should be ignored when you're considering Hydro and -- and the province as a -- in terms of the -- the relevance of Hydro's debt.

MR. MATTHEW GHIKAS: And what I asked you, Mr. Bowman, was whether the fact that government charges a guarantee fee is a license for Manitoba Hydro to act in ways that would harm its credit rating.

Is that -- is that how you view the guarantee that because the government has been paid that they shouldn't be concerned about what impact Manitoba Hydro might or might not have on their credit rating?

MR. PATRICK BOWMAN: Mr. Ghikas, maybe I'm getting caught up on the idea of -- of licensed. The -- Hydro's building a dam that the government approved at building; that's the reason the government has control in decisions over Hydro's major capital spending in the Act. Hydro can't go off and sign major export contracts or build major new generation without the government signing off on it because it's going to be a future commitment on the government's borrowings. That's why they give the approvals. It's unfolding according to the approvals.

So this -- I -- I guess license sort of implies that the teenager with the car keys or something. It's -- I'm sorry, if I get stuck up on a word.

MR. MATTHEW GHIKAS: Okay. Well, we'll leave that one.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Now, you'd agree with me that in 2017 Manitoba Hydro's debt would represent 39 percent of the province's total debt, subject to check?

I'm getting that from the debt management strategy in the application, appendix 3.5, top of page 5. We don't have to go there if you don't want to but I'm just asking --

MR. PATRICK BOWMAN: Can you give me the year you were referencing again?

MR. MATTHEW GHIKAS: 2017.

MR. PATRICK BOWMAN: 2017. So I -- I'm afraid I -- I have a reference if you go to the background papers which was MIPUG -- I apologize, I have the reference. Yeah, page 89, which is probably about the 7th or 8th page -- maybe the 10th page. Down. Can you see the page numbers at the bottom? I think it's down two (2) more pages, maybe three (3). One more, that one.

This -- this was the -- the -- the data that we had. It was from Boston Consulting, and it shows Manitoba Hydro's debt as a percentage of the total Manitoba government debt graphed on the right-hand scale. And this one goes to 2015. And at that time, Manitoba Hydro was 40 percent, and you can see the history going back to 1982.

And what I say the -- the green for those who see colours differently, the -- the line that has circles starts at 63 percent and declines to 40 and it's graphed on the right-hand axis.

MR. MATTHEW GHIKAS: And after -- inclusive of the borrowings to complete the in-flight major capital projects, Manitoba Hydro's debt would almost double the debt of the province of Manitoba, right? It goes off to the right of the chart, but it's -- it's pushing 50 percent.

MR. PATRICK BOWMAN: Actually if you go to the next page, you'll see the other graph that

Boston produced going out to 2023. I -- I assume that's what you mean by in-flight capital projects.

And you'll see the green debt is Manitoba Hydro's and the blue debt is the provincial net debt and they -- there was no numbers provided but they remained at approximately equal. So I -- if you'll accept, I'll call it 50-50.

MR. MATTHEW GHIKAS: All right. I will accept. Okay, if we can go to page 3-7 of your report -- I should ask, Mr. Chairman, were you anticipating -- I -- I understood we were going til 5:30, but I wanted to check and see whether you wanted to break at some point.

THE CHAIRPERSON: Yes, you know what, we'll take a ten (10) minute break right now.

--- Upon recessing at 4:28 p.m.

--- Upon resuming at 4:42 p.m.

THE CHAIRPERSON: Okay. Mr. Ghikas...?

(BRIEF PAUSE)

THE CHAIRPERSON: Okay.

MR. MATTHEW GHIKAS: Thank -- thank you, Mr. Chairman.

CONTINUED BY MR. MATTHEW GHIKAS:

MR. MATTHEW GHIKAS: Mr. Bowman, if we can start back on page 3-7 of your report. The -- the comment that I am looking at is down in lines 13 and 14.

And you've made the comment that many Crown utilities, both electrical and other, have operated for long perio -- periods of time. Sorry, for long periods, with little or no equity.

Do you see that there?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Actually, before I turn to that one, maybe I'll just go up a little bit more. And you say lenders -- this is -- right, line 10. You say lenders do not appear to explicitly require an equity cushion.

Do you see that?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And you didn't talk with any lenders when you made that statement, did you, sir?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: Okay.

MR. PATRICK BOWMAN: No, I went by the evidence that's available to us.

MR. MATTHEW GHIKAS: Okay. And all of the agency reports that are on the record for Manitoba Hydro report on the debt equity ratio, don't they?

MR. PATRICK BOWMAN: Well, they req -- Mr. Ghikas, I -- I don't want this section to be misread. You'll note the discussion here is about reserves and the extent to which equity of Manitoba Hydro is different than the way that anybody would normally understand a shareholder's investment in a Corporation, which is the normal definition of the equity.

The -- Manitoba Hydro's, as we note -- is comes from building up of reserves. There was a time that Manitoba Hydro didn't even record something called retained earnings. They had two (2) reserves, one (1) called self-insurance and one (1) rate stabilization, if I remember correctly.

During all those years, Manitoba Hydro -- pard -- I -- I'm not aware of the of anything in there suggesting that the -- the magical word of equity, or the failure of a shareholder to put up money was -- was relevant. And it's similar to the --

the issues that Mr. Osler was reviewing this morning about the -- the reports that were done on Manitoba Hydro in the -- in the early 1990s by people like Deloitte's (sic) and Royal Bank, as I recall, that was reviewing Hydro in relation to many other utilities. New Brunswick Power had negative retained earnings. Many of the other, you know, cost-based utilities had effectively only customer funded reserve.

So that's the concept I'm talking about.

MR. MATTHEW GHIKAS: Okay. So we -- so you're not saying there in line 10 that it would be okay for Manitoba Hydro to have zero reserves?

MR. PATRICK BOWMAN: No, I'm saying that in the context of -- of equity, meaning the shareholders put money and the shareholders are the one who's going to lose their money first before I -- you know, before I do, which is the way a bondholder looks at the world. I'm saying that in that context, it's not critical that there's some shareholder equity or some investment on behalf of a shareholder.

MR. MATTHEW GHIKAS: Well, you seem to be putting a lot of weight when -- your comments just now on -- on the word 'equity'. But you'll see in line 13 and 14, you're talking about Crown utilities, and you're talking about them as having no equity, so I'm -- I'm confused.

Are you talking about -- are you drawing a distinction between equity and reserves here?

MR. PATRICK BOWMAN: Well, I think the distinction -- I think there's two (2) concepts here. One (1) is -- is when we use the word 'equity' in respect of Manitoba Hydro, is it the same thing as other people mean in terms of equity; like a shareholders investment. So there's that -- there's that distinction.

And -- and I, if recall correctly, the section I go through a bit more in the theory level -- I'm not sure I spent as much time on the -- on the Manitoba Hydro Act level, but the concept that -- that I was -- suggested we had agreed with Mr. Colaiacovo on, was -- was that very point. The second is, if you now move to this idea that a utility can have -- can have reserves not equity, whether you call it equ -- or -- or, you know, whether the moniker 'equity' gets added to it, but it doesn't mean equity in a normal shareholder investment sense, the question of whether it can be very low as a percentage of the assets, I think is -- is a second issue, and it's similarly addressed there.

And -- and again, there have been utilities, including owned by Crowns, and, like I said, Mr. -- Mr. Forrest or Mr. Osler will be happy to go over some of this with you as well 'cause they spent more time in those old reports than I did. But even to this day, some, who -- operate with very low levels of equity, of very low level of reserves, if we want to not get caught up in that definition, well below what you'd ever look for private utility, well below what you'd ever look for -- for, you know, a self -- or getting their own credit rating without the benefit of the government, for example.

MR. MATTHEW GHIKAS: Okay. So I do want to put aside the distinction between equity as -- as in a shareholder paying it in and reserves in this case.

So what words would you prefer that I refer to in the case of Manitoba Hydro?

MR. PATRICK BOWMAN: I -- I -- as long we understand which -- which -- what we're doing, it doesn't matter me. But if you want to call them reserves, that's fine.

MR. MATTHEW GHIKAS: Okay. So you say at line 11, evidence indicates that lenders more so require a principled and independent rate regulator, a rate regime that appears to -- appears able to absorb some degree of higher costs in the event of adverse events arise and the provincial government guarantee.

In terms of the ability to absorb some higher -- some degree of higher costs, you'd agree with me that the only way to do that is if there are sufficient rates to produce positive net income in the normal course?

MR. PATRICK BOWMAN: I -- I take no issue with the two (2) statements. I'm not sure one (1) follows from the other. Absorbing hunt -- hut -- some degree of higher cost means that there's ratepayers who -- to which you can impose rate increases.

I'm just drawing a distinction there between other places that -- that we've worked or that we've watched in this industry, who've had their rates go so high and so fast that you couldn't consider putting more rate increases on people; there's no way you could generate more revenue. As a matter of fact, the governments are stepping into to subsidize people because they simply can't handle the level of rate increases. That's different.

If -- you -- if you have -- want to

take an outside view of a utility that's having to step in to protect -- protect customers from -- from dramatic rate increases, which has happened in the natural gas utility here, it has happened in other examples, that -- I -- I think that would cause real concern for anybody looking, including a lender. But that's not -- this -- this is saying that -- that if -- if you -- as long as you can get rate increases and you have headroom, in terms of the rates that are there now, that is a valuable component of assessing a utility's strength.

MR. MATTHEW GHIKAS: But another way you can absorb higher costs in the event of distress, is if rates are sufficient to produce positive net income, right?

MR. PATRICK BOWMAN: Well, if rates -- the --

MR. MATTHEW GHIKAS: The -- the positive net income would be the buffer, right?

MR. PATRICK BOWMAN: Oh, your suggestion is -- is that if you have rates high enough that your net income is large, then if adverse events happen, all you do is end up with lower net income. Is that --

MR. MATTHEW GHIKAS: Correct.

MR. PATRICK BOWMAN: -- your suggestion? Oh, sure, yeah, that -- I -- I'm -- I apologize. I misunderstood.

MR. MATTHEW GHIKAS: Whether Manitoba Hydro has $1 billion or $5 billion in reserves, if there's no net income in the normal course built into rates, the only recourse, in the event of financial distress, is to lose money or borrow, right? Lose money and borrow.

MR. PATRICK BOWMAN: Yeah, I was going to say we -- we've mixed a balance sheet, a cash-flow statement, and an income statement in that one question, so.

The issue is -- is if you don't have the cash flow woul -- to pay your bills, you have to borrow. We can --we can stick took a cash flow statement in that sense, and it doesn't matter whether you have any -- zero debt, or 100 percent debt, or whether you have retained earnings at any given level. If you don't have the -- the cash has to be balanced every year.

MR. MATTHEW GHIKAS: Right. Now, in terms of your reference to the many Crown utilities, both electrical and other, that have operated for long periods with little or no equity, first of all, irrespective of whether there have been other entities operating with little or no equity over time, doesn't necessarily mean that's a good idea when it comes to Manitoba Hydro, does it?

MR. PATRICK BOWMAN: I'm not suggesting this statement is -- is setting out that it's a good idea. I'm suggesting this statement is setting out the fact that -- that it's possible. And, as matter of fact, the very next line says it is clear Manitoba Hydro requires relatively substantial reserves.

MR. MATTHEW GHIKAS: And having no equity -- just so we're on the same page -- that means you've eroded all past equity with successive years of negative net income, right?

MR. PATRICK BOWMAN: Not necessarily. It might mean that you've just -- you know, just develop your system based on borrowing. Like, it's not this idea that you -- you have a bunch of equity to star. You know, I -- I'd -- I -- I think I --

MR. MATTHEW GHIKAS: Well, may -- maybe we can -- maybe I can help you out here. So if we -- if we've started out with equity, and we've gone from a million dollars of if -- or let's say a billion dollars of equity down to zero equity, the only way that happens is if there have been successive years of negative net income.

MR. PATRICK BOWMAN: Or -- or dividends.

MR. MATTHEW GHIKAS: Of, sorry?

MR. PATRICK BOWMAN: Or dividends --

MR. MATTHEW GHIKAS: Right. And in Manitoba Hydro's case, there -- there aren't dividends, right?

MR. PATRICK BOWMAN: There -- there was one (1) special payout that Mr. Forrest referenced that was done by legislation in about 2000 to 2004, is my recollection.

MR. MATTHEW GHIKAS: Okay. And, in terms of non-Crown utilities -- so, not the Crown corporations -- you would expect the regulated capital structures of those entities would include between 35 and 50 percent equity, roughly, hey?

MR. BOB PETERS: In -- in terms of the balance sheet that you see for the standalone utility, yes. Now a lot of times that equity in the parent is actually represented by debt. But -- but, yes, in the balance sheet of the -- of the utility, that -- that's within a range.

MR. MATTHEW GHIKAS: Right. And the -

- the regulators are all concerned with the standalone utility, not what their parent is doing, correct?

MR. PATRICK BOWMAN: Generally, yes.

MR. MATTHEW GHIKAS: Now, are you aware that Morrison Park set out financial information for nine (9) government owned utilities in its -- in an appendix to the report?

MR. PATRICK BOWMAN: I -- I would -- would've reviewed that when their evidence was first filed. And I was here when I think they pro -- reproduced that on a slide.

MR. MATTHEW GHIKAS: Okay. Maybe we can just to quickly go -- go to that. This is Consumer Coalition Exhibit 17. And I'm on page 78.

Do you have a general familiarity with the companies that are listed in the MPA report? The Canadian ones.

MR. PATRICK BOWMAN: I have differing levels of familiarity with them, but I would say I'm generally familiar with all of them at some level.

MR. MATTHEW GHIKAS: Okay. If we go to page 70, first of all, Mr. Colaiacovo has included BC Hydro. And you'll see there that BC Hydro has a standard debt-equity ratio of -- and this at bottom of the page -- of the greater than 80 percent?

MR. PATRICK BOWMAN: Yeah, BC Hydro is a different example of a Crown but yeah -- yes, it's -- that's -- he uses the 80 percent level in that table.

MR. MATTHEW GHIKAS: And -- and so BC Hydro has more than -- than -- more equity than -- than Manitoba Hydro, right?

MR. PATRICK BOWMAN: Well, BC Hydro, as -- as I noted is an entirely different structure. In BC Hydro's case, the government at a certain point, put in place rules that said that the -- the retained earnings in BC Hydro, this is the government's equity. They passed an act that said, we want to return on this equity; by the way, we also want be paid the taxes you would've paid if you had been a taxable utility, and we want all of that going to the government account. And on top of that, we have to set up a dividend policy.

And it's really the dividend policy of the government that is -- is the -- the type of target that he's quoting here. It's -- it -- this is built into the -- the policy about when BC Hydro is able to pay dividends.

MR. MATTHEW GHIKAS: Okay. So BC Hydro, though, we can agree, isn't one of the examples of a Crown utility that's operated for a long period with little or no equity? Certainly not today.

MR. PATRICK BOWMAN: No, no.

MR. MATTHEW GHIKAS: And if we go over to page -- page 79 to EPCOR.

EPCOR is regulated by the Alberta Utilities Commission, correct?

MR. PATRICK BOWMAN: It -- well, EPCOR has many functions into -- to its business. It has many different parts of operation. In aspects of its business, it is related by the Utilities Commission.

MR. MATTHEW GHIKAS: Right. And that the -- setting a regulated capital structure is part of what the AUC does, correct?

MR. PATRICK BOWMAN: At this time, yes.

MR. MATTHEW GHIKAS: And you'll see at the bottom there, that debt/equity ratio is standard is greater than 75 percent? He's -- he's reports -- sorry, the -- sorry.

He's reporting that -- well, let me ask you this way. Would you be able to confirm that -- that currently their regulated equity ratio is -- is 37 percent?

MR. PATRICK BOWMAN: No, I wouldn't be

able to confirm that.

MR. MATTHEW GHIKAS: Certainly, it's -- your -- based on what Mr. Colaiacovo is reporting, you'd agree that it's certainly thicker equity than Manitoba Hydro?

MR. PATRICK BOWMAN: My understanding is it would -- at this point in time -- now these were municipal departments that were -- EPCOR and ENMAX that were then turned into more like commercial entities. They're still owned by the cities, but at that time they took on more of this commercial look. They weren't this before.

MR. MATTHEW GHIKAS: And if we went over to page 80, ENMAX is the City of Calgary's utility?

MR. PATRICK BOWMAN: Right, that's the other side of this, and ENMAX -- ENMAX is in the electricity and natural gas side. City of Calgary has never quite gotten there with their water utility which is one that I actually do a little bit of work with.

MR. MATTHEW GHIKAS: And Mr. Colaiacovo is reporting that ENMAX has a 37 percent equity ratio. Do you see that?

MR. PATRICK BOWMAN: I see it

reported. I wouldn't be able to confirm.

MR. MATTHEW GHIKAS: Okay. And Hydro Quebec is over on page 81, and I'll come back to page 80.

Page 81, Hydro Quebec, Mr. Colaiacovo is reporting a 69.5 percent debt/equi -- debt ratio which would make a 30.1 -- 30.5 percent equity ratio, correct?

MR. PATRICK BOWMAN: Yes. I don't know if this is the consolidated Hydro Quebec, or just the regulated portion. There are -- they're significant unregulated parts and that is -- again, that's balance through the dividend to government. The dividend to government varies depending on how well Hydro Quebec performed in order to, well, pay out revenues to government, but also to establish a -- a financial structure. It's the distribution arm of -- of Hydro Quebec that's regulated and I don't know whether this ratio is or not.

I do know, you know, Mr. Forrest has extensive experience across Canada and I just offer if there's anything to add to this. I'll -- I'll note that it could help the record.

MR. MATTHEW GHIKAS: And on page 82 Nolcor. Mr. Colaiacovo's reporting that typically the

-- the equity ratio would be around 30, correct?

MR. PATRICK BOWMAN: Well, Nolcor is a holding company. It happens to own a Utility, Newfoundland Hydro. It also happens to own a number of other things, so I think we need to be really careful but Newfoundland Hydro, as you go back in time, operated with very, very little equity in the past.

They -- the government tried to change the rule and say, we -- again, we'd like to -- Newfoundland Hydro was like Manitoba Hydro. The government passed a law that said, let's call those reserves equity and we'd like a return on that, please. And for about a decade the Utility Board effectively said, not until you look like a commercial entity. And so finally, the government came along and actually put in money and now has shareholder investment and equity in -- in Newfoundland Hydro to earn a return.

But that's the subsidiary. I think Mr. Colaiacovo was referring to the parent here. And the parent is a whole bunch of other things dominated by the Old Churchill Falls project which has very little debt.

MR. MATTHEW GHIKAS: Ontario Power

generation, on page 84, he's not reporting a debt/ equity ratio. Sask -- do you know what the debt/ equity ratio is for Ontario Power?

MR. PATRICK BOWMAN: No.

MR. MATTHEW GHIKAS: SaskPower on page 85, you'd agree looking there, that SaskPower has more equity than Manitoba Hydro?

MR. PATRICK BOWMAN: Mr. Forrest does extensive work in Saskatchewan. So I'm -- I'm checking that he doesn't want to hit the mic first, but SaskPower's debt/equity ratio is, as reported. I have no reason to -- to know what is any other value. Perhaps Mr. Forrest wants to --

MR. MATTHEW GHIKAS: It's roughly 25 percent equity? Mr. Forrest...?

MR. GERALD FORREST: It's slightly less. The debt/ratio I think as of a month or two ago, was 75:8.8 versus -- so it's be 24:2, I think.

MR. MATTHEW GHIKAS: Okay, thank you. And you can also see on SaskPower their total net debt is 6.9 billion. So half of Manitoba Hydro's? Less than half?

MR. PATRICK BOWMAN: Yes. But this is where I -- I need to make the comment about comparability of -- of Utilities. You know, SaskPower is heading into an era of -- of major problems on -- on supply and significant -- significant investment needed in the future; major uncertainty about how they're going to do it, and -- and they're going to be having to deal with that -- that development within the financing that you see here. It's not unlike Manitoba Hydro having reached its 75 percent before it settled on its -- on its capital projects.

But also SaskPower doesn't invest in the same type of capital assets Manitoba Hydro does. SaskPower has assets that are exposed to fuel prices and exposed to carbon risk, which -- which we don't. So when you go looking at a Utility's level of debt, you know, we -- we accept and suffer the issue of having way more debt for the privilege of buying ourselves inflation protected and fuel price protected assets. And that's why this -- people who don't work in this business, or don't have a depth of experience comparing these have be very careful.

MR. MATTHEW GHIKAS: And Mr. Bowman, Manitoba Hydro is a -- exports a significant amount of power, correct?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And it's a price taker, generally speaking?

MR. PATRICK BOWMAN: Well, most of it's under fixed contract at any given point in time but, yes, it's a price taker.

MR. MATTHEW GHIKAS: And there's a risk associated with that, correct?

MR. PATRICK BOWMAN: There is risk associated but, as I noted, there is much, much, much less risk associated with it now than there was a decade ago.

MR. MATTHEW GHIKAS: Page 86. There's Toronto Hydro there. And you'll see Toronto Hydro, Mr. Colaiacovo's reporting a 75 percent debt ratio which would be 25 percent equity as well, correct?

MR. PATRICK BOWMAN: Yes. And do you mine if I go back to my previous answer as well?

MR. MATTHEW GHIKAS: Certainly.

MR. PATRICK BOWMAN: You say there's risk associated with it, but I think that was a -- I want to be careful it's not -- doesn't come across as a trite answer.

That there's risk associated with every path in the future for Manitoba Hydro in supplying Manitoba. The reason we went through an NFAT review and we went through assessing the options is to determine which path had the best financial profile with the least risk. And as a matter of fact, Hydro underlined that failing to move forward with a new transmission line to US, failing to build up our interconnections had more risk were we to just stay home and build some gas plants; were we to -- to focus on -- on other resource options that were built into that.

So is there risk? Sure, there's risk in any of these businesses, but there's a lot more when you're sitting there and you absolutely need to be dealing with carbon costs and -- and coal price costs and natural gas costs in Saskatchewan than when you're sitting here like Manitoba Hydro with -- with hydraulic generation.

MR. MATTHEW GHIKAS: Finally, New Brunswick Power on page 83. So New Brunswick Power is the only one that I could see that had less equity than Manitoba Hydro and its indicating that it's got 90 percent debt I believe.

MR. PATRICK BOWMAN: Yeah, of the Utilities listed here, New Brunswick Power -- New Brunswick Powers is pretty well, you know, recognized as a Utility that has a -- a capital structure of that form that's somewhat different than the others.

MR. MATTHEW GHIKAS: Right. And one

of the -- one of the documents that I circulated -- or that I included in the book of documents at tab 8 was New Brunswick's ten (10) power plan.

Did you have a chance to read that?

MR. PATRICK BOWMAN: I did. I did download the -- the entire document. I don't know if you inserted it in the book but you -- you had given us the heads-up. I made sure that I had, yes.

MR. MATTHEW GHIKAS: Okay, thank you. And really, if we can go to page 2 for a moment, you'll -- the point that I was really zeroing in here is, how they say at the second paragraph there:

"The overarching financial goals of NB power is to continue to reduce debt and create equity to provide NB Power with some flexibility to manage operating and financial risk to respond to changing markets and technologies and to better prepare for future investment requirements."

Are you familiar with New Brunswick Power's plans in that regard?

MR. PATRICK BOWMAN: I'm -- I'm familiar with some of them. As I noted I -- I've been retained to work in New Brunswick and we're -- we're in the early stages of dealing with the client there.

MR. MATTHEW GHIKAS: Okay. If you can go to figure 1 on page 3. All right. So this is the -- figure 1 is the financial highlights and you'll see that there is the debt and the capital structure in their forecast over ten (10) years.

So they're -- they're planning to go from 90 percent -- 90 percent equities -- sorry, 90 percent debt down to 72 percent debt by 2027, right?

MR. PATRICK BOWMAN: Yes, that's what's shown there.

MR. MATTHEW GHIKAS: Okay. And the return on equity line, it -- they're showing that in order to get they're -- they're planning to include in rates a double-digit return on equity?

MR. PATRICK BOWMAN: Yes. Would you allow me to address the paragraph before -- below the table to address --

MR. MATTHEW GHIKAS: Certainly.

MR. PATRICK BOWMAN: This actually is a -- in a way, a beautiful document to set out some of the concepts that -- that we've been talking about. New Brunswick Power has set -- this deals with the extent -- sorry. This deals with the extent to which over focusing on a number fails to tell the story with regards to the target.

New Brunswick's target is to move towards the 80:20. And if you looked down at the bottom you'll see it's not just about getting to 80:20, it's about the fact -- oh, I'm sorry, the document's the one in front of us, page 95 of -- of the book of documents. It's the paragraph directly below.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: So you're referring to the paragraph right under figure 1, sir?

MR. PATRICK BOWMAN: Yes. And the key thing is that the target -- what -- the first line I was highlighting is they're moving towards a minimum debt/equity ratio of 80:20. And it goes on to say that it's:

> "It's making steady progress towards the goal, but that this year's plan shows a delay in meeting the -- the goal until 2024, compared to the previous plan while maintaining the commitment to low and stable rates."

So it's not about -- I think they say

their target is 80:20 is an oversimplification. Just like to say, Hydro's old 75:25 was -- is an over simplification. Hydro's financial policy specifically said, similar to these, that we'll move there while maintaining a stable rate regime.

But I'll also note this is very much like Manitoba Hydro was in 1996. New Brunswick Power has a -- one of their major hydro generating stations Mactaquac, if I get the pronunciation right. And I'm sure I'm going to have to spell afterwards for the court reporter, which is done in 20:30. It has concrete issues and it's going to have to be massively rebuilt and they're not sure how much it's going to cost, but some of the cost estimates are in the range of 3 to $5 billion.

If you read through the rest of this document, you'll see that this includes almost none of those costs in it. This is about the period where one rebuilds their retained earnings and builds back up to a target before you set out on doing just what Manitoba Hydro is doing now which is you actually take on the investment and you take on the billions of dollars of debt that goes with it.

So there's a further discussion back in this document about the Mactaquac hydro station and the extent of rebuilding needed for it, and it emphasizes that in this -- in this document, there's a less than -- my -- my recollection is less than half a billion dollars and -- and it -- I know from other sources, and I'm saying, it could be 3 to 5 billion.

And further, it also notes that if it's -- if they have to proceed on Mactaquac quicker than expected, it will serve to delay achievement of the target. It won't save to drive rates up further. It will serve to say, fine, we'll take a little longer to get to the 80:20. And you'll see that in the further -- discussed -- and I wish I could find the page right now.

I will get that back to Mr. --

MR. MATTHEW GHIKAS: One of the things that they're doing, Mr. Bowman, is to reduce absolute debt levels as well, correct?

MR. PATRICK BOWMAN: Yeah, they're not making -- it's -- it's not a lot of progress, but they do in this forecast reduce absolute debt levels, assuming they don't end up with a carbon price.

MR. MATTHEW GHIKAS: And they're increasing their equity levels significantly over a ten (10) year period, correct?

MR. PATRICK BOWMAN: Yeah. Like I

said, it's -- it's much like Manitoba Hydro in the -- in the 1996 to 2006 period before the -- the building phase and, you know, set in place some low stable rates. Let your financials unfold over time and -- and -- and allow your strength to rebuild.

The other thing I'll note is, as I said, if they -- there's -- there's a very important reference on the... I apologize. About the fact that their rates are going to be closely monitored every year.

MR. MATTHEW GHIKAS: Now, Mr. -- Mr. Bowman, you'd agree with me that Moody's, as we saw, is already citing Manitoba Hydro financial metrics as among the weakest, if not the weakest, of any of Manitoba Hydro's peers, correct?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: Okay.

MR. PATRICK BOWMAN: And as I said, I -- I think that's entirely consistent with -- with the types of -- of information Moody's would have received when the NFAT was unfolding and -- and we were told they were very comfortable with.

MR. MATTHEW GHIKAS: All right, switching gears here. In chapter 5 you report -- your report's devoted to the issue of comparing the IFF16

Update and interim back to the NFAT forecast, generally speaking, correct?

MR. PATRICK BOWMAN: Chapter 5 does a number of comparisons but that is one of them, yes.

MR. MATTHEW GHIKAS: And just for reference, the NFAT was based on IFF13?

MR. PATRICK BOWMAN: We started with IFF12 is my recollection and moved to IFF13.

MR. MATTHEW GHIKAS: Okay. Now, since the NFAT, the capital costs of Bipole III have increased 400 million or 9 percent, correct?

MR. PATRICK BOWMAN: It's been significant.

MR. MATTHEW GHIKAS: And you'd accept those figures, subject to check?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And the budget for Keeyask is increased by 2.2 billion?

MR. PATRICK BOWMAN: I accept that Keeyask has gone up, subject to check. I -- I'm not sure which starting point and ending point you're using to come up with the 2.2.

MR. MATTHEW GHIKAS: And the -- and that figure would represent a 33 percent increase since the NFAT?

MR. PATRICK BOWMAN: I -- I accept 33 percent.

MR. MATTHEW GHIKAS: Now, domestic volumes, forecast domestic volumes, they've declined significantly between 2013 electric load forecast and the 2017 load forecast, right?

MR. PATRICK BOWMAN: Right. They have with two (2) pieces of the puzzle -- I guess three (3) if I could say it that way. One is -- my understanding is that a base level of forecast the -- the loads have declined. The second is that there's more DSM assumed in the loads and the third is that load forecast 2017 builds in elasticity, assuming the 7.9 percent rate increases. So it has an extra downward pressure in it.

MR. MATTHEW GHIKAS: And you'll accept, subject to check, that the 2017 general consumers sales net of DSM by 2027 is down 7 percent or 1800 gigawatt hours compared to the NFAT?

MR. PATRICK BOWMAN: Is that with the bigger rate increases?

MR. MATTHEW GHIKAS: With the...

MR. PATRICK BOWMAN: Is that the -- a load forecast that assumes the 7.9 percent and the elasticity responses to them?

MR. MATTHEW GHIKAS: That's with the 7.9.

MR. PATRICK BOWMAN: Okay, can you give me the figure again and I'll check.

MR. MATTHEW GHIKAS: Seven percent or 1800 gigawatt hours by 2027 compared to the NFAT.

MR. PATRICK BOWMAN: Seven percent lower or 1800 gigawatt hours by 2027. Was that your reference?

MR. MATTHEW GHIKAS: Correct.

MR. PATRICK BOWMAN: So I -- I just want to double-check this to make sure I'm correct.

MR. MATTHEW GHIKAS: Certainly.

MR. PATRICK BOWMAN: We've worked with elasticities in the range of .35 or .4. The new scenario has six (6) years is my recollection of the 7.9s built into that -- that forecast, which are 4 percent higher than the previous one.

So, if I take that extra 4 percent, and I deal with the elasticity associated with it that - that would be a significant component of that 7 percent. You -- you -- is that among the things you want me to confirm?

MR. MATTHEW GHIKAS: I'm just asking--

MR. PATRICK BOWMAN: I mean, the --

the -- at the elasticity levels we're talking about it's over -- over 1 percent a year from opposing the higher rate increase.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Yeah, all -- all I'm asking you to do, Mr. Bowman, is to compare the 2013 electric load forecast that underpinned the development plan 5, with level 2 DSM, to the 2017 load forecast.

And I'm just suggesting that at 2027, the difference is 1800 gigawatt hours.

MR. PATRICK BOWMAN: Yeah, I -- I -- like I said, I can -- I -- I will check that and come back and let you know, but I'm -- I'm just -- wanted to get it clear that, effectively, that 7 percent is the elasticity response to the higher rate increases. So if you're comparing two (2) load forecasts that have different rate increases, it's -- it's -- you have to be careful about whether it means we're -- we're off-track because of what we imposed verses we're off-track due to the forecast so.

But I -- I will go check the -- the load forecast, and -- I'm assuming you're saying net of DSM as well, by the way?

MR. MATTHEW GHIKAS: I am, yes.

MR. PATRICK BOWMAN: Okay, so I will -- if I don't have those -- all the figures I need to do that -- because I know some the latest DSM figures are -- aren't -- are not on the record, I will -- I will follow up with Mr. Hacault and he will -- he will get the figures he needs.

MR. MATTHEW GHIKAS: That's okay, Mr. Bowman, it's -- we've -- we've got the information. So you don't -- you don't need to check that.

Now, in terms of how a decline in domestic load affects rates, just general simple principles here, the rate increases are expressed as a percentage, right?

MR. PATRICK BOWMAN: Correct.

MR. MATTHEW GHIKAS: And the revenues are expressed in dollars?

MR. PATRICK BOWMAN: Sure.

MR. MATTHEW GHIKAS: And so a rate increase to the same percentage may yield the same rate per kilowatt hour, but it yields less total revenue when the load declines, right, other things being equal?

MR. PATRICK BOWMAN: Yes.

MR. MATTHEW GHIKAS: And would you accept that, subject to check, that using an average of 0.07, dollars for the average domestic rate over a ten (10) year period to 2027 with the 3.95 rate path, the cumulative domestic revenues would be down almost $1 billion, relative to where they would've been under the 2013 load forecast?

MR. PATRICK BOWMAN: It's -- it's perhaps late Monday to do math in my head. Can -- can I get the numbers again and I'll just jot them down to ...

MR. MATTHEW GHIKAS: Sure. So it's 7 -- $.07 cents.

MR. PATRICK BOWMAN: Okay.

MR. MATTHEW GHIKAS: Is the rate, and over the ten (10) year period to 2027/'28, at the 3.95 rate path, the cumulative domestic revenues are down 985 million, is the figure, relative to where they would've been under the 2013 load forecast.

MR. PATRICK BOWMAN: I'm sorry, I can't derive the third number from the first two (2). I don't have enough information --

MR. MATTHEW GHIKAS: Don't have enough information --

MR. PATRICK BOWMAN: -- to derive what

you're asking me to calculate.

(BRIEF PAUSE)

MR. PATRICK BOWMAN: I -- I'm also I'm not sure I have a -- even if I were to go away and calculate it, I'm not sure I have a load forecast that has 3.95 percent rate increases in it. As we just noted, there is a significant elasticity response assumed for the 7.9s in 2017 load forecast.

MR. MATTHEW GHIKAS: So it's late in the day, Mr. Bowman. I think we'll just -- we'll leave it at that. We -- I won't have you follow-up on that.

All right, in terms of export prices, the prices have basically come down around 2009 and they've stayed down for about eight (8) years, correct?

MR. PATRICK BOWMAN: Did you 'a year' or 'eight (8) years?

MR. MATTHEW GHIKAS: Eight (8) years.

MR. PATRICK BOWMAN: Well, the -- the -- if you mean -- there's a number of different ways we talk what export prices. Mr. Ghikas, there's an -- an opportunity type of price. There's an average revenue in Hydro's proposals. My image -- which I can dig up if you like -- is the -- the graph that Hydro showed that in each successive IFF they dropped by a -- a subsequent amount, but those were forecasts of average revenues.

So, I don't know that it was a one time change. It was -- it was --

MR. MATTHEW GHIKAS: All right. Well, export --

MR. PATRICK BOWMAN: -- excessive forecast.

MR. MATTHEW GHIKAS: -- export prices is a general principle. They've been coming down, right, in terms of how they affect Manitoba Hydro? Their -- it's -- it's an unfavourable change in prices?

MR. PATRICK BOWMAN: Correct. It's an unfavourable change in prices at -- when we're exporting and a favourable change in the -- the worst case scenarios when we're importing and -- and cutting off our export cust -- export supplies to the -- to the opportunity market.

MR. MATTHEW GHIKAS: And the net impact of that is -- is -- is negative overall to Manitoba Hydro, correct?

MR. PATRICK BOWMAN: The net impact that is negative at the mean and it's positive at the, you know, P10, P5, P1 type of scenarios.

MR. MATTHEW GHIKAS: Okay. So the forecasts which is what you were referring to, the graph that you were seeing. So the forecast for price growth has continued to decline in recent years, correct?

MR. PATRICK BOWMAN: Correct.

MR. MATTHEW GHIKAS: Okay. And the forecasts from the NFAT that were forecasting price appreciation, it hasn't materialized, correct?

MR. PATRICK BOWMAN: Correct.

MR. MATTHEW GHIKAS: And the same is true for IFF14 and IFF15, correct?

MR. PATRICK BOWMAN: Correct.

MR. MATTHEW GHIKAS: And the -- with IFF16 and the update, Manitoba Hydro is still predicting price appreciation, but it's just not as high or as fast as in those previous forecast, correct?

MR. PATRICK BOWMAN: Well, I believe that's the case. I think we have to be careful about the way Manitoba Hydro's forecasting prices for the end of contracts and the extent to which there's no assumption -- those contracts are actually resold in the market with the -- the normal type of firm prices, they're -- they're assumed as -- as I've heard in the -- in the nonconfidential part of the hearing to be a -- I'll use the word -- dumped on the opportunity market once those come to the end.

So, you know, I can't see what the -- what the prices are. I see averages and averages include the fact that -- of those assumptions which are a conservatism justification, as I understand it.

MR. MATTHEW GHIKAS: Okay. And would you be able to confirm, subject to check, that over the period of 2019 to 2027, the spring on peak export forecast that underpins Manitoba Hydro's MH-16 update with interim is on average 31 percent lower than the 2015 price forecast?

MR. PATRICK BOWMAN: If you were to give me references that showed those prices, I -- they may only be in confidential documents available to -- to you, but not me, Mr. Ghikas.

MR. MATTHEW GHIKAS: And what about 36 percent lower than the 2014 price forecast?

MR. PATRICK BOWMAN: Again, I -- I think it -- once we get into that level of detail, I don't believe I have access to that information in --

and I don't believe I would be able to check whether it has those conservative dumb power and opportunity market assumptions built into them or not.

MR. MATTHEW GHIKAS: Okay. And how about 38 percent less than the 2013 price forecast.

The same answer applies?

MR. PATRICK BOWMAN: I -- I don't have that information. I don't have that data. I'm not privy to it.

MR. MATTHEW GHIKAS: Okay. Well, maybe we can do it this way. If we look at your report 6 -- page 6-6. Sorry, I got the wrong -- the wrong reference here.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Sorry, 6-16 and line 23, you've got export prices low -- export pricing is described as having been significantly reduced 20 percent below MH-15 levels.

So certainly, from that perspective, you had the information available to -- to look at that?

MR. PATRICK BOWMAN: Yeah, the best

information I have is actually the graph on the next page of this, which shows the average unit revenues -- this is Hydro's graph, by the way, the average revenue -- unit revenues built at each successive IFF as Hydro adjusted them downward, and downward and downward.

MR. MATTHEW GHIKAS: Okay.

MR. PATRICK BOWMAN: And the colour -- I hope the colours show up because there's a scheme to particular colours.

MR. MATTHEW GHIKAS: Okay. Mr. Chairman, that might be a convenient time to break, if you like.

THE CHAIRPERSON: Thank you, Mr. Ghikas. We'll adjourn until nine o'clock tomorrow morning, thank you.

(PANEL RETIRES)

--- Upon Adjourning at 5:27 p.m.

Certified Correct,

____

Cheryl Lavigne, Ms.