MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO

NEEDS FOR AND ALTERNATIVES TO

REVIEW OF MANITOBA HYDRO'S

PREFERRED DEVELOPMENT PLAN

Regis Gosselin - Chairperson

Marilyn Kapitany - Board Member

Larry Soldier - Board Member

Richard Bel - Board Member

Hugh Grant - Board Member

HELD AT:

Public Utilities Board

400, 330 Portage Avenue

Winnipeg, Manitoba

March 19, 2014

Pages 2709 to 2980

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--- Upon commencing at 8:59 a.m.

THE CHAIRPERSON: Good morning. I believe it's nine o'clock, so we'll get started right away. Unusual not to have Mr. Wojczynski directly in front of us, so we'll have to develop some questions to make sure he comes back to us.

So good morning. I'd like to advise that there were no undertakings filed during the CSI session. And I wonder if there are any undertakings to file now before we start?

MS. MARLA BOYD: Nothing to file in the way of undertakings. I do have a couple of exhibits to record. We did send electronically yesterday the additional CV for Mr. Greg Barnlund, which I believe will be Exhibit 92-4.

--- EXHIBIT NO. MH-92-4: Additional CV for Mr. Greg Barnlund

MS. MARLA BOYD: And we also could mark the financial panel direct evidence presentation this morning if you'd care to do that now. Can you give me a number?

(BRIEF PAUSE)

MS. MARLA BOYD: Well, it's on its way to you, Mr. Chair. I believe it'll be Exhibit number 111.

--- EXHIBIT NO. MH-111: Financial panel direct evidence presentation

MS. MARLA BOYD: So by way of introduction, this is a fresh face of panel members for you. To my immediate left is Mr. Darren Rainkie, who's the vice president of Finance and Regulatory. To his left is Ms. Liz Carriere, who's the manager of Financial Planning. Then we have Mr. Manny Schulz, corporate treasurer, and Mr. Greg Barnlund, who's the division manager of Rates and Regulatory Affairs.

Seated behind them and providing witness support, you know Ms. Fernandes and Ms. Ramage, of course. And then we have Mr. Greg Epp, who is the senior financial analyst of the Major Project Section. Then Mr. Rick Horocholyn, sorry, who's the senior financial analyst. Susan Stephen is the Financial Markets department manager. And Louella Harms -- Ms. Louella Harms is the supervisor of Retail Electric

Rates.

And if the panel could be sworn, we could begin with direct evidence.

MANITOBA HYDRO PANEL 5:

GREG BARNLUND, Sworn

LIZ CARRIERE, Sworn

DARREN RAINKIE, Sworn

MANFRED SCHULZ, Sworn

THE CHAIRPERSON: On behalf of the panel, good morning to all of you. Some familiar faces and we're happy to see you back, and some new faces so that's always refreshing. Thank you.

MS. MARLA BOYD: Thank you, Mr. Chair.

EXAMINATION-IN-CHIEF BY MS. MARLA BOYD:

MS. MARLA BOYD: Mr. Rainkie, could you please outline your experience and qualifications, as well as your role in the NFAT filing, please?

MR. DARREN RAINKIE: Certainly. Good morning, Mr. Chairman, members of the Board, Intervenors, and ladies and gentlemen. My name is Darren Rainkie, and I'm the vice president of Finance and Regulatory at Manitoba Hydro. I'm a chartered accountant, chartered business evaluator, and have a bachelor of commerce honours degree from the University of Manitoba.

I have been with Manitoba Hydro and Centra Gas for over nineteen (19) years. Prior to my current position, I held various management and financial positions, including manager of Regulatory Services, corporate treasurer, and corporate controller. I was appointed vice president of Finance and Regulatory in January of 2013, and have overall responsibility for the controllership, treasury, rates and regulatory, financial planning, corporate risk management, and subsidiary functions at Manitoba Hydro.

In my testimony, I will provide evidence on policy matters as they relate to the financial and rates material contained in the NFAT filing.

MS. MARLA BOYD: Ms. Carriere, could you please outline your experience and qualifications, as well as your role in the NFAT submission, please?

MS. LIZ CARRIERE: Good morning, Mr. Chair, Board members, Intervenors, and -- and counsel and -- and advisors, and others in the room. My name is Liz Carriere. I'm the manager of Financial Planning in the Finance and Regulatory Business Unit.

I have -- I'm a certified general

accountant, and I have a bachelor of commerce honours degree from the University of Manitoba. I've been with Manitoba Hydro for twenty-four (24) years, eighteen (18) of those within the Financial Planning Department. So eighteen (18) -- I've had a hand in at least eighteen (18) IFFs over the years.

I've also provided regulatory support to numerous regulatory proceedings, as well as I am responsible for preparing the financial projections for the -- the First Nation partnerships that we have on the major projects.

My role here in the NFAT proceeding is to provide evidence on the NFAT financial evaluation, specifically the rate impacts and the impacts on Manitoba Hydro's financial position. Thank you.

MS. MARLA BOYD: Thank you, Ms. Carriere. Mr. Schulz, could you outline your experience and qualifications, and your role in the NFAT submission, please?

MR. MANFRED SCHULZ: Certainly. Good morning, Mr. Chairman, members of the Board, Intervenors, and others present. My name is Manny Schulz, and I've held the position of corporate treasurer since 2008. Prior to accepting this role, I joined Manitoba Hydro in 2006 as the corporate controller.

Previous senior work experience includes being the vice president of Finance and Business Development at Dow BioProducts from 2004 to 2006. I was the director of business consulting group at Grant Thornton LLP from 2000 to 2003. And I was the chief operating and financial officer for GBR Architects from 1994 to 1999.

In terms of my academic qualifications, they include being the direct -- the bachelor of environmental studies degree from the Faculty of Architecture in 1981; an MBA in 1988, also from the University of Manitoba. In 1995 I received the certified management accounting designation. And in 2009 I was awarded the fellowship in the FCMA designation.

I will be providing testimony on credit ratings, debt management, including the financial risks associated with interest rates, foreign currency exchange, and liquidity. Thank you.

MS. MARLA BOYD: Thank you, Mr. Schulz. Mr. Barnlund, could you outline your experience and qualifications, and your role in the submission, please?

MR. GREG BARNLUND: Certainly. Good

morning, Mr. Chairman, members of the Board, Intervenors, and others present. My name is Greg Barnlund, and I'm the division manager of Rates and Regulatory Affairs in the Finance and Regulatory Business Unit.

I'm a certified engineering technologist and graduated from Red River Community College with a diploma in mechanical engineering technology in 1988. I've been with Manitoba Hydro and Centra Gas Manitoba for twenty-five (25) years.

I was appointed to the position of division manager Rates and Regulatory Affairs in June of 2013. My responsibilities include overseeing the preparation of regulatory filings and applications for submission to the Public Utilities Board of Manitoba and the National Energy Board, the preparation of rates and cost of service studies for both electric and natural gas operations, and the preparation and administration of business investment policy for electric operations.

I've testified before the Public Utilities Board on several occasions, and have also appeared before the National Energy Board and the Federal Competition Tribunal. I've testified to matters related to natural gas cost allocation, rate design, terms of service, service extension policy, western transportation service, and the competitive landscape for natural gas sales in Manitoba.

Most recently, I testified to rate and regulatory matters at Centra's 2013 general rate application, and although I've provided regulatory support to several of Manitoba Hydro's electric applications, this is my first opportunity to testify to electric matters before this Board.

For this proceeding I'll provide evidence related to the impacts on domestic electricity rates and the comparative situation with electricity rates in other jurisdictions.

MS. MARLA BOYD: Thank you, Mr. Barnlund. Mr. Chair, you have before you and on the monitor the Manitoba Hydro Exhibit 111, which is the PowerPoint presentation for the direct evidence of this panel, and we're ready to commence if -- if you're ready.

MR. DARREN RAINKIE: Good morning, Mr. Chairman and members of the Board. I -- I will be up first in the presentation. So if we can move to slide 2 of the presentation, I will just give you a quick overview of how we've divided the material. We've put it into about five (5) different segments.

In the first two (2) segments of the presentation, I'll provide context on the financial and rate discussions that will follow my presentation by taking a few minutes to summarize Manitoba Hydro's current financial profile and provide a brief update on our financial outlook as contained in IFF13, recognizing that there are panel -- PUB panel members that have not had the benefit of sitting through an electric GRA, and that we have just recently filed IFF13 with the PUB.

In -- that's the first two (2) segments of the presentation. In the third segment, Mr. Barnlund will take over and provide an overview that demonstrates the competitiveness and affordability of Manitoba Hydro's electric rates now and in the future. In the fourth segment, Ms. Carriere will do the heavy lifting and provide a summary of the very extensive financial and rate analysis that was provided as part of the NFAT filing in support of the Preferred Development Plan.

Finally, in the fifth segment, Mr. Schulz will bat clean-up and will add the perspectives on risk by outlining how we manage financial risks at Manitoba Hydro, and discuss credit rating agencies and how they view Manitoba Hydro's debt as being self-supporting.

By all means stop us at any point if you have questions of -- of the content, or clarification. Certainly designed the presentation to inform the Board and help them, assist them go through this huge volumes of material that you have before you now.

So if we can move to slide 4, we'll chat a bit about Manitoba Hydro's consolidated income statement. So just a couple of things I want to point out. I won't go through all this material, obviously, but currently, our domestic electricity revenues at approved rates are around $1.4 billion. Export revenues have been in the 300 to $400 million range in the last four (4) years, which is down from the $600 million level that we experienced in 2009, mainly as a result of lower non-firm export prices.

Costs are generally increasing as a result of accounting changes to expense more and capitalize less overhead costs, general escalation, and inflation, and as well, there are higher financing costs, depreciation, and taxes associated with a growing asset base, including the in-service of the Wuskwatim generating station during 2012.

Lower net export revenues and higher costs have reduced the level of net income in the last two (2) years to below a hundred million dollars, which, in turn, has resulted in lower interest coverage ratios. I'll -- I'll cover off our financial ratios later in the presentation, so. And I will talk a bit about our current financial year a little bit in the -- later in the presentation as well. This was presented more for historical context.

Just quickly moving then to slide number 5 and the consolidated balance sheet. I think it's fair to say that Manitoba Hydro is primarily a fixed-assets company. We have property, plant, and equipment and in construction in progress of over $18.8 billion, that's at historic cost, as of December 31st, which is our most recent public financial statements -- December 31st of 2013.

So that results in net property, plant, equipment, and construction progress of $13.3 billion net of accumulated depreciation currently. So that's just to give you an idea of the size of our current balance sheet.

The assets are financed primarily by $10.2 billion of long-term debt net of sinking fund assets and $2.6 billion of retained earnings as at December 31st, 2013. On a net basis, the amount of working capital that we have is fairly negligible. We are really a fixed assets company.

It's interesting to compare the current balance sheet back to 1990, which I've put on the far right side of the slide, before the first unit of the Limestone generating station came into service almost twenty-five (25) years ago.

In 1990, Manitoba Hydro had $3.9 billion of net fixed assets and was largely financed by $3.6 billion of net long-term debt and just $117 million of retained earnings. In 1990, the debt-to-equity ratio was 95:5, which means that the Corporation was financed with 95 percent debt.

Fast-forwarding today and moving to the left side of the -- of the slide, Manitoba Hydro's assets and debt are approximately three (3) times what they were back in 1990. And with the retained earnings of 2.6 billion, we currently have a debt-to-equity ratio of 76:24, meaning that 24 percent of our assets are financed by retained earnings. And Manitoba Hydro is in the strongest financial position in its history, its long history.

While it's human nature to view -- view the large investments that are required under any potential plan in the future with concern, the history of this public utility shows that it is but one (1) phase in a continuing cycle of investment and reinvestment in fixed assets in order to ensure safe and reliable service to Manitobans.

Much like the growth over the last twenty-five (25) years, the Preferred Development Plan is expected to result at a balance sheet as roughly two point five (2.5) times the size of the current balance sheet over the next twenty (20) years.

And then if we could move to the next slide, slide number 6 in the deck, spend a couple seconds on our cashflow statement; not to leave Mr. Schulz out of the equation because he certainly is concerned about our cashflow.

So you'll note that in the last number of years we've generated about $600 million of cashflow from operations, which is under the caption, "Cash provided by operating activity," so -- on the slide.

In the last few years, we've also had investing activities, which is primarily investment and fixed assets, at the 1.2 to $1.3 billion level, which has resulted in net financing activities in the order of 6 to $700 million in the last two (2) years.

The level of investing and financing activities are expected to ramp up significantly due to the planned investments in Bipole III, Keeyask, and

Conawapa, and you'll see that in our financial forecast, IFF13.

The capital coverage ratio has been lower in recent years compared to historic levels due to the increased requirements for sustaining or what we refer to as our base capital expenditures, which are necessary in order to maintain the health of our existing assets.

And then just moving quickly to slide number 7. What I've done is pulled out our electric operations out of our third quarter financial report ending December 31st, 2013. So our financial statements have the electricity segment, which includes our regulated operations plus our subsidiary operations.

And what you see here is simply the regulated operations year over year for the nine (9) months ended December 2013, versus the nine (9) months ended December 2012. And you can see that our financial results have improved considerably over that time frame for two (2) primary reasons: first, higher domestic electric revenues as a result of rate increases granted by the Public Utilities Board in colder weather; and, secondly, higher net extraprovincial revenues as favourable water flow conditions and higher export prices.

The outlook to the end of the 2013 fiscal year ended March 31st, 2014, in IFF13 is for electric operations net income of 116 million and consolidated net income of 136 million.

And if we move to slide 8. This is an interesting slide because it shows the relative proportion of revenues over the last ten (10) fiscal -- completed ten (10) fiscal years that have been derived from residential, industrial, commercial, and export customers.

It breaks down roughly 28 percent of the revenue has come from residential customers, 40 percent has come from industrial and commercial customers, and 32 percent from export revenues. We'll talk a bit more about this later in the presentation.

And then just moving to slide 9 and just summing up a couple key points about our existing financial profile. As I mentioned, with retained earnings of $2.6 billion, Manitoba Hydro is in the strongest financial position in its history, and this positions the Company well to make the necessary investments in the future to meet the energy needs of the province, which is our mandate.

The export revenues associated with

Manitoba Hydro's predominantly hydro system has certainly been a key contributor to the Corporation's financial strength and affordable rates for customers.

So I went through that rather quickly, but certainly, as I said, stop me if there's anything that comes to mind as you -- as you go along. I'm just the context piece at the front end here, so I want to leave some time for Ms. Carriere to go through the -- the analysis that's before you.

So if there's no questions, maybe we'll move onto the second segment, which is a -- a quick update on our financial outlook as contained in IFF13, Integrated Financial Forec -- Forecast '13. So slide 11 just gives you a real brief high-level view of some of the major changes between our current forecast, IFF13, that was just approved by our Board on February 26th of 2014, versus the previous forecast, IFF12, that was approved by our Board in November of 2012, and was the -- the base, if you like, for the NFAT filing at that point in time.

So key -- key changes, the load forecast is lower due to lower forecasted population growth. I think there's probably already been discussion about that at the hearing on the first panels. The Conawapa in-service date was deferred one (1) year to two (2) --

to the 2026 -- twenty (20) -- sorry, '26/'27 fiscal year. There was increased capital costs of $1.6 billion due to the Conawapa deferral, the reinstatement of DSM costs into the capital forecast, and the effect of updating a number of project estimates, and adding in some new projects.

The electric export price forecast for 2013, for on-pipe -- on-peak prices decreased on average by 3 percent over the period from 2014/'15 to 2032/'33. That's compared to IFF12. And I -- I think if you recall, the adjusted IFF12 that was used in the NFAT filing had export prices that were about 10 percent lower than -- than what was in IFF12, so the 3 percent reduction is actually 7 percent higher than what was included in the NFAT filing, and I hope that's clear.

Other major change is the International Financial Reporting's Standards implementation has been deferred by one (1) year to 2015/'16, and we have assumed in the IFF13 that rate-regulated accounting will continue over the forecast period, and both of these assumptions have been included in IFF13 as a result of recent pronouncements of the Account -- Accounting Standards Board of Canada and the International Accounting Standards Board.

And recognizing the financial outlook, we have forecast further con -- constrainment on operating cost growth to 1 percent growth between 2016 and 2021.

So those are the major highlights of -- of IFF13, and what you would have seen in the IFF12 in the last electric general rate application filing.

Slide number 12 is a rather busy slide, but I would ask you just to -- to focus on the -- the second row from the bottom, which looks at the total change in net income -- consolidated income between IFF12 and IFF13. So we -- we've already talked about the key drivers between the improved results for 2013/'14, and we see that the consolidated net income is expected to be $63 million better than the previous forecast.

For 2014/'15, after updating all the factors, revenues, and costs, there really isn't much change in the -- in the forecast. It's really just a $4 million differential. Quite a significant deterioration in 2015/'16, primarily related to the lower load forecast of $66 million. And if you go to the far right, over the whole twenty (20) year period to 2032/'33, our net income is expected to be $2.5 billion lower than what was included in IFF12 as a result of the lower load forecast and the higher capital expenditures.

Then moving to slide number 13, is a graphical depiction of the expected pattern of consolidated net income over the next twenty (20) years, and also compares the differential between IFF13 and IFF12. So as you can see, net income is expected to be thin in the next ten (10) years, even with the 3.95 percent projected rate increases, primarily due to the capital expenditures that are required to renew aging infrastructure and provide reliability of the electrical system such as Bipole III.

This will be further challenged when the in-service of the Keeyask generating station comes into service, but net income is expected to rebound sharply after the in-service of the Conawapa generating station.

And, of course, on slide 14, following closely after net income is retained earnings. You can see in the forecast that initially retained earnings are expected to be higher in IFF13 than they were in IFF12, given the assumption that Manitoba Hydro will no longer have to write off about $300 million of rate regulated assets in 2014/'15, as had been the assumption in IFF12. In the later years of the forecast -- oh, sorry -- sorry, Liz. In the later years of the forecast retained earnings are fore -- are forecast to be lower than in IFF13 for the aforemention -- aforementioned reasons.

And if we move to slide 15, you'll hear a lot about our financial targets in the -- in the next number of days, so I thought it would be useful just to spend a couple of minutes reiterating what they are. We have three (3) primary financial targets in Manitoba Hydro. First, a -- a debt-to-equity target. We strive to maintain a minimum debt-to-equity ratio of 75:25, which means that we would like to have 25 percent of our assets funded through internally generated funds rather than through debt.

Our second financial target is -- is interest coverage. We'd like to maintain a interest coverage ratio of greater than one point two-zero (1.20), so we want to have a cushion of significant issue -- of sufficient earnings to cover interest payments, and that's why we set the ratio at the one point two-zero (1.20).

The third key financial target we have at Manitoba Hydro is the capital coverage. We'd like to maintain capital coverage ratio of greater than one point two-zero (1.20), and that is to have a cushion to have sufficient cash flow to cover our base capital expenditures.

Then if we then follow on to slide 16 and go through the projected ratios in IFF13, first the equity ratio for that -- that is projected over the next twenty (20) year period. So, much like the retained earnings slide, the equity ratio in IFF13 is initially higher due to the assumption of no rate regulated asset write off and further aggressive operating cost constraint.

And while the trajectory level is off a bit compared to IFF12, there is a similar pattern after the in-service of the Cona -- Conawapa generating station, such of that we are able to meet the 25 percent equity ratio target by 2034, which is just one (1) year outside of the twenty (20) year forecast period.

Go to the next slide. This is number 17. This depicts the interest coverage ratio forecast for the next thirty (30) -- for the next twenty (20) years rather, and I won't spend a lot of time on this in the next slide, but suffice to say that the interest coverage ratio and the capital coverage ratio exhibits the same general pattern as the equity ratio.

They weaken during the period of

reinvestment in assets and the investment of new generation, and then interest -- the interest coverage ratio recovers to target levels post-Conawapa in-service. And if we move to the next slide, the capital coverage ratio, the -- the same pattern, but the capital coverage ratio is projected to recover to target levels post-Keeyask in-service.

And moving to slide 19. I listened with great interest to the exchange between Mr. Hacault and Mr. Thomson on day 1 of the hearing with respect to who contributes to the retained earnings of the Company that are required to meet financial reserve requirements.

Slide 19 is interesting in that it demonstrates the high degree of correlation between the level of net extraprovincial revenues and net -- and the level of net income on both a historic and forecast basis. From this slide, one could argue that it is the export customers that have and will continue to assist in building reserves that keep Manitoba electricity customer rates amongst the lowest in North America.

And then on slide 20, just a summary of -- of our financial outlook and some of the key points. There's no doubt that the required investments and existing infrastructure and new generation will put pressure on Manitoba Hydro's financial ratios in the next twenty (20) -- in the next ten (10) years and that higher than 3.95 percent rate increases would be required to maintain those ratios at their target levels over that period. But is that -- that is not what we're projecting will happen. We -- we will maintain 3.95 percent rate increases in the next ten (10) years.

In setting financial targets in the first place, it's always been recognized that the targets may not be obtained during periods of major investment in a generation and transmission system and that ratios will necessary -- necessarily weaken during those periods of investment.

Credit-rating agencies and other stakeholders are prepared to accept short-term weaknesses in financial ratios due to the investments in revenue-generating assets as long as Manitoba Hydro can demonstrate stready -- steady progress towards those targets over the long-term.

A supportive regulatory climate is also important to credit-rating agencies who recognize the capacity to raise rates, given the low rate structure that Manitobans enjoy. It is important, and continues to be important, that Manitoba Hydro have regular and reasonable rate increases during the reinvestment and new investment period to maintain progress towards financial targets.

The good news is the financial ratios are expected to recover after the in-service dates of the Keeyask and Conawapa generating station and reach target levels within a forecast horizon of around twenty (20) years. After that period, pressures on rates is forecast to subside.

Export revenues will continue to play an important role in improving the Corporation's financial strength and keeping Manitoba electricity rates low in the future.

Mr. Chairman, thanks for the opportunity to address the panel. Subject to any questions that you may have of me, I would hand it over to Mr. Barnlund to address the competitiveness and affordability of Manitoba Hydro's electricity rates.

MS. MARILYN KAPITANY: Mr. Rainkie, could you just go back to slide 19 for a minute, please --

MR. DARREN RAINKIE: Sure.

MS. MARILYN KAPITANY: -- where you had talked about the extraprovincial revenues and the net income.

Could you go through that explanation once more?

MR. DARREN RAINKIE: Sure. So what -- what is depicted on this chart is the relationship between net extraprovincial revenue, which is extraprovincial revenue minus water rentals and assessments and fuel and power purchases, and -- and net income.

So there was some discussion at the front end of the hearing about, you know, who -- who has contributed to the reserves that assist in keeping our balance sheet healthy, which is there on behalf of customers to ensure rate stability in the future.

So I find this chart very informative to look back over time and ask ourselves how -- how did we -- how did we improve our financial position over the last twenty-five (25) years. And when you look at the high degree of correlation between net income and extraprovincial revenues, you see how important is has been in attaining the financial strength that we have today and indeed in keeping rates low for Manitobans.

So one could look at this very simplistically as our improvements in reserves levels over time have been contributed by export customers such that Manitoba customers, both residential, commercial, and industrial, have only had to pay the costs associated with -- with our system.

Now, as far as I'm concerned, contributions to revenue requirement is -- is appro -- is a cost as well. It's something that customers have to put forward. We don't have return requirements like private companies that require a 10 or 11 percent return on equity. We probably on average only have about a 3 percent contribution based on a calculation of our net assets.

But -- so -- so I -- I think that it's appropriate that we recover both costs and a contribution to reserves from our customers. This is simply the observation that if you map that relationship out between these two (2) factors, that you could argue that export customers hep contribute the reserves, which -- which is important in -- in terms of improving our financial position and helps us make the next required investment. That -- that was what I was trying to point out.

THE CHAIRPERSON: Just a point of clarification, Mr. Rainkie. The -- the IFF13 figures you're giving here, have they been adjusted to address the DSM -- increased DSM that we've been hearing about?

MR. DARREN RAINKIE: No, Mr. Chairman.

These were -- this -- this forecast was approved by our Board in late February, and the -- it actually went to the executive committee and audit committee in January and February. So this does not include the analysis that you're going to see coming up on DSM. That will be a separate analysis provided for the NFAT filing in particular.

THE CHAIRPERSON: So when is your -- what date can we expect to see that revised IFF?

(BRIEF PAUSE)

MR. DARREN RAINKIE: My understanding, Mr. Chairman, is the commitment is March 24th.

(BRIEF PAUSE)

MR. GREG BARNLUND: Good morning, Mr. Chairman and Board members. I'd like to take the next few minutes and speak to some rate comparisons and talk about rate impacts and bill impacts of the various scenarios that have been discussed in front of -- in front of this Board in this proceeding.

So if we could turn to slide 22, what we're going to see here in the next couple slides are really comparisons of Manitoba Hydro's domestic electricity rates by customer class with those that are being paid by customers in other Canadian jurisdictions.

This data as shown in slide 22 represents residential customer rates in -- in Canada. And the purpose of going through these -- these slides is to gain some context and understanding of the relative competitiveness and affordability of electrical service in Manitoba compared to those in other Canadian jurisdictions, and also get some context in terms of what are the cost drivers that are affecting the utility industry. Because there's a lot of things in common amongst the utilities in Canada and North America these days in terms of increased cost and future increased rate impacts that will be borne by customers, and I think it's worthwhile spending a couple minutes addressing those matters.

What we see in the slide here on slide 22 is really a comparison of residential rates between, like I said, customers in Canadian -- major Canadian centres. You'll see that there's two (2) bars in each of these slides, and we're representing different consumption levels that are being calculated here.

A thousand kilowatt hours of consumption per month is roughly equivalent to a standard electric customer, whereas a 2,000 kilowatt hour consumption per month could be though of as a customer that's using electricity for heating.

You can see from the residential comparison that Manitoba Hydro's rates, and obviously Hydro-Quebec's rates, are very favourable when compared to residential rates that are being paid by customers in other jurisdictions.

An interesting comparison is with the rates in Regina. You'll see that second bar -- second set of bars from the right represent the domestic electricity residential rates for a customer in Regina, which average to be about -- between twelve (12) and thirteen (13) cents a kilowatt hour, compared to ours which are in the seven (7) -- seven point five (7.5) perce -- seven point five (7.5) cent range.

The comparison with -- with Saskatchewan is interesting because while we share a lot of characteristics in terms of geography, population density, number of customers being shared -- or being served, the significant difference between the two (2) utilities is that basically our energy is being produced predominately by hydraulic generation whereas 80 percent of Saskatchewan's electricity is being generated through thermal sources.

So while there are other cost differences obviously between operating the two (2) utilities, you can see there's a striking difference in terms of the residential rates between Winnipeg -- a customer in Winnipeg and a customer in Regina.

Maybe if we could turn to slide 23 now? So the next two (2) slides will illustrate comparisons for general service customers, and so the general service small-rate comparison shown on slide 23 here, these customers would represent small retail business in commercial strip malls, restaurants, convenience stores, churches, and schools. So again, you can see the respective differences between the average cost in terms of Manitoba Hydro's rates, and the rates that are being charged in other jurisdictions. We, you know, obviously are very favourable compared to most of the Canadian jurisdictions.

And so if we turn to slide 24, we're comparing the general service medium rates between Manitoba Hydro and customers that would be paying rates in other jurisdictions. Now, general service medium customers would be larger retail establishments, big box stores, large grocery stores, large personal care homes, large secondary schools, and the -- the like, and again, you can see as the -- as the volumes of consumption increase, that the difference in -- in cost is quite apparent here.

If we move to slide 25, we could take a look at the general service large rates. And general service large customers are our very large industrial customers and the largest consumers of electricity in Manitoba. So this would include customers that are involved in mining, manufacturing, food processing, chemical production, large office buildings, and institutional occupancies like universities, community colleges, and large hospitals.

And again, the relative relationship holds. Again, you'll see that Manitoba Hydro's rates and Hydro Quebec's rates are very favourable compared to those that are being paid by the same type of customers in other jurisdictions.

So the -- the idea behind this is just to provide some context in terms of the current rate structure and the current costs that are being borne in rates by customers across Canada. These bills were prepared -- were prepared based on rates that were in effect May 1st of 2013. I'd have to say that there were actually a couple of other rate changes that have gone through since then for some of the other jurisdictions, so -- but this is -- provides a reasonable base of comparison to the starting point to understand where Manitoba Hydro's rates and rate structure, and how Manitoba Hydro's customer's bills would compare with what you would find in other Canadian centres.

If we could turn to slide 26, please? This analysis then sort of broadens the scope further into some American jurisdictions as well, and the basis of preparation for this information is slightly different than -- than the last one. What we've done, because of the difference in trying to find comparable information for US utilities, we take total residential revenues divided by total residential energy sales to come up with a unit rate for electricity for each of these centres.

Again, you can see that when we do that that -- that Manitoba -- Manitoba Hydro's average unit cost compares very favourably with what you find in the rest of North America in that respect.

So if we could move to slide 27 here? I would like to talk a little bit about the situation with regards to these rates. Now, what we're taking a look is a -- is a snapshot in time in terms of rates across Canada and across the United States, but we need to also reflect on the fact that the electric utility industry is an industry that's in a great deal of -- of transition right now in terms of the amount of investment that's being required and will be required in the next ten (10) years to rehabilitate and refurbish its aging infrastructure.

This slide provides, you know, a headline that -- you know, the Conference Board of Canada had provided an analysis that indicates that there's a significant amount of investment in the terms of approximately $350 billion will be required to be made by electric utilities in Canada between 2011 and 2030 to be able to rehabilitate, and refurbish, and renew its aging infrastructure.

Manitoba Hydro is not alone and not unique in that regard. We had some discussions at the last general rate application about the need for approximately $50 million a year of incremental investment to be able to rehabilitate our distribution system and -- and replace aging components in the distribution system.

When you look at the build-out that occurred in Manitoba after the second World War, we extended service throughout the province to rural communities and rural customers. We built a significant amount of distribution capability as the province grew and as population grew in the province.

Those assets have a -- have a -- a useful service life, and at the end of that service life, they need to be replaced. If they're not replaced, then reliability will be negatively impacted. We will end up with service outages and -- and problems in delivering reliable electrical service.

And so we're embarking on -- on an investment in the next ten (10) years, where we'll have to be replacing poles. We'll have to be replacing cable. We'll have to be revamping a -- a distribution system and our sub transmission system to be able to maintain reliable service.

This is not unusual, like I say, to Manitoba Hydro. SaskPower has indicated in their last rate application that they expect to spend approximately $1 billion per year for the next ten (10) years to be able to rehabilitate and refurbish their electrical distribution and transmission system within the Province of Saskatchewan.

British Columbia, BC Hydro, made a similar pronouncement in their regulatory proceedings that they expect to be spending approximately a billion dollars a year to be able to -- to accommodate the need to be re -- replacing that aging infrastructure. This is -- this is obviously a -- a situation that all utilities are facing, and all utilities are going to need to recover those costs from their customers.

And we'll take a look at a comparison in a couple of slides further out. We're going to look at projections into the future of annual bills to customers in Manitoba, and -- and a couple of other Canadian jurisdictions, and we can talk further about the impacts we might be able to see then.

So these are some of the headlines that have been in the press in the last year with respect to rate increases and pressures on costs that are being borne by other utilities. SaskPower I just spoke of. SaskPower has filed for a three (3) year rate application, where they are looking to get rates increased over the next three (3) years. They are looking at, in addition to that, they will have increases beyond that period of time, but they're filing for a three (3) year rate filing at this point in time.

As noted earlier, BC Hydro has had a -- a bit in the -- the press quite a bit in the last year in terms of rate increases. They are expecting to have probably five (5) years worth of rate increases ahead of them here, and I can provide a little bit more information of that when I get to the next slide.

Ontario, we -- we understand that in Ontario, there is going to be cost increases over the next five (5) to ten (10) years associated with not just infrastructure improvements, but additions to -- to generation. Ontario has had an experience as well, too, where Hydro One, for example, manages the transmission system for the better part of the Province of Ontario, and with the policy to be attaching renewables in Ontario, they've been faced with a significant amount of investment to be able to provide sufficient capacity on the distribution systems and on the transmission systems to remote locations where people are sighting solar generating panel applications, and so they're experiencing increased costs in terms of the cost of incorporating renewables onto the system in Ontario.

Slide 27, please. This analysis references the information that was provided in the response to Information Request CAC/Manitoba Hydro-First Round-140, and it's a -- a projection of monthly residential bills for Manitoba Hydro rates, comparing the various scenarios and alternatives that are being discussed in this particular proceeding.

As you can see from -- from the information in this slide, that over the next ten (10) years, you don't really see a very significant divergence between all of the scenarios that are being evaluated here, but clearly, by the time that we reach 2063 in fifty (50) years, that there is a significant difference in the level of monthly bills that would be borne by customers, depending upon the scenario.

Slide 29? Okay. Slide 30 is, again, information that was basically taken from Manitoba Hydro's response to CAC/Manitoba Hydro-Second Round-134b. And again, we were projecting monthly or annual bill comparisons between Manitoba Hydro's rates, rates for customers in British Columbia, Saskatchewan, and Quebec based on known information and incorporating the GD fee -- GDP deflator on increasing those bills for the remainder of the period of time.

So I would note in this -- in this comparison that the blue line representing Manitoba Hydro is really the only, I think, truly known data that we have on this slide. This information relates to the rate increases that we're showing in IFF12 and '13, and the difficulty in comparing to other jurisdictions is that you don't have the same window of transparent information available to you from Hydro-

Quebec, from SaskEnergy, or from BC Hydro.

So if we compare with British Columbia, what you see is that -- that annual bills increase over the period. You can see an increase between 2014, 2015, and 2016, and those are based on the known rate filings that have been made by BC Hydro to this point in time. If you'd just give me a second here?

So that incorporates BC Hydro's requested 9 percent increase for 2015, 6 percent for 2016, 4 percent for 2017, 3 1/2 percent for 2018, and 3 percent for 2019. I might add that those rate increases are prospective rate increases, and that BC Hydro and the BC government understand that any revenue requirement increases in 2017, '18, or '19 above those levels will be deferred and recovered from customers in future periods.

So -- so when you see the -- the shape of the curve for BC Hydro, that that information is -- would not be complete, because it wouldn't be reflecting all of the cost increases that that utility would expect to see over the time period that we're speaking of.

Similarly with SaskPower, the green line at the very top of the -- of the scale, it incorporates their proposed increase of 5.5 percent in 2014, a 5 percent increase in 2015, and a 5 percent increase in 2016, but given that three (3) year time frame, it -- it doesn't include any increases that would be associated with the incremental $1 billion worth of investment that would be -- need to be made in the remaining seven (7) years of the -- of the period that I spoke of earlier. So the -- the slope of that curve could increase compared to what we see here in this comparison.

But in terms of relative affordability and relative competitiveness, I -- I think it's apparent that Manitoba Hydro's rates, under the scenarios that we're speaking of here, are competitive, are very competitive respective to other Canadian jurisdictions, and would expect to remain competitive in the future, based on the level of investment that is being expected to be made, not just in Manitoba, but by utilities in all of the jurisdictions.

There's, I -- I think, maybe a couple other factors I just want to touch on, too, in terms of the comparison between Manitoba Hydro and other utilities, and it's not just from the cost perspective, but also in terms of the load perspective, that we see similar challenges being faced.

There was discussion earlier this week

about the effect of increased pumping capacity being required by oil pipelines through Manitoba that's on a planned basis. That is a situation that -- that we're obviously dealing with in terms of impact on our load forecast. Other jurisdictions face similar challenges.

In British Columbia, BC Hydro is faced with a significant load increases associated with liquified natural gas production and export. There are a -- a number of large projects that are underway and being planned in British Columbia for the transportation of natural gas to Kitimat, where it's liquified and being exported. That will represent a significant industrial load increase to BC Hydro, and is similar in nature to the impact we're seeing in terms of oil pipeline loads in Manitoba.

Similarly, SaskPower is wrestling with a -- a significant increase in industrial load, driven by potash mining and -- and other resource production. So utilities are -- are being -- are -- are facing similar challenges, not just from the cost side in terms of infrastructure, but also in the -- the increase in load driven by industrial and -- and non-residential applications.

So in -- in summary, I'd just like to note that Manitoba Hydro's electrical rates are indeed amongst the lowest in North America. We are very competitive and very favourable compared to other Canadian and other American centres. Electric utilities in other jurisdictions are facing the very same situation as we are, in terms of increased costs and the need to replace existing infrastructure to be able to maintain safe and reliable service.

Other electric utilities are similarly faced with seeking rate increases that are going to exceed the rate of inflation, or exceed CPI. Clearly, the utility business is going through a situation where the consumer price index is not relevant as a comparator for the required level of rate increases because of the significant level of investment that's being required to be made by utilities to be able to replace those aging assets. Manitoba Hydro's electrical rates are affordable currently, and they will remain affordable into the future. Thank you.

(BRIEF PAUSE)

DR. HUGH GRANT: I don't -- I think I accept the basic thrust of the argument, but I have to say that slide 30 is one strange-looking graph, isn't it? So if I understand this right, you're extrapolating forward rates -- so you've got a handful of actual observations and then you extrapolate them forward using a GDP deflator. But you then have a footnote that says "Bears no relationship to expected rate increases." Presumably you should have a qualifier that it -- it makes no accounting for DSM measures and different -- this is total bills, right? So it's not the rate -- actual rate itself.

So does it really strengthen your argument to show a graph like this? Like, I mean, I understand the basic thrust of it that -- and the starting point rates are lower in Manitoba. I get that. I get that in the next five (5) years BC may be looking at some significant rate increases.

But why you have to then take this thing and extrapolate it forward another decade seems, to me, kind of a tenuous exercise.

MR. GREG BARNLUND: It's not a perfect representation, I'll definitely agree with you in that respect. We -- we selected this one because it was a question that was -- that was asked us -- of us in an Information Request. And -- and I think that the question that's been placed before you at -- on this panel is: Of the various alternatives that you're being shown, what will customers have to pay for in the future? What are the bill impacts to customers in the future with respect to these things?

The previous slide showed, basically, the dispersion of the results of the bill impacts to customers if we used a simplified set of assumptions by taking a residential bill and extrapolating it through this period of time with -- with rate increases based on what would be shown by each of the different alternatives.

The slide 30, then, is -- is really just simply showing that the relative comparison between provinces, that that relationship should remain the same over this period of time, because there's no information available to us that suggests that utility costs are going to become dramatically cheaper in other jurisdictions compared to where we are today in Manitoba. So the relative relationship between our rates and those other rates, you know, will not diminish significantly.

DR. HUGH GRANT: If the world doesn't change from it presently is, which is something that is unlikely to happen. Can I just go back to the previous slide, though? Because it's also --

MR. DARREN RAINKIE: Mr. Grant, may -- sorry. I just want to -- I -- I think there's a --

there's a easier way to summarize this. On this graph, we were asked to do this, first of all. This is a summarization that was the -- the assumption was put to us that -- to assume 2 percent rate increases in other jurisdictions.

But the -- the summation of this slide is that even with 4 percent rate increases in Manitoba, and comparing it against the unrealistic notion that other utilities are going to increase their rates at 1.8 percent, or 1.9 percent, we still favour comparably.

If you look at the last ten (10) years, the rate increases in other jurisdictions, and you look what's coming up from what's known, it's clear that other utilities are not going to be, you know, only asking for 2 percent rate increases over the long run.

So I think it was meant to say even with that unrealistic assumption, we maintain competitiveness in Manitoba. Sorry for interrupting, sir.

DR. HUGH GRANT: If -- if you just go back to 29 though, I mean, really what -- what real lesson can be drawn from this? Because beyond the next twenty (20) years, we're speculating about future energy prices a great deal. But it would seem to me what it's saying is that hydro-based developments are going to have large capital outlays and it's probably going to drive up rates more significantly in the next ten (10) years than other plans would. And I think the Preferred Development Plan probably has the highest rates by 2023.

And then it's saying that if we make these initial heavy capital outlays, which is going to require some rate increases to do it, it has the promise in, you know, the distance future, out twenty (20) years or so, of lower rate increases.

And so it's -- I mean, I don't object to this one quite so much, but it's -- I think it's putting clearly the choice between us that we -- we know Hydro has large capital outlays, it has the promise down the road of lower increases, but we need some higher ones immediately to finance it, versus other forms of investment, which may have a different profile for rate increase changes.

MR. GREG BARNLUND: Definitely -- I mean, the scenario is that hydro facilities -- hydroelectric operations are very, very capital intensive with very, very low operating costs, and very long asset lives. So that's why the -- the graph represents the way it does.

I think the important thing to note though is in 2023 there isn't a significant amount of difference in a monthly bill. Well, if we're talking the difference between a hundred and ten dollars ($110) a month versus a hundred and fifteen dollars ($115) a month, all of the comparative alternatives are very, very close, within -- within a very, very small range in the first ten (10) years.

So it's not like that the preferred development option becomes vastly more expensive in ten (10) years. They're all very, very close within the same range. But in the long term you see the significant benefits that of the low operating cost of a hydraulic system being borne out with a significant difference fifty (50) years away from now, where you're looking at the difference between a hundred and six -- a hundred and fifty-five dollars ($155) for a monthly bill versus two hundred and twenty dollars ($220) for a monthly bill.

DR. HUGH GRANT: Sure, but that's based on a whole set of assumptions about future energy prices out fifty (50) years from now. So I -- I take the point. It's just -- yeah, I'll leave it at that.

THE CHAIRPERSON: I have a few questions in relation to rate comparisons. I'm just --

some of them are relatively inane, but nonetheless, I'm intrigued by them. In -- in terms of slide 23 you -- you've provided data for Regina.

Now, Saskatoon rates, would they be any different? Would they be largely the same?

MR. GREG BARNLUND: Saskatoon has a -- has a municipal utility that serves the City of Saskatoon. They purchase power from SaskPower. I'm not exactly sure of the rates in Saskatoon. I'm -- I'm sure they're going to be relatively close to what the rest of SaskPower's rates would be, but I don't have that information available.

THE CHAIRPERSON: And this data is -- this data is from -- is that from the Hydro-Quebec study, or is that your own data that's showing up here?

MR. GREG BARNLUND: This data is compiled by Manitoba Hydro every year in its annual survey of retail electric rates.

THE CHAIRPERSON: Now, again, page -- slide 26, looking at residential price of electricity, I wonder, this sort of preclu -- this sort of -- the conclusion I draw from this is that we don't know what the rates are. We -- we can't tell from this what the rates are in neighbouring jurisdictions, North Dakota, Minnesota, Wisconsin, who are buying power from us.

Do you have some sense of where they are in this -- this picture?

MR. GREG BARNLUND: If you just give me a minute, sir?

THE CHAIRPERSON: Okay.

(BRIEF PAUSE)

MR. GREG BARNLUND: We could undertake to get some information for you at the break.

(BRIEF PAUSE)

MR. GREG BARNLUND: Yes, to provide residential rates for, I believe you said, North Dakota and Minnesota, and Wisconsin.

--- UNDERTAKING NO. 45: Manitoba Hydro to provide residential rates for North Dakota, Minnesota, and Wisconsin

THE CHAIRPERSON: Now, realizing that you will have the DSM information later on, I wonder if it would be possible to extrapolate from that information the extent to which a homeowner can influence his bi -- his or her bill by adopting DSM. In other words, for assuming that the -- the full DSM is implemented, the -- the two (2) that we've been talking about is implemented, to what extent can a homeowner influence the ultimate bill that he gets every -- he or she gets every month?

You know what I'm driving at? In other words, I -- I would normally pay a hundred dollars a month. If I implement DSM, I can reduce my bill down to eighty dollars ($80). So I -- you know, I wonder if that information could be gleaned, and -- and I'll tell you where I'm going here is that, you know, here we are, telling the -- telling the ratepayer, You're going to get a 3.95 percent increase. If everything goes well, you'll get 4 percent a year for the next twenty-one (21) years. So we should be able to tell the ratepayer, You can do some things to reduce that cost, and here's how much you can influence the ultimate bill you get.

Now, the -- the reverse of that, of course, is -- is the extent to which I adopt aggressive DSM in my home. My part -- my -- my neighbour here, Rick, is going to have to bear -- who's not going to be adopting DSM, his bill is going to go up, and I -- I'd like to be able to tell -- be able to understand that as well.

But the more important thing for me is to be able to say, Okay, you know, we -- we -- you will be paying more, but you have the ability to influence your bill by 'X' percent, because you will be given the opportunity to adopt DSM.

MS. MARLA BOYD: I think we'll have to take that one away, Mr. Chairman, and consult with our load forecast and DSM panel. I'll certainly do that with them, and we'll -- we'll certainly give you the information if we can. My own thought is, there -- there's probably some issues in terms of figuring out insulation levels and what the impact will be on a customer-by-customer basis, but we'll certainly consult with them.

(BRIEF PAUSE)

THE CHAIRPERSON: I think that's all the questions we have for this segment of the presentation, and I guess we have another segment to come.

(BRIEF PAUSE)

MS. LIZ CARRIERE: Thank you, Mr. Chair. For the next about six (6) slides, I plan on flipping through them very quick -- quickly. They're on the financial evaluation assumptions and methodology, so if you'd require any clarification, please let me know.

In contrast with the economic analysis, which looks at the net benefit of each of the development plans over the project life, the financial evalua -- evaluation compares the year-by-year impacts of each of the development plans on Manitoba Hydro's projected financial statements and cust -- customer rates.

The projected financial statements that are -- can be found in Appendix 11.4 model the impacts over the entire electric operation, so not just each of the development plans, but it also includes the impacts of ongoing operations of our existing infrastructure.

We -- we start out in the evaluation with IFF12, and extended that over the fifty (50) year period, and then we modified it for known updated assumptions since IFF12 was approved, specifically the 2013 preliminary forecast of electricity export prices.

Now, as Darren mentioned, the preliminary forecast was significantly lower than the -

- the final forecast. We reduced from IFF12 about 10 percent rather than the 3 percent, so it's a little more conservative than the -- the final 2013 forecast. Based on that export price adjusted IFF12, we then modify the generation costs and transmission associated with each of the facilities included in -- in the development plans, and their -- and their respective timing for those facilities.

Moving to slide 34, the cap -- net capital expenditures for each of the development plans are reflected in the balance sheet in construction in progress until the in-service; and then once they're in service, then property plant and equipment.

Once they're in service, capital costs are reflected on the income statement in depreciation on a straight-line basis over these full lives of the assets. Hydro generation, depending on the component, will have a twenty (20) to a hundred and twenty-five (125) year life. The gas turbines we've assumed a thirty (30) year life, and transmission substations, thirty-five (35) years, and -- and transmission lines, fifty (50) years.

We then incorporate the flow-related production costs and revenues associated with the facilities for each of the development plan. Now, those are -- are the prod -- the net flow related production costs and revenues, as well as the base capital costs are the same costs and revenues that are -- are used in the economic evaluations.

Moving to the next slide. The only difference is that we convert those economic evaluation costs and revenues from real to nominal dollars. In Appendix 11.4, we -- we break down the general consumers revenue into two (2) categories. The first is the general consumers revenue at approved rates, so we take the load forecast and apply the PUB approved rates of the day.

Under each of the development plans, these -- the general consumers revenue at approved rates does not change from plan to plan. We then calculate annual borrowing requirements based on the cash flow, or surplus, or deficit for each of the development plans based on both the existing infrastructure and new -- and new generation, and transmission associated with each of the development plans. Annual finance expense is then calculated based on the existing debt -- debt portfolio, plus the projected annual borrowing requirements in each of the plans.

On the next page, the second component

of general consumers revenue, once we've determined depreciation, carrying costs, production costs and revenues, we then look at the revenue requirement, or the general consumers revenue additional, and it reflects the incremental revenue required to recover costs for both existing infrastructure and the Development Plan.

Hydro has a longstanding strategy of smoothing rates over a period of time in developing its rate proposals. Under the cost-of-service regulation, cost recovery is smoothed out over time by absorbing some of those costs into retained earnings on a temporary basis, if it's financially prudent to do so, allowing sufficient time for export revenue benefits to accrue.

Because we were evaluating eight (8) development plans under twenty-seven (27) scenarios, we needed to automate how we -- we set rates. So when we normally do a -- a financial model or financial run, you know, we -- we are able to kind of massage the rates and -- and look at it on a one (1) -- on a case-by-case basis, but because of the volume, we had to do it in a mechanical manner, and so we've set a -- a set of fixed parameters using the -- the financial targets as -- as those parameters. And in order to do -- we did that so that we would remove any of the judgment and subjectivity in setting the rates and being able to make fair comparisons between each of the development plans.

So over the first twenty (20) years, we set rates on an -- on an even-annual basis to achieve 75:25 by 2032, which, at the time, in IFF12, was the same time when we returned to the -- the debt ratio target of 75:25, so it was a similar approach in IFF12.

After 2032, we revert to maintaining interest coverage setting rates based on maintaining an interest coverage of one point two (1.2) times. If you -- if you reduce or set rates at that time, you tend to -- based on just lowering rates from that point forward, then you tend to get equity ratios that just -- just go kind of wild, so in order to maintain that comparability, we left -- we -- we've targeted the rates to one point two (1.2) times interest coverage.

However, in doing that, and you'll see this in the graphs later on, strictly adhering to those financial targets results in somewhat volatile rate increases in -- after the 2032 period. In practice, we would actually smooth those over time, but it's -- the real value is in seeing the -- the differential between the -- the development plans.

The rate increases, of course, because -- due to the uncertainty of forecasting, they're indicative and are showing the general directional trend in rates. Actual rate increases will vary from those, and will depend on many other factors, and -- and not just the choice of development plan due to changing water flows, weather, and costs to maintain the system, and economic variables. And of course, future rates will be subject to the review and approval before the Public Utilities Board.

Just a note on -- on development plans where -- where Keeyask or Conawapa is deferred, we are showing approximately 1.2 and .4 billion to be incurred to June 14 on Keeyask and Conawapa respectively. For the purposes of this evaluation, we made a simplifying assumption that we would expense all sunk costs over an eighteen (18) year amortization period. If we were not to receive approvals for Keeyask or Conawapa, or the Conaway -- or the Corporation deferred it for some other reason, costs would be -- that were -- would be deemed to no longer provide future benefit must be expensed.

In practice, Hydro would perianna -- periodically analyse the nature of those costs determined -- to determine that future benefit, and some costs would have a longer expecter future benefit than others. Others would be much shorter and would have to be written off sooner.

Now, the next figure -- figure is Figure 11.1 from Chapter 11. Now, admittedly, it's very busy and complicated, and provides a lot of information, so the -- the remainder of the slides, we've simplified them by reducing it down to three (3) plans, and the first -- the next section, the first several slides, we're going to focus on the reference scenario, and then we're going to take a look at some of the uncertainty around that reference scenario.

On slide 40, we have the Preferred Development Plan. In the early years to 2032, we can see rate increases of 3.95 percent. We see -- now, at -- because of the -- the rate setting methodology we use, we -- we see a bit of a correction factor after 2032, where we now switch to using the one twenty (120) interest coverage target to set rates. And -- and as I -- I said, in practice, these would much -- much more likely be smoothed over time rather than introduce such -- such significant changes in rates in any one (1) year.

The rates over the entire fifty (50) year period is about 1 1/2 percent if we were -- were to smooth them -- or calculate an equal annual rate over the entire fifty (50) year period.

In the -- in the period to 2032, the absolute level of rate increases is not directly attributable to the -- to the Preferred Development Plan. As Mr. Rainkie and Mr. Barnlund mentioned before me, that a good portion of those rate increases are caused by the thirt -- the cost to -- the cost recovery for the $13 billion in assets that are already on our balance sheet, the lower export prices we've seen more recently compared to historically, and the investments in aging infrastructure or our common capital that's consistent from each -- under each of the development plans, as well as our -- our progress towards reaching 75:25 again.

Now, we may have -- as we approach that 2032 time frame, depending on the cash flow -- level of cash flows and our progress towards the 75:25 and our other financial ratios, we may have some flexibility to ease off a little bit on the rate increases and smooth them over a longer period of time. It would probably result in -- in delaying the time in which you get back to 75:25, but may be mana -- manageable.

THE CHAIRPERSON: This graph looks very strange. Am I just misreading it? You know, it kind of implies a drop in rates.

MS. LIZ CARRIERE: That's the con -- correction factor.

THE CHAIRPERSON: I see a negative drop. I mean, in other words, you actually get a -- to get that kind of curve, you would -- you -- you would think that that curve would -- would be sort of flattening as opposed to actually dropping.

MS. LIZ CARRIERE: Yeah.

MR. DARREN RAINKIE: Mr. Chairman, that -- that's a very important point, because, as Ms. Carriere was talking about earlier, we've -- because we had two hundred and sixteen (216) financial runs to do, we didn't want -- we didn't -- we -- we couldn't just go through and do subjectively for each. It would nev -- wouldn't have possible to subjectively go to two hundred and sixteen (216) different runs and say, Well, let's have these rate increases in these first five (5) years.

And so what we did was we did a mechanical approach, where we put in rate increases -- or projected rate increases that would get us to the 75:25 by the end of 2032, and then after that, we put in projected rate increases that would meet the one point two-o (1.20) times interest coverage test.

And what happens is, once you build up to that twenty-five (25), then there's this, as we call it, the correction factor coming down. That's just a function and the mechanical nature of the calculations. In practice, we would not do that.

If you look at after the in-service of Conawapa in this -- in this scenario, you see that we're generating a significant level of net income and cash flow in the latter years of the twenty (20) year forecast. So what we would do is we would smooth that out in practice, but it -- it -- this is just a function of the mechanics, and I think it's an important thing for the Board to understand the difference between the mechanics and what we would do in practice. And so I think that's why you have to look towards the long-term trend. If we did it any other way, you'd probably see these very jagged rate increases, so you really have to, in your mind, draw a straight line through this when you're comparing alternatives.

And as -- as Mr. Carriere said, the reality, too, in the next five (5) to seven (7) years, before there's any new generation source in -- in place, we will be looking at the 3.95 percent rate increases if our forecast doesn't change. You know, it

-- once again, the mechanical way of calculating the All Gas scenario, you're searching between two (2) points, where you are now, and you're searching on the 25 percent equity ratio by thirty-two (32), and that gives you a 3.5 percent even-annual increase over those -- that twenty (20) year period.

And we did that because try -- we tried to make this understandable for the Board. We searched on a metric. We tried to find a metric on the rate side that was like NPV on the economic side, something that was understandable, rather than a series of, you know, rate and chan -- changes up and down. The mechanical search between those two (2) data points gives you 3 1/2 percent on the All-Gas Plan, but the reality is, in the next five (5) to seven (7) years, there is no new generation source in. We would be asking for the 3.95 percents under the All Gas Plan, as well. In fact, there's more pressure under the All Gas Plan, because we're amortizing some of the sunk costs of Keeyask and Conawapa.

So you have to -- you have to look at the mechanical nature of the calculations, and I think, in your mind, make some corrections for how this would work in practice. You know, we've seen in the media that, you know, because of the Development Plan, Manitoba Hydro's requiring 4 percent rate increases in the next twenty (20) years. That -- that's not correct.

In the next, you know, seven (7) to ten (10) years, we are requiring rate increases, primarily because of the refurbishment of existing infrastructure and reliability expenditures, such as Bipole III. That's not going to change between the development plans at this point.

What we are, from an accounting perspective and a rate perspective, is deferring any costs of Keeyask and Conawapa until they come into service. So I think it's important throughout this panel that we make sure we understand the reality of what will happen, the reality of the recommendations we'll be making to our Board and to the Public Utilities Board in terms of rates, and -- and recognize that because we were juggling two hundred and sixteen (216) sets of financial pro formas, we had to have some mechanical methodology to eliminate some of the subjectivity, and hopefully if we do our job in the next couple days, we'll -- we'll take you through that.

MS. LIZ CARRIERE: Just to add to what Darren has said, if we go to the next slide, we see that we're -- we're plotting here the All Gas case with the Preferred Development Plan, and you see that the same correction factor is in this plan as well.

So the important thing to note here is the differential between the plans, rather than the absolute value. In the All Gas Plan, it results in -- in rate increases over the first twenty (20) years of 3.43 percent, and that 3.43 percent is a -- a result of the same drivers as the -- as the Preferred Development Plan. It's our investments and existing infrastructure.

And, in fact, as Darren mentioned, under the -- the All Gas Plan, there's -- there is greater pressure to increase that -- that 3.43 percent even higher, because in this scenario, there's -- the All Gas Plan sees losses for seven (7) years due to the amortization of sunk costs. Would we actually implement three point four-three (3.43) and see significant losses over -- over seven (7) years and a deterioration in retained earnings balance? Not very likely.

We -- we would likely have to implement rate increases above that 3.43 percent, but for the purposes of demonstrating the differentials between the -- the plans based on the metrics, we're looking at three point four-three (3.43) rate -- percent rate increases.

Over the entire -- over the entire period, you can see there's the fifty (50) year period. We're looking at -- if we were to smooth out those rate increases, we're looking at 2.1 percent rate increases annually, compared to the 1 1/2 percent under the Pre -- Preferred Development Plan. By the end, we're seeing a 70 percent differential between the -- the All Gas Plan and the Preferred Development Plan.

On slide 42, we're adding the -- the Keeyask/Gas/750, or Plan 6, and you can see the -- in the first twenty (20) years, the rate increases are relatively similar to the -- the All Gas Plan at 3 1/2 percent per year. Over the entire period, we're looking through -- over the fifty (50) year period, you're looking at rate increases of about 1 percent -- 1.8 percent per year, pardon me.

And it -- by the end, it's partway between the cumulative rates by the -- 2062 are partway between the -- the All Gas and the Preferred Development Plan, with about 33 percent change in the -- in the cumulative rates.

Because we don't quite have the DSM evaluations ready yet, which would incorporate the -- the higher capital costs that you've heard about over the preceding weeks, just as a proxy, we've -- we've plotted the high capital cost scenario that was prepared in August under your -- under reference economics and reference export revenues to show you that the approximate impacts of -- of that higher capital costs on the cumulative rates.

Those in-service costs for -- are comparable, and they result in slightly higher rate increases. The -- under the Preferred Plan, the -- that scenario resulted in 4.27 percent rate increases, but the Corporation may be able to manage maintaining the -- the 3.9 perc -- percent rate increases by deferring the time in which the -- or the year by which the -- the debt equity ratio returns to 75:25.

On slide 44, it takes -- it takes the slide 42 and converts it -- it takes -- removes the inflation and converts it into real dollars. Now, we can see that over the -- the fifty (50) year period, that once we get past the -- the 2032 time period, we see no real growth in -- in the Preferred Development Plan cumulative rates, and moderate growth in the Keeyask/Gas/750 and the All Gas Plan over the fifty (50) year time frame.

In PUB-149(a), we filed a present value analysis of the consumer's revenue. Based on economic theory, we discounted it at the social time preference rate, which addresses the relative impatience -- or -- or patience for consumption and intergenerational equity. Higher discount rates would imply that we're looking at a shorter analysis time frame, and places later -- less value on -- on revenue, or consumer's bills, or rate -- rates in -- in -- far into the future.

The discount rate that was used in this analysis is 1.86 percent real, based on projected real return on short-term Canadian T-Bills, and they were before income tax -- income tax adjustments. It reflects Manitoba Hydro's investment in -- in a -- the province's public infrastructure, and the long-lived assets of a hundred years or more.

It doesn't reflect the weighted average cost of capital, which is used in the economic analysis, the -- because the cost of corporate debt and equity are inherently included in the consumer's revenue. Consumer's revenue is calculated, including financing charges, so to then use a cost of capital to discount consumers revenue is like -- is -- is double counting for that cost of capital.

Additionally, in the uncertainty analysis, we've accounted -- we've adjusted the underlying assumptions and variables for risk, so to use a -- a higher discount rate would also double count that risk. It doesn't reflect the high investment threshold for private sector represented by the cost of capital, as that is used in the economic analysis.

So looking at the differential of the cumulative present value on the consumer's revenue, we're seeing the Preferred Development Plan crosses over the -- the All Gas Plan by 2046, which is seventeen (17) years following the last unit in service of Conawapa. Compared to the Keeyask/Gas/750 rates under -- on a present value basis, are -- are lower than the -- the Keeyask/Gas/750 by about 2050, which is about twenty-one (21) years following the in-service -- the last unit in service of Conawapa.

By the end, we're looking at 2 billion to $3 1/2 billion benefit to customers by developing both Keeyask and Conawapa, and the 750 interconnection.

(BRIEF PAUSE)

MS. MARLA BOYD: Mr. Chairman, that concludes Ms. Carriere's portion of the direct -- that section of the direct, sorry. I'm just wondering if the panel would like a break at this point, or if you'd like to carry on?

(BRIEF PAUSE)

DR. HUGH GRANT: At the risk of delaying people's breaks, could you just go back to, say, slide -- well, I want to come back to 46, because I want to make the comment that I have no children, and so I'm not particularly persuaded by this graph, but if you went to slide 46, I don't understand the -- sort of the accounting principles that go on here, but it would seem to me, when you get this, you know, the cumulative path, that the reason why you're getting this sharp change -- yeah, this is fine. It's really you're just saying you're changing your sort of -- the -- the target that you're focussing on.

And so I'm just curious for the -- so this initial twenty (20) year period where you're talking about trying to restore the appropriate equity-to-debt ratio, is this really an appropriate time to be worrying about -- here -- here's what I want some advice on.

What should I -- what should I be concerned about with this debt-equity ratio? Why is it important? Wh -- what's magical about the 75:25? And in an era of historically low interest rates, is this really a time to worry about getting my equity debt ratio back to this sort of targeted level?

Isn't this -- isn't this a time to be kind of loosey-goosey with our money and get over-leveraged and stuff?

MR. DARREN RAINKIE: Mr. Grant, I think I'll take that one, because there's a couple of really good reasons to -- to -- for -- to look at this. Number 1, the rate stability for customers in the future is based -- is going to be based on our financial strength. So we can't afford to say, Let's be, you know, laissez-faire about our financial strength. So certainly if we kick the can down the road, we build up rate pressures for future generations, which is not acceptable. It's intergenerational inequity.

Secondly, we borrow the lion's share of our money through the Province of Manitoba. And at this point, and Mr. Schulz will go over this at -- in his part of his presentation, our debt is looked at as being self-supporting. We pay our own freight. When credit rating agencies review the Province of Manitoba, they push that debt off to the side and say, Manitoba Hydro will cover that, so we're not, you know, applying a credit rating to the Province of Manitoba assuming that debt.

If we don't look at the financial integrity and say it's unimportant of our -- of our company over time, there's a possibility they could look at that debt as being non-self-supporting and negatively impact the credit rating of the -- of the province. We don't think er -- it's ever going to come to that, but those are two (2) good reasons why we need to be very careful about this: rate stability and ensuring that we continue to have access to low-cost debt, both ourselves and the province.

DR. HUGH GRANT: No, I -- I understand that point. It just seems that, clearly, Hydro has decided at -- at some periods of time it's prudent to actually have a higher debt-to-equity ratio, and at times it's better to have a lower one. It just seemed to me that in this climate of historically low interest rates, the cost of driving your debt-equity ratio up -- it's -- it's less costly in this -- this climate than maybe it had been in other ones. And so it's just really a choice of between increasing ratepayers' fees versus borrowing more heavily.

But can I -- and I'm -- I'm glad you mentioned intergenerational equity, because that comes back to my other point about the fact that I have no children. It is interesting, because, you know, combining the argument you've just made with the debt-equity ratio in terms of that slide 46 showing this pattern of rate increases.

I mean, what you're saying is that this current generation should bear the cost. It's quite different from some of the arguments you hear in the press. It's that this current generation should bear the cost of high -- high rates as a bequest to some future generation, which, again, is going to appeal to some members of the panel who have children, but not to me.

MR. DARREN RAINKIE: Mr. Grant, a couple of observations on that. As I mentioned earlier, I don't foresee there being any differential in the rate increases between any of the plans in the next six (6) to eight (8) years. So the -- the rate increases that we're looking at in the next number of years are, as Mr. Barnlund indicated, directly related to the reinvestment in aging infrastructure that we need and other cost pressures.

Secondly, there is -- part of the intergenerational equity argument that's missed by even those individuals that don't have children is that your rates -- your low rates today are based on investments that have been made by past generations of Manitobans. And we feel that it's appropriate -- I mean, this is a continual investment business. This is what this business is about. There's no time frame. Manitoba Hydro is a capital company, 60:40 capital operating company. It's always investing in assets.

So I've been asked before by people around the table, Well, I'll never see the benefits. The answer to that question is you already see the benefits of Hydro generation in your current bills. And I think it's fair from an intergenerational perspective to continue to invest in that.

And as -- as Ms. Carriere said, the -- the change that you see, the correction factor, is a -- from moving from the debt-equity to the one point two (1.2) interest coverage is a -- is a function of our -- of our -- the way we bake the financial calculations into the model.

The reality is, is that we would smooth -- we would smooth that out. And -- and we would -- at that point, if -- if we are getting the kind of net income and cashflow that we're projecting here, we would look to the credit-rating agencies and say, Look at, we're moving towards our -- our equity targets in -

- in a nice fashion. And we would probably take the top off of that projected rate increase that you see here. We would flatten it out, which would serve to reduce any intergenerational equity consideration.

So I think in practice we can manage it so there's very little inter -- intergenerational equity between different generations of customers.

THE CHAIRPERSON: I kind of -- I kind of consider the debt-to-equity as kind of a shock absorber for the -- for -- you know, for Manitoba Hydro. And I would -- I would have thought that you would have put more emphasis on the interest coverage ratio, because that reflects your ability to pay back -- pay back interest costs on the debt that you've incurred; and, to some extent, the capital coverage ratio because you want to make sure that, you know, you've got adequate funds to keep investing.

So I'm a bit surprised that you would emphasize debt-equity to the extent that you have as opposed to the more critical one, in my opinion, which is the interest coverage ratio, which is the one you have to sort of talk about when you meet your bond-rating agencies and, I suppose, ultimately, the people who buy your bonds.

MR. DARREN RAINKIE: Well, Mr.

Chairman, and, actually, in this financial analysis, it's funny you mentioned that, I think we started out by searching the -- or projecting the rate increases based on the interest coverage ratio, but it -- it resulted in this, you know, up and down movement of rates. And I think the information provided to the panel made useless. It just...

So we -- we searched on the -- on the equity ratio because it was what the Board had seen in IFF12, in terms of trying to get back to the 25 percent by the end of the twenty (20) year period.

But we look at all the ratios as being important. I think -- you know, and -- and the credit-rating agencies look at interest coverage. But we also have to look at the -- the health of our -- our balance sheet. So I think we're trying to manage all of these things simultaneously.

I -- I wouldn't take from the financial analysis that one's of expre -- extreme importance and the other one is not important. I -- I am concerned when I look out. When I look at the interest coverage that we have, it's, you know, coming up to, you know, between one (1) and -- and one point one (1.1). I think we -- we need to manage that carefully.

And, I mean, I guess that's the other

point here, is these are financial projections. But we also, as the management of the Company, have to manage our expenditures appropriately. And this is a long-term, twenty (20) year financial projection, and it stems out to fifty (50) years if you do the rate analysis.

Obviously, we're -- management will be taking actions in those years to try to manage that interest coverage so that it isn't at, you know, point eight (.8) or point nine (.9). And that's the other factor, I think, that gets lost. You -- you'll see a lot of quantitative information throughout all the different panels and Intervenor experts.

And -- but there's also a management actively looking at this at Manitoba Hydro and a board actively looking at this and -- and making decisions along the way. And, you know, we are looking at even rate increases, and from a forecast perspective, a three nine five (3.95). But if something happens and we get into a bit of, you know, issue, we may have to move that up or down, depending on the circumstance.

So I think it's just important to look at what you're seeing in a long-term projection here and that, you know, there is somebody managing the situation, as well.

MR. MANFRED SCHULZ: Sorry, and if I just may add as well, from a credit-rating perspective, the credit-rating agencies will look at both the amount of leverages reflected in the debt-equity ratio. They'll also look concurrently at the interest coverage ratios.

What we do find is they act and -- the trajectory of the slope of the curves tend to be very similar to one another. Ms. Carriere already alluded to that. So when we're looking at -- and Mr. Rainkie indicated this, as well, we look at all of these ratios in concurrence and in cohesion.

The debt-equity ratio, it was part of the presentation that I will yet -- has yet to come. And we can perhaps have an expanded discu -- discussion on it at that point in time. But the leverage in the debt-equity ratio is a key one. Is there some flexibility to move it? We'll show you in a later slide the history going back to 1962 of the equity ratio, and perhaps we can have that discussion at that point in time.

But we need to have balance between the performance against these ratios as well as against the customer rate increases and so on. And we can certainly -- and we're looking forward to having that discussion as we continue.

THE CHAIRPERSON: Okay. It's probably an appropriate time to take a break. Why don't we take fifteen (15) minutes, and --

MR. BYRON WILLIAMS: Mr. Chair --

THE CHAIRPERSON: -- be back at 11:00.

MR. BYRON WILLIAMS: -- Byron Williams here.

THE CHAIRPERSON: Mr. Williams, go ahead.

MR. BYRON WILLIAMS: I wonder if I might be permitted to ask a question of clarification of Ms. Boyd, and then it may have some ramifications on how long the break is.

Ms. Boyd, we understand from the discussion of the Chair with Mr. Rainkie this morning that the information presented today does not include the DSM scenarios and that there'll be an update in terms of those implications on the financial evaluation provided on the 24th.

Am I also correct in suggesting that the information does not fully reflect the updated capital information that was presented on March 10th?

(BRIEF PAUSE)

MR. BYRON WILLIAMS: Leaving aside slide 43 as a proxy.

MR. DARREN RAINKIE: Mr. Williams, if I put my accountant hat on and get into the lawyer-to-lawyer discussion here, if you look at slide 43, that's the reason we put the reference/reference/high capital case on the slide for the time being, is that it's a reasonable proxy of the refined capital costs that we saw earlier in the start of this proceeding. The DSM will be layered on top of that for the material on the 24th.

MR. BYRON WILLIAMS: I -- I don't want to preempt anyone's cross, but I -- I'm just trying to understand. Presumably the revised capital information, Ms. Boyd, will have -- will have implications for the -- the analysis that's provided on the 24th, as well?

(BRIEF PAUSE)

MS. MARLA BOYD: I can direct you back to Manitoba Hydro Exhibit 90, which lays out the time frame and some of the details of what's intended to be provided on those dates. And -- and I think the point that Mr. Rainkie was making is that the -- the material that's before you now includes the high scenario, which will assist in comparing to the new capital costs.

MR. BYRON WILLIAMS: Okay. Thank you. I'll caucus with my colleagues at the break.

THE CHAIRPERSON: Okay. Let's break and we'll see each other again at eleven o'clock. Thank you.

--- Upon recessing at 10:46 a.m.
--- Upon resuming at 11:04 a.m.

THE CHAIRPERSON: Apologize for the slight delay. I believe we're ready to resume the proceedings, so back to you.

MS. LIZ CARRIERE: Okay. Moving on to the uncertainty analysis. What we've got in this graph on -- on slide 48 is -- the solid line is the reference scenario with -- the high/low/high scenario is on -- is -- represents the top bar, and the low/high/low scenario represents the bottom bar.

So this kind -- this represent -- these -- these two (2) scenarios represent the kind of outliers of the -- of all twenty-seven (27) scenarios. Now, you'll note that this is based on the actual scenario runs, and not the pro -- probability values that were included in the original Chapter 11. So these -- how -- you can use these to reference back to the cumulative rates that are actually in the projected financial statements in Appendix 11.4.

In the 2032 time frame the range of the cumulative rates under the Preferred Plan can be from 41 percent to 210 percent, and by the end of the fifty (50) year period we're looking at cumulative rates in the range of -- of 38 percent to 222 percent. Moving on to graph -- or slide 49, what we've done here is plotted the high inflation interest scenario, or the high economic indicator scenario with reference export prices and reference capital costs, and similarly with the low inflation and interest scenario.

What this shows you is that the uncertainty in -- in the Preferred Development Plan is predominantly due to factors such as interest and inflation. Approximately 60 percent of the variable can -- is contributed by this factor in -- by 2032, and about 85 percent of the variability in -- in the range of cumulative rates contributes to -- or the inf -- inflation and interest factors contribute to the -- the uncertainty by 2062.

It's important to note that this isn't solely caused by the Development Plan itself.

Remember, we still have the $13 billion in assets and refinancing of the debt tied to those assets, and once -- once there's some -- some uncertainty related to Keeyask and Conawapa until you get it in -- in-service, but once that in-service, as long as those -- the -- the long-term financing that's tied to those -- those facilities are -- are generally stable until the need to refinance those as well. So a lot of the uncertainty under high interest and inflation, particularly in the middle period, is related to the underlying infrastructure investment.

Moving on to slide 50, we've plotted the low export/gas price and the high export/gas and electricity prices, and you can see from this graph, is that during the construction of -- of Keeyask and Conawapa under the Preferred Development Plan, there's -- there's a moderate amount of uncertainty until they go into service, but thereafter, the -- the export -- electricity export prices and -- and gas prices have much less of effect than -- than interest and inflation. It accounts for about 30 percent of the variability in -- in the 2032 time frame, and only about 10 percent by -- by -- in the fifty (50) year time frame.

Looking at capital costs, now this is

the -- the -- looking at the change in -- in base capital cost estimates, so it would include interest and escalation at reference on those higher or lower inter -- capital costs, but you can see that capital costs also only has a very moderate effect on the uncertainty relative to the reference scenario in the Preferred Development Plan. It's less than 5 percent by the end of the fifty (50) year period, and about 12 percent of the variability in the interim.

On slide 52, we're looking at the uncertainty, or -- or the range of scenario, the twenty-seven (27) scenarios under the All Gas Plan. It results in less uncertainty in the 2032 period, but much greater uncertainty relative to the Preferred Development Plan by 2062. At 2032, your cumulative rates are between 51 and 94 percent, and by 2062, those -- the range in -- in cumulative rates can be from 72 percent to 403 percent. By comparison to the Preferred Development Plan, the highs are higher and the lows are lower under the -- the All Gas Plan.

Similar to -- moving on to slide 53, and similar to the Preferred Development Plan, the uncertainty is predominantly caused in the -- in the High Gas -- in the All Gas case due to the inflation and interest factors. It accounts for about 75 to 80 per -- 85 percent of the variability.

And the reason why that the variability is greater under the All Gas Plan, and you'll see this in a later slide, is that in the All Gas Plan, there is a continuous investment in gas turbines all through the forecast. So we're seeing the effle -- effects of in -- inflation and interest on those -- those future investments in increasing the variability and the overall rate increases, whereas in the Preferred Development Plan, all -- essentially, once you have Keeyask and Conawapa in service, you know, you're -- you're limiting the -- the variability in -- to that period of time related to the Development Plan.

On page 54, we're looking at the high electricity export prices, as well as gas prices, and -- and conversely the low prices. In the period to 2032 the low gas results in higher rates. There's no new generation, thermal or hydro, until a later period -- until the latter period. The variability is, again, due to the existing system in that twenty (20) -- period to 2032.

After 2032, the converse is true, or the high -- high gas results in higher cumulative rates and the low gas results in lower cumulative rates due to the higher cost of operating of the -- the gas -- the gas facilities. It's also the opposite from the Preferred Development Plan, where high gas export prices result in lower rates.

And on slide 55, we are looking at the sensitivity to the high capital cost scenario. We can see from this graph that there -- there is minimal impact due to the base capital cost on -- on gas turbines. In fact, it's less than 5 percent over the entire fifty (50) year period.

In -- in the interest of time, we haven't graphed the uncertainty for the Keeyask/Gas/750, or Plan 6. But what you can -- you know, by inference it -- the -- the uncertainty falls in between the -- the uncertainty that we see for the -- the All Gas Plan and the -- the Preferred Development Plan.

So in terms of the customer rate analysis summary, under all of the scenarios that we evaluated, we're looking at rate increase above the rate of inflation due primarily to the investments in infrastructure, and reliability, and the reduction in the non-firm export prices. Rate increases in the period to 2032 are moderately higher under the Preferred Development Plan than All Gas and the Keeyask/Gas/750.

Under the reference scenario, the -- the Preferred Development Plan rates are lower than All Gas and Keeyask/Gas by 2035, in a relatively short time frame following the in-service of Conawapa. On a present value basis, the Preferred Development Plan revenue is lower than All Gas by 2046, and lower than Keeyask/Gas/750 by 2050 -- by 2050, about a twenty (20) year time frame following the in-service of Conawapa.

The costs of the Preferred Development Plan do not directly affect Manitoba Hydro's electricity rates today. Those costs are deferred in capital until in-service, at which time they're included in net income and revenue requirement, and amortized over the lives of the associated assets.

Once in operation, the Preferred Development Plan is expected to assist in maintaining affordability and -- and competitive Manitoba Hydro rates. The costs are spread over a very long time, matching when customers receive those benefits. Carrying costs commonly decline over time for hydro generation assets. And exports offset the costs passed on to ratepayers.

(BRIEF PAUSE)

MS. LIZ CARRIERE: So if we're ready to move on, we can move onto the impact on Manitoba Hydro's financial position.

MS. MARILYN KAPITANY: Can I just ask one (1) question before you move on?

MS. LIZ CARRIERE: Sure.

MS. MARILYN KAPITANY: The top bullet on that page where you talk about the customer rates, I understand the existing infrastructure. Could you just say a little bit about the reliability, what reliability is going to be added in the -- the rate increases? And also the reductions in non-firm -- non-firm export prices.

Could you speak a bit more to those two (2) parts of the rate increase?

MS. LIZ CARRIERE: So existing infrastructure in major -- that covers all of the base capital plus some of the rehabilitation and refurbishment of -- of new -- or existing generating stations and transmission lines, and so forth. There are also new projects in -- related to improving reliability, Bipole III being one (1) of them.

Reductions in the non-firm export prices, this is where we're talking about we've seen deterioration in extraprovincial revenues over the last several years, and that's primarily due to the -- the opportunity prices, so not our firm contracts, but the opportunity prices in the export markets.

(BRIEF PAUSE)

DR. HUGH GRANT: Just one (1) very small point, and this would compound your life and the work you'd have to do, but in each of these sort of uncertainty scenarios you're just saying, Suppose its capital cost variable is higher than a reference point, and we project that through for fifty (50) years, right? Since a lot of this discussion is really about timing and windows of opportunity and such, did you ever run any scenarios to say, Suppose capital costs are high over the next ten (10) years and then fall, or -- you know, in -- in terms of breaking up this fifty (50) year period into different sort of scenarios?

MS. LIZ CARRIERE: No, we didn't do that analysis, because if you -- if you assume that -- we're looking prolonged periods of rises in capital cost increases. Now, presumably, if it were to rise and then fall, it would fall back towards the reference price, so we intended that the -- the scenarios that we looked at were kind of the outliers, not cyclical types of analysis.

(BRIEF PAUSE)

MS. LIZ CARRIERE: Okay. So moving onto slide 58 --

THE CHAIRPERSON: I wonder if we could have a quick discussion. I mean, I -- it -- it's in relation to capital costs and a scenario whereby the capital costs of the nearby facilities are higher than what was projected, so specifically, excluding Bipole, you know, we are talking about a -- a major investment in Keeyask, and we're talking about a very significant investment in a transmission line, the total of which, I think is about something in the order of 7 billion -- 7 billion at the moment, seven (7) -- assuming -- I mean, the -- the transmission line costs are -- are kind of floating right now, but it's six point five (6.5) for Keeyask, and then potentially 800 million for -- for the transmission line, or I've -- have I got -- am I going too high, there?

If that -- what -- what -- let's -- assuming that figure is seven point three (7.3) or something like that, and so that -- the -- they -- the projects come in at, say, a billion over what we had projected, so that would imply that interest costs -- we would -- we would pay half of that off -- well, a quarter of that off to equity, to -- to retained earnings, so that's -- that leaves 750 million.

And I'm looking at depreciation of what, Mr. Rainkie, 50 million on that? I'm just guessing here. I mean, humour me. Something in the order of what, say, a 750 million -- or a billion dollar investment overrun results in depreciation and interest costs of what number? Give me a -- give me a figure.

(BRIEF PAUSE)

MR. DARREN RAINKIE: For lack of a fine point, Mr. Chairman, let's say 8 percent, six (6) -- six (6) for finance, 2 percent for depreciation.

THE CHAIRPERSON: Yeah, and then --

MR. DARREN RAINKIE: Probably a little lower than that, but --

THE CHAIRPERSON: -- translating that into -- translating that into a -- into a -- a percentage rate increase, we're looking at something in the order of what, 10 percent? You know, or am I -- is that too much, or -- if you wanted to maintain the boat on an even keel?

MR. DARREN RAINKIE: The -- the difficult part with those types of calculations, the one (1) year in-service calculation, is that it's not really a reflection of what really would happen. In fact, when -- when you look at the -- I'm trying to remember some of the -- the runs that -- and maybe this will become clear when we file the runs with the higher capital cost, is that -- is that even with the higher capital costs of Keeyask and Conawapa, which were, I suppose, approaching the order of a billion dollars, I think it was a $300 million change and a $500 million change, I think the -- the pressure on rates in the first twenty (20) years would only be a quarter of a percent.

And if you stretched out the timing of the achievement of the 25 percent equity ratio, I think we could still maintain the -- something close to the 4 percent. It's simply a function of the fact that once you have these generating stations spinning, you have a significant cashflow and net income, you know, at the back end.

And one (1) of the things you have to look at in a hydroelectric generating station is the financial profile of it. People tend to look at the first ten (10) years when it's in service. But the financial profile of a hydroelectric generating station is, yes, it's a lumpy piece of capital that comes in, but as -- as we generate income from it to start paying down the debt over time, the costs actually go down.

If you assume, you know, a normal economy, where prices are gradually increasing, there may be business cycles where it goes up and down, but we're talking about a hundred-year asset here. The -- the revenues out of it are coming up, right. We have a cost-of-service type of mentality, where we feather in rate increases over time. We don't -- we don't take the actual carrying costs of an asset and jam it right into rates the first year.

When you combine all of those factors into the -- into the mix and look at the financial profile of a hydroelectric generating station, once you have that, even if there are some cost overruns, and we don't want that to happen and we're going to carefully manage that, it still is a hugely viable -- it's still the -- the cheapest, lowest cost electricity you're going to get over the long run. And -- and it's manageable because we don't take all of the carry -- the extra costs of -- of the overrun and jam it into rates on year 1.

So it's -- it's -- sorry, that's a bit

of a long-winded answer, but you have to look at the financial profile -- to understand the real answer to that question you have to look at the financial profile of a hydroelectric generating station and understand what you're dealing with.

When we tend to do these one (1) year revenue requirement calculations the year it comes in service, it -- it results in a picture that just doesn't -- doesn't make sense. And I think we're going to get into that -- I've looked at Mr. Peters's book of documents -- later.

But when you look at things -- when you look at the financial profile, you -- you got to get past the first ten (10) years where you're not generating enough revenue to cover the costs. You have to look at the entire time frame of that generating station. And I think that's one (1) of the points that's maybe miss here in the -- in the proceeding.

People tend to get scared at the upfront investment, but they don't look over the long ,run.

THE CHAIRPERSON: Just, you know, it's -- just to argue -- it probably is just to -- the debate we're having, you know, the -- you've already established what your revenues are. If you -- if you make a mistake on the capital costs, there really no --

there are no more revenues to be obtained from the marketplace other than what you can get from ratepayers.

And I'm simply trying to establish a worst-case scenario whereby something goes wrong in the capital construction costs and that the impact of that, in broad view, goes right to ratepayers at the -- at the front end. I'm very concerned about the potential that -- that our carefully crafted pictures that we're drawing here, if we are wrong, the ratepayers get it right on the chin at the front end.

And I just want to be convinced otherwise.

MR. DARREN RAINKIE: That's what I was trying to convince you, Mr. Chairman, in my rambling responses, is that -- is that, if you had a cost overrun of a billion dollars, I think was your scenario, just for a round number, and if you assumed the carrying costs were 8 percent, $80 million, we would not jam that into customers in the front end.

There is sufficient benefits from a hydroelectric generating station over the hundred-year life that we would smooth -- we would smooth that in over time. So the customer would not all -- the -- the customers at the front end would not pay the freight --

all of the freight, if you like, that we would allow that through our cost-of-service rate-setting methodology to come in over time.

Of course, customers have to pick up the total cost of the Company over time. I mean, it's -- it's just the fundamental, you know, principal of Manitoba Hydro. There's no shareholder here that's earning a 10 percent return. We -- we work on behalf of the -- of the ratepayer, and we have to get a decent recovery of our costs over time to maintain, you know, a financially viable company for customers. In the -- in the end, the retained earnings that we have are for customers. They're not for a shareholder. They're not for bonuses.

But the -- the beauty of a hydroelectric generating station is that you have that flexibility. If there are some things a little bit off the beaten path in the front end, there's more than enough cashflow in the back end -- well, and -- and starting right when it starts to go in-service, to -- to cover that off without needing to go directly to customers and -- and tapping their pocketbook. And that's a fundamental thing here, is understanding the financial profile of the hydroelectric generating station.

(BRIEF PAUSE)

MS. LIZ CARRIERE: So on slide 53 we're looking at the net income of electric operations under the three (3) development plans reference scenario. And what you can see is that each of the development plans result in relatively low levels of net income in -- in the first ten (10) years.

The All Gas Plan results in losses for seven (7) years, mainly due to the amortization of the sunk costs relative to the Preferred Development Plan. And rates in practice would need -- likely need to be adjusted higher so as not to substantially deplete retained earnings over that ten (10) year time frame. Net income over the longer term converges and -- and is a result of the -- the adjustment of the -- the rates to meet the one-twenty (120) interest coverage target.

On the interest coverage ratio, we tend to -- it's almost a mirror image of the -- of the net income graph. We're below target for twelve (12) to fourteen (14) years under each of the scenarios. The All Gas net losses on the previous slide also results in interest coverage below one (1) for a number of years.

While the interest coverage weakens in

the first ten (10) years, we -- we see improvements thereafter and get back to -- to the one point two (1.2) times target level in the 2026 time frame under all plans; and under the Preferred Development Plan it's once Conawapa is in service. The Preferred Development Plan maintains the one point two (1.2) times interest coverage taro -- target, assuming lower rates over that time frame.

On slide 60, we're looking at the equity ratio under each of the plans. The equity ratio deteriorates to between 8 and 10 percent in each of the development plans on this scen -- in -- in this graph here. Rate increases of three point four (3.4) to three point nine-five (3.95) return the debt-equity ratio to 75:25 by 2032. And we see improvement in the debt -- debt-equity ratio thereafter.

On slide 61, we've got -- we've plotted the -- the net assets of the Preferred Development Plan and the All Gas Plan. Now, this is where we're -- I was mentioning earlier, we've also indicated where the in -- in-service of each of the facilities are under each of these development plans.

So we can see in Keeyask and Conawapa, over a two (2) year -- year period, the seven (7) units coming on line there. And then the Conawapa units 1 to

10 coming in -- in-ser -- into service over a three (3) year period. And then you'll note much further down, in the 2040 time frame, we're adding three (3) simple cycle gas turbines for peaking capacity.

In the All Gas Plan, we're looking at the addition of either simple cycle or combined cycle over the entire fifty (50) year period to either meet peaking capacity or energy requirements, but you'll note that by the end of the forecast period in 2050s, we're actually replacing the assets that have been put -- put in service in the early '20s due to the thirty (30) year expected life of gas turbines.

So you can see that we grow from about 13 billion to 37 billion under the Preferred Plan, with net expenditures of about $18 billion, and somewhat surprisingly, we've got $9 billion in All Gas net expenditures and reach to $32 billion by the end of the for -- the fifty (50) year time period. So we're really only seeing a differential in net assets of about $5 billion after depreciation -- accumulated depreciation, and so forth.

On slide 62, we are looking at the -- the net debts that's none of -- that's our long-term debt, plus our notes payable less sinking fund and short-term investments. The Preferred Development Plan reaches a peak at the Conawapa in-service date, and declines over time as the assets depreciate and the financing costs are -- are being paid down by export and domestic customers.

The All Gas debt increases over time as investments in gas turbines are made over -- over the entire study period.

MR. DARREN RAINKIE: Mr. Chairman -- and I'll give Ms. Carriere a moment to catch her breath, because these are two (2) of the most important slides that you'll see in the slide deck, and I think it's -- hopefully will provide a decent perspective for the Board. This is what I was trying to go through a few minutes ago.

You know, if you read the media report -- reports about our Preferred Development Plan, people are trying to set this up as this risky great big hydro plan versus this tiny little gas investment that you make at the -- at the front end, which is, of course -- slide 61 shows you a -- a quite different perspective.

What you're doing on the hydro side, yes, it's a hydroelectric side. It's a much larger investment, but what you have, then, is a very low cost, fixed source of generating electricity, and it's not a great big risky investment at the front versus a little tiny gas turbine. It's a investment in a very low cost, stable plant at the front end, albeit at a higher -- you know, at a -- at a higher investment versus a number of investments in gas plants over time, and you can see that the balance sheet is fairly close to convergence by the back end of this thing, if you take a longer perspective on it.

Then you flip to page 62, and what you see is that despite that larger investment at the front end, the net debt converges under these plans. The difference between assets and net debt, of course, is equity. We have more equity at the back end with the hydroelectric generating facility. This is what I mean about the financial profile of a hydroelectric generating facility.

You've got to take the long view on this and take a look at it. It's not the risky hydro plant versus the tiny little gas investment. It's the stable, low cost, larger investment at the front end versus a series of investments under All Gas, but in the end, we end up with the same level of net -- of net debt and higher levels of equity.

This is the Company's perspective on why we believe, financially and from a rate perspective, that this is the best plan to proceed on.

MR. RICHARD BEL: Excuse me, in -- in slide 61, where's the cross -- or where does the -- the Plan 6 -- Plan 6 must meet -- it's in between but closer to where? It's not in this slide, Plan -- Plan 6, the Keeyask/Gas Plan.

MS. LIZ CARRIERE: You're correct. In the -- Plan 6 you would see closer to the Preferred Development Plan around the time when -- when the Keeyask units are coming into service, and then it'll sit slightly below that for the remainder of the forecast period.

MR. RICHARD BEL: Okay. Okay, thank you.

MS. LIZ CARRIERE: On slide 63, as Darren mentioned, the -- the other side of the assets, and -- and liabilities leaves retained earnings, and under the Preferred Development Plan, we see retained earnings that are consistently higher than the All Gas Plan by about 2 1/2 to $3 billion over the entire study period.

Similarly, the Preferred Development Plan is 1 to $2 billion higher than the Keeyask/Gas/750. Sufficient retained earnings is critical to Manitoba Hydro's to be -- to absorb the financial impacts of adverse events for a short period of time in order to provide some protection to ratepayers. One (1) of those events that we'll be looking at is drought.

It's known to be one (1) of Hydro's highest impact -- or a high-impact risk with a high probability of occurrence, and this analysis analyzes the recurrence of one (1) of the worst droughts on -- on record, or the lowest extended period of low water flows. Because Hydro's system is predom -- or the -- predominantly is a hydro-based system, this risk exists regardless of the development plan that we choose.

You can see in this graph that the absolute value of retained earnings as at March 31st, 2026, with and without drought, and under both the Preferred Development Plan and the All Gas Plan, the relative impact to rate -- retained earnings is nearly $2 billion, and this is the result of the prot -- predominant -- predominantly based hydro system prior to investment in either Gas or the Preferred Development Plan. So we're seeing approximately the same cost of drought under -- under either plan.

Now, these -- these costs are including financing charges, and assumes that our rates are held constant in -- in the base case, without drought that we're using for comparison.

On the next slide, we're looking at the -- the drought in the period -- the same drought occurring in the period between '27/'28 and '31/'32. So this is the -- the -- kind of the final stages of construction of Conawapa, and Keeyask is in-service in this case. The -- you can see that the relative impact to retained earnings is higher in this later drought, compared to the previous slide under both the Preferred Development Plan and the All Gas Plan, rather than -- you know, in the previous, we were looking at about approximately a $2 billion cost of drought. We're now looking at about 2 1/2 and 2 billion -- or one point nine (1.9) to two (2) -- 2 1/2 and 2 billion.

The Preferred Development Plan impact -- drought impact is greater than the All Gas Plan due to the need to run thermal -- thermal fuel options, and -- and power -- and purchase power. The Preferred Development Plan retained earnings is higher in the base case without drought, and so is better able to absorb the impacts of a drought. And you can see that the Per -- Preferred Development Plan with a drought is a little bit higher than the All Gas Plan without a drought.

On slide 67, we're looking at the same drought again in a later period, and again, we see the increase in the drought cost under the Preferred Development Plan compared to earlier droughts. We're now looking at, rather than 2 billion and $2 1/2 billion impacts, that we're up to $3.2 billion impacts, but again, retained earnings are sufficiently high to absorb the cost of -- of drought without adversely affecting customers.

Again, retained earnings with a drought under the Preferred Development Plan are greater than the -- the All Gas Plan without drought.

(BRIEF PAUSE)

MS. LIZ CARRIERE: So just in summary, on the financial impacts of -- on the financial position, net income interest coverage and debt-equity-ratio weaken initially, and then improve gradually to 2032 under all development plans. Net assets and retained earnings are the highest under the Preferred Development Plan.

The net assets under the All Gas Plan grow steadily over the study period, and are only 5 billion, or 13 percent, lower than the Preferred Development Plan by the end of the study period due to the continuous investment in gas turbines over that study period.

The Preferred Development Plan has the highest level of net debt throughout the study period, but declines following the hydro generation in-service dates and converges with all the other -- the debt of all of the other development plans by the end of the forecast.

The All Gas Plan has the lowest level of net debt initially, but increases throughout the study period, converging with the Preferred Development Plan by 2062. The Preferred Development Plan results in the strongest projected balance sheet, with the highest level of assets and retained earnings over the entire study period.

And the impact of drought is greater under the Preferred Development Plan. However, the -- due to the higher net assets and retained earnings, the Preferred Development Plan is in a stronger financial position to absorb the adverse financial impacts of drought.

THE CHAIRPERSON: Could we go back to -- could we go back to sixty-five (65), please? Could you explain why there isn't more of a difference between the two (2) alternatives here in relation to that time period? You know, there are a lot of people out there who say that if we had a -- a gas unit available in Manitoba, the thought occurs that we can pull on that unit to supply a Manitoba load. We don't have to import power at high cost.

Why would there be much more of a difference here than -- than that's -- than what's showing up in these numbers?

MS. LIZ CARRIERE: Because at this point in time -- whoops -- the -- the system is still predominantly hydro, so you're still looking at, you know, 95 percent of all of the electricity is coming from hydro sources, so having a -- a CT come online at this point doesn't alter the fact that the costs of -- of drought on the rest of -- of the existing system.

(BRIEF PAUSE)

THE CHAIRPERSON: But this one -- this one is -- this one is, in effect, supplanting Keeyask. If you go the All Gas route, you're supplanting the construction of Keeyask. So, presumably, the amount of power generated out of Keeyask would be impacting the -- would be impacted by drought. Meanwhile, you're running your -- you're running your -- your combined cycle turbine, or your -- your single cycle turbine.

So having established that there's less water flow, there would be less revenue out of Keeyask. You wouldn't be importing with -- you know, wis -- with -- I'm trying to make sure we -- we explain this, because a lot of people are convinced otherwise.

This -- this data suggests that, faced with a drought, the alternatives are the same, which is not what most people believe.

MS. LIZ CARRIERE: In this scenario, where the drought is between '21/'22 to '25/'26, first -- firstly, the CT doesn't come in until about 2023, so it's not there for the entire period of time. As well, you're -- you're bringing it in to serve domestic load, so it's -- the entire amount of the plant is not available just to serve -- to replace -- displace energy from the hydro generating stations, and -- but there are still -- it's still -- it's not enough to -- to supply the reduction in the -- in energy produced by all of the other generating stations on the hydroelectric system.

ED WOJCZYNSKI, Previously Sworn

CONTINUED BY MS. MARLA BOYD:

MS. MARLA BOYD: You did well, Mr.

Chairman. We've brought Mr. Wojczynski back.

MR. ED WOJCZYNSKI: So much for vacation. That -- that's a very good question, and I'll -- I'll try and answer it without getting into too much complication.

If you're -- when you have the gas turbine, and you're counting on it for energy during the drought period, and then instead of putting in -- in a hydro plant, as Ms. Carriere indicated, when -- the bulk of our energy in the system is still coming from -- from a hydro. You put in a -- a number of gas turbines, the vast majority of your energy most of the time is still coming from the hydro plants.

But if you add another -- if you add a gas turbine instead of the hydro, you have a -- a curve of -- of -- on your -- on your hydro curve, when Mr. Cormie and others were talking earlier, at one (1) point, I think we showed a curve where the probability of having to use imports or thermal happens, and if you put your gas turbine in, instead of a hydro, you're getting higher up the curve and increasing the amount of thermal you'd have to use and the likelihood you will have to use it.

So the -- the gas turbine, putting it in doesn't inherently increase your -- your exposure to drought given our base system, which is what Ms. Carriere was indicating. We could give you a graphical depiction of that, but I -- we don't have that handy here right now. We could give you an undertaking, if you like, given that it sounds like it's of some -- it is of some significance.

THE CHAIRPERSON: Yes, an undertaking would be appreciated, but I'll let you word it.

MR. ED WOJCZYNSKI: The undertaking would be to provide a -- a graphical explanation, along with words of why, when you add a gas generation, you still have a major exposure to drought cost? I -- I believe that would -- that -- that would be a way of putting your question, Mr. Chair?

THE CHAIRPERSON: Yes, it would be. And I think it -- you know, with particular reference to the early decision, which, in my opinion, is the Keeyask decision, so.

MR. ED WOJCZYNSKI: Yeah, so we'll do it, not from the point of view of at the end of the sequence, but at an early point in time, and we could use something like the '25/'26 time frame. But as Ms. Carriere indicated, there is a bit of -- this is a awkward time to deal with, because it -- your gas turbines's only coming in halfway through. So we'll probably give something that's a little bit more simple, where it's at the end of the time period when it's fully in, so that we get the full impact of that first gas turbine. Thank you.

THE CHAIRPERSON: Thank you.

--- UNDERTAKING NO. 46: Manitoba Hydro to provide a graphical and textual explanation of why, when adding a gas generation, there is still a major exposure to drought cost

MR. MANFRED SCHULZ: And now to, as Mr. Rainkie says, bat clean-up, using the baseball term, I'll continue on with the financial risk management and bring the presentation to a close. The next slide, number 70, indicating that the risk management is integral to the NFAT submission. Manitoba Hydro considers business risk as an integral aspect of its plans and operations.

And Manitoba Hydro's financial risks, forecasts, ratios, evaluations have been extensively examined, as Ms. Carriere has indicated in Chapter 11 and Appendix 11.4, two-hundred and sixteen (216) distinct set of pro forma financial statements.

And the financial volatility of severe drought was also examined in the NFAT filing, for instance in Section 11.4. Ms. Carriere just spoke a little bit about that, as well. And the submission also includes flexible pathways to manage through future uncertainties, as well.

Moving to the next slide, financial risk is manageable and the debt is self-supporting. Manitoba Hydro, as Mr. Rainkie has indicated a number of times already today, is embarking upon its development plans from a position of strength. And as measured by the equity ratio, the Corporation is well situated to move forward with its upcoming capital investments.

The next slide -- and my son would probably laugh at me and call me a bit of a math nerd for trying to tell the history of Manitoba Hydro through sort of a numerical equity ratio, but perhaps if I can. Again, this is a little bit for context, much like Mr. Barnlund provided some context on the rates, if I can spend a moment or two (2) on the context of the equity ratio.

So looking at this from 1962 and then the first phase of that northern development with Grand

Rapids, Kettle, Jenpeg, and Long Spruce, you can see the equity ratio was sub 10 percent, and it moved downward through that period up to 1978, where the equity ratio was below 5 percent, in around 3 percent, for instance.

Then the next period which we defined on this chart as being the Period of Improvements in Service and Reliability, as well as the construction of Limestone. You see some plateauing and some choppiness in here. You see a little bit of an attempt moving upward in terms of a return, and then we have some hydrology years where there was poor hydrology. Nonetheless, somewhat plateauing in and around 10 -- or 5 percent in terms of the equity ratio.

Then the next phase occurs when Limestone is in, and this major part of the northern development is in. You see this very significant upward movement in the equity ratio post-Limestone, and this is the period of returns, surplus energy, development of the export markets, and so forth. You see the equity ratio moving forth very significantly and far surpassing the levels where the equity ratio -- ratio was at the beginning of this northern development.

You see a movement downward. That's the

drought and recovery period momentarily for -- with respect to the -- the drought in '03/'04, but it also included the time frame of MISO Day 2, as well as the construction -- the planning and construction of Wuskwatim.

So then you see at the -- the top part of the blue, the historical aspect to -- with respect to what Mr. Rainkie has numerously indicated. We are in the strongest financial position in the history of the Corporation, as told by the equity ratio. And this is an excellent position to be well situated to move forward.

As we do move forward, and you can see this in the green bars on the far right, is the equity ratio in our plans. This is in IFF13, and this includes Keeyask and Conawapa. So once again you see the pattern of the movement downward during the -- the period of investments, and then you see here graphically depicted, as well, the period of returns. Ms. Carriere, in her slide number 60, also indicated in that line chart, as well, the extension of the -- the equity ratio through the forecast period, as well.

What you do see here is a number of observations, is the observation of periods of investment followed by returns. That's something that's been in the nomenclature for Manitoba Hydro now for a number of years. It's real. It has happened in the past. It's certainly part of our forecast, that you will see that moving forward.

If you look at the northern development period starting in -- start the equity ratio and the movement down on that, it took approximately thirty (30) years for the recovery period to come back. So if you look at 1966 to a period of 1996, if you draw a line across, it took about thirty (30) years approximately for the equity ratio to return back to where it started.

Where are we now? Fast-forward to the future. You see in the green bars we're looking at something that's approaching twenty (20) to twenty-five (25) years. So, Dr. Grant, further to your question about how far can you stretch the -- the equity ratio and what would be appropriate, what we've seen here historically it's something that approaches thirty (30) years.

So that -- that's part of what we are -- are looking at. But we would like, from a financial risk perspective, if at all possible, to bring it into a tighter bandwidth, just because of the uncertainties.

The other question becomes: How low can

you go? So in the forecast period, you see that in the green bars as part of the IFF13. You're seeing that the equity ratio sort of flattens out at around 11 percent. If you look historically through the period of the northern development, which also had some droughts, you're seeing it actually move quite a bit below that period, what we're looking at now, and down to below 5 percent.

We see as -- Mr. Chairman, you see the equity ratios being a bit of a buffer and a cushion. We see that as well. Again, these are all based on average water flows and so on, so we always need to be mindful of changing conditions. And -- and Ms. Carriere and others will have spoke to that, as well as other panels.

So as we move forward there's always going to be changing conditions, but we need to be mindful of it. But we want to have some shock absorption to be able to -- to make sure that we can rebound quickly, should there be any kind of drought-type situations, or other capital cost movements, or other kind of adverse situations. That's the equity ratio as told through our history at Manitoba Hydro.

The next slide, slide 73, with respect to Manitoba Hydro's borrowings, the Corporation receives a flowthrough credit from the Province of Manitoba. And in exchange for this flowthrough credit and borrowing capability, Manitoba Hydro pays a provincial debt guarantee fee to the Province of Manitoba that's equal to 1 percent of the applicable debt that's guaranteed. So we look at the amount that's at March 31 and we apply 1 percent to that.

And as Manitoba Hydro makes interest and principal payments to bond holders on an uninterrupted basis, the debt is guaranteed by the credit rate -- was considered by the cre -- credit-rating agencies to be self-supporting. And therefore, and a fairly important comment, to the extent that Manitoba Hydro prudently manages its debt, and we believe that we do, and we maintain a self-supporting status, Manitoba Hydro's Capital Investment Plan should have no significant impact on the Province of Manitoba's credit rating.

So in terms of the debt management strategy, just a few words on this. Manitoba Hydro's fundamental debt management objective is to do two (2) things. One (1) is to be stable and to provide low-cost funding to meet the financial obligations and liquidity needs of the Corporation. Manitoba Hydro's actual -- move to the next...

Manitoba Hydro's actual long-term

financings includes debt issuance in various terms to maturity. And in order to mitigate the refinancing risk, Manitoba Hydro will match long-lived assets with long-term debt. Long-term assets, Ms. Carriere indicated on -- on the Hydro side we look at it from up to one hundred (100) plus years. And so we want to have the matching of that with long-term debt as well. And so as a debt management strategy Manitoba Hydro will continue to favour long-term fixed rate financings with maturities that are ten (10) plus years long.

So what does that mean in terms of our actual performance? A little bit of a time lapse historically. In terms of the low-cost dimension of this, when looking at the debt portfolio and the weighted average interest rates at -- at fiscal year ending for each of these years, you can see -- taking advantage of the low interest rate environment we've been able to fairly successfully move the -- the weighted average interest rate on the portfolio down.

So, for instance, from 2006 and '07 where it was nearly at 8 percent, we are looking at '13/'14 to be in and around 6 percent. So a reduction in the weighted average interest rates on the portfolio by 2 percent, a fairly significant amount. The forecast moving forward is for that to -- to be going down, continuing. We don't know how long the interest rate environment is going to stay low, but while we've been here we've been doing our best to make sure that we can bring that portfolio cost down.

Also, very important, though -- and -- and I think in the context of the NFAT is the notion of stability. So it's not just the low interest rates today, but -- but what's it going to be like moving forward. So when we look at what is the weighted average term to maturity for our long-term debt.

We have been taking actions during this period of them, not only to reduce the interest rate, but to extend the period of time to reduce the refinancing risk. And so when you're looking at the period of time and performance on this from 2006/'07, where the weighted average term to maturity was in around thirteen (13) years, now we're going to be over sixteen (16) years. So we've increased that by a full three (3) years.

When looking at what we've done, for instance, in the last year, in the fiscal year that we're currently in, or approaching to its conclusion in '13/'14, the terms to maturity that we've undertaken have ranged from three (3) to fifty (50) years. And the weighted average of the new issuance that we've had is twenty-eight (28) years.

So I want to sort of take a point on that, that we've actually undertaken ultra-long financings. In fact, the last piece of financing that we took at Manitoba Hydro was a fifty (50) year piece of financing that took us to maturity at 2063.

So not only are we taking advantage of low interest rates -- and that interest rate on that particular piece of financing I think was around 3.87 percent, not including the provincial debt guarantee fee; a very, very low interest rate taking advantage of this and having that over an extended period of time. So there's no refinancing points along the way, so reducing the interest rate risk.

So by undertaking these measures and looking at that administrative environment we are able to reduce the cost and achieve higher stability.

Moving on perhaps just to cover off some other risks. Foreign currency exchange risk, they're some -- to me, a little bit odd in terms of the confusion. Sometimes there seems to be a thought that there's a great foreign currency exchange risk between our export revenues that are denominated in US dollars and where we are in Canada and are we fluctuating and -- and vulnerable to that.

Manitoba Hydro's net income is largely inoculated from the fluctuations in the US/CAD rate. And Manitoba Hydro has significant export revenues and cash inflows denominated in US dollars. However, and the next bullet indicates this, in order to maintain and manage the foreign currency risk on these revenues, Manitoba Hydro maintains a natural hedge.

So -- and I don't want to belabour the point because I certainly would love to speak on this for hours, but if I can just spend thirty (30) seconds on this. We have revenues that come up in US dollars to the extent that we have a natural hedge and have US dollar outflows that manage the inflows, that the exposure is just on the net difference.

And so if the US/CAD rate goes up and down, the exposure level remains the same. And so as a consequence of this, foreign currency risk in our financial statements, when you look at both the revenues as well as the offset that occurs on the expense side primarily through finance expense, you see that they balance one another out such that there's a general inoculation towards foreign currency as a risk for the Corporation.

Moving forward in terms of liquidity risk. Liquidity risk, just to define that, is --

refers to the risk that Manitoba Hydro will not have sufficient cash or cash equivalents to meet its financial obligations as they come due.

And Manitoba Hydro will meet its financial obligations when due through: cash generated from operations, number 1; number 2, short-term borrowings; 3) long-term borrowings; and, where applicable, sinking fund withdrawals.

And Manitoba Hydro can issue short-term borrowings in the name of the Manitoba Hydroelectric board up to a limit of $500 million. So that's -- in effect, what we have is -- you can think of it almost like an overdraft in terms of how much we have as our short-term borrowing capability.

The next slide, just sort of to build upon some of the discussion on risk, while there's a discussion of risk about what it does for our financials in the accounting, I just want to just briefly touch on this from a cash perspective.

And so during a severe prolonged drought, Manitoba Hydro will -- would provide sufficient cashflows for the continuity of business operations. I mean, we're going to continue to have business as usual for Manitoba Hydro. That's what happened in '03/'04. And Manitoba Hydro's debt will remain to be self-supporting.

So what measures would we undertake? There's three (3) measures, and we would use them in some combination of -- and we talk about it generally here, but the first one is cash conservation. So Manitoba Hydro would curtail or delay its operating and capital expenditures as required and as appropriate. And in severe circumstances, this may include exercising the optionality available within the development plans.

But our first approach would be to see what can we do, just -- and as any homeowner, any person would do when faced with a situation, we would see what can we do maybe not to have as many cash outflows. And we would certainly and we would do that, and we have done it and we would continue to do that.

The second piece to this is bridge financing. I've already indicated that we have our $500 million short-term borrowing program; or, alternatively, could access the capital markets for shorter-dated debt. You know, could be one (1) year, two (2) year, three (3) years, such that they could be retired upon resumption of positive cashflow from operations.

And thirdly, increase the cash inflows

through rate increases. And should circumstances warrant, Manitoba Hydro could apply for higher rate increases in order to generate additional cashflows.

So the view from the credit-rating agencies is also important to this because you will hear about what we believe and what we think. But what did the credit-rating agencies have to say to this? And as treasurer, I have been involved in the credit-rating agency discussions for the entire time that I've been in this post since 2008, and have had the personal conversations with these folks.

And this is a quote from DBRS, Dominion Bond Rating Service, on their report on Manitoba Hydro in September of 2013. And this, I think, is also in the book of documents; and it may be part of the cross-examination from Mr. Peters later on today. But this is from that report. This is -- indicate, actually, is one of their rating strengths for Manitoba Hydro, and again for the -- the conversation we've heard:

"Low-cost hydro-based generation -- low-cost hydro-based generating capacity results in one of the lowest variable cost structures in North America, which has enabled Manitoba Hydro to provide electricity to its

"...domestic customers..."

And this is highlighted. This is my highlighting:

"...at one of the lowest rates on the continent."

That's further to the comments that Mr. Barnlund had made:

"And this gives the Utility the flexibility to increase rates in the future, especially in light of the substantially heightened future capital expenditure requirements."

What else is coming up? So the next slide shows what Moody's has to say. So this is Moody's credit-rating agency on their report on the Province of Manitoba, dated July 23rd of 2013. Highlighting was added by Hydro. And in this section on page 3 of this report they indicate:

"Significant borrowings for Manitoba Hydro, but self-supporting. Roughly one-third (1/3) of the province's total debt and indirect debt is attributable to Hydro, but it is considered to be self-supporting by the credit-rating agencies."

And:

"This Crown corporation's -- Manitoba Hydro's ability to meet its own financial obligations without recourse to the province and subsidies is a positive credit attribute to the province."

In highlighting here:

"In our view the likelihood that the contingent liability represented by Manitoba Hydro's debt would ever materialize remains relatively remote."

And then, finally, a fairly long quote, and I won't necessarily read the whole thing out. You can certainly do this. This is from Moody's credit-rating report dated September 23rd of 2013, so not that long ago. And they indicate in the -- in the title of this section, which is, "Financial targets to be challenged by higher capex." And 'capex' meaning capital expenditures in this reference here. And they indicate and have a discussion about the debt management strategy and the expenditure levels.

So they are aware of the levels of expenditures we have. They see our IFFs. They're fairly sophisticated reviewers and analysts of our performance and they look at all the utilities across the country and -- and sovereign debt across the world, and so on. And they come to a conclusion, as highlighted. It's:

"Given the uptick in capex and -- and corresponding debt, financial metrics are predicted to fall below targets."

We've demonstrated that, and that seems entirely logical. However, and I'll come to the highlighting:

"We view Manitoba Hydro as being capable of prudently managing debt and mitigating such risk by seeking rate increases and curtailing capital spending to continue as a self-supporting corporation."

So the view from the credit-rating agencies is, yes, they see the challenges that are in front of us. We see them, too. However, we are moving forward and they still deem us to be prudently managing the portfolio. And they see no reason to think that we would be anything other than self-supporting moving forward.

So in summary, on the financial risk

summary, there is three (3) of them that I want to highlight. Firstly, Manitoba Hydro considers business risk as a integral aspect of its plans and operations. Secondly, Manitoba Hydro's financial risk is manageable. And thirdly and finally, Manitoba Hydro will continue to take appropriate actions to ensure its debt remains self-supporting.

And so with that I bring to a conclusion the formal piece of the direct evidence brought forth by the finance panel. Open ourselves to any questions we may have on this section or anything else. Thank you.

THE CHAIRPERSON: I have a few questions. In respect of slide 73 there is -- you mentioned a provincial debt guarantee fee, which is 1 percent.

That fee has been in place for how long?

MR. MANFRED SCHULZ: There is an IR that was provided in response, I think, to MPA. I don't have it immediately at hand. But the provincial debt guarantee fee, either in that name or some other variation of a name, went back into -- I think into the 1960s. At that time I think it was one-quarter (1/4) of 1 percent and it's moved forward. I think it's been at 1 percent since 2006.

THE CHAIRPERSON: Now, the spread between the provincial borrowing interest rate that would apply in case of a -- direct provincial borrowing versus Manitoba Hydro going directly to the marketplace and being able to borrow on its own without reference to the provincial government, I mean, that would be speculative, but can we compare that to -- can we look at other utilities in Canada and say, What are they paying for their debt relative to what the provincial government -- the appropriate provincial government is paying?

Now, I think we heard some evidence earlier that it ranges -- it ranges, but do you know what that spread is? You know, an example of some spreads between the rate the provincial government is paying versus what the utility is paying?

MR. MANFRED SCHULZ: There's an air of speculation. There's also an air of analytics that would have to go into that, so part of -- and I don't know if it's speculation, but, you know, what would the credit rating of Manitoba Hydro be if it didn't have the self-supporting credit rating and flow through capability if we were our own operation and we were on our own?

Hard to assess that based on where we

are now, but if we were to assume that we would be investment-grade, and then, in that case, if you're looking at what some of the other private utilities might be having, you would see something that would range depending on the term. Near-term and the shorter term, there wouldn't be as much of a spread, but in the longer term, there would be a spread that would be -- it could range up to three (3) and four hundred (400) basis points, depending on the financial strength of that entity you're trying to compare it to, or where we would be.

So certainly not wanting to sort of say with any kind of definitive air, Mr. Chairman, what that amount would be, and it's not just as well the interest rate. It's also the liquidity. So being part of the province is not just about interest rates and what the spread is. It's also the borrowing capability to take on longer pieces of debt because of the -- the guarantee that's provided by the province.

And so the combination of all of those things, if you're looking at what's the value of the 1 percent, is that a good value for Manitoba Hydro? I think the answer is that it's a fair exchange.

MR. DARREN RAINKIE: Mr. Chairman, I just wanted to add one (1) other thing, and Mr.

Schulz's testimony remind -- reminds me of something back in my past, and it's not only about the rate, but it's about the ability to borrow and the covenants that come with borrowing.

And in the old Centra Gas days, if we didn't have two (2) times interest coverage, we couldn't borrow a dime, so we often talk about the rate, but part of being part of the provincial apparatus, if you like, in terms of financing, and the flow through of the credit rating, and paying the -- the 1 percent fee, is that we don't have any of those types of covenants in our -- in our debt, and that's a very important thing that's often missed, I think.

MR. MANFRED SCHULZ: And if, for instance, we were to be on our own, our debt-equity ratio, then, it's coming to the point, perhaps, that Dr. Grant had made, our debt-equity ratio would need to be far stronger in terms of being able to access the liquidity that Mr. Rainkie just spoke to.

And -- and another clear example of that was when we had the economic downturn in 2008. For all intents and purposes, there was no break in continuity when Lehman Brothers went bankrupt and all the challenges that were had there. There was no real liquidity challenge that was faced, other than the one

(1) or two (2) days where everybody was sort of scratching their head.

Manitoba Hydro and the provinces and the sovereigns were one of the earlier ones to be able to readily access the market straightaway. So it's not just about interest rates. It's also about the access to the liquidity and cash, and -- and again, I think that the provincial debt guarantee fee is a fair and reasonable exchange for that.

(BRIEF PAUSE)

THE CHAIRPERSON: Now, one of the issues that -- one of the ways in which you will -- you -- you indicated that was open to Manitoba Hydro to use in case of a liquidity issue was to use certain borrowing -- long-term borrowing, and where applicable, sinking fund withdrawals. Could you provide a little bit more detail about that?

MR. MANFRED SCHULZ: So the typical ways we would deal with this, first of all, is just cash flow from operation, short term borrowings, long term borrowings. As part of our sinking fund requirements as mando -- mandated by the Manitoba Hydro Act, we have to make contributions into the sinking fund at 1 percent of our gross debt levels plus 4 percent of whatever balance there is in the sinking fund at that time at March 31, and that's the contribution we make forward.

The typical approach is for us is that that money, which then gets invested in high quality bonds and so on with the Province of Manitoba, is that the withdrawals out of that are for debt retirement that are slated and scheduled against that.

So the intention is for the cash to be drawn out in accordance with any debt that might be retiring at that point in time, so that's where we were saying, "Where applicable," depending on where -- what debt might be coming forth.

THE CHAIRPERSON: Now, the last drought -- I'm looking at the slide 79. The last drought, '03 -- the last -- last drought, '03/'04, you used which measures to address that drought? Which of these measures were used in '03/'04? Do -- do -- were you there at the time, or?

MR. MANFRED SCHULZ: I was not at Manitoba Hydro at that time, so I wasn't privy to the pleasures of that entire endeavour, but it's my understanding that all of those would be used. And -- and, for instance, cash conservation is a natural thing. That would be the first approach. That certainly was used. There was bridge financing that did occur, so there was a -- a slight movement forward, and we -- on the $500 million short-term borrowing line, I think we were getting close to the top levels of that, at which point, then, we converted it to long-term debt, and were able to sort of replenish our -- our overdraft limit, if you will.

So that certainly did happen. In terms of rate increases, it's my understanding that there was an application moving forward in -- to receive some additional increase at that time.

THE CHAIRPERSON: Could you remind us the kinds of rate increases were applied, or does somebody remember what the rate increases were at the time that were applied? Rate increases to -- to repairs.

MR. DARREN RAINKIE: Mr. Chair, there's a tab in Mr. Peters' book of documents, I think, that quantifies the financial impact of rate increases over the last ten (10) years, and I think the percentages are -- are included in that. If I can source that, I could answer your question. My memory is getting bad. When I do a new IFF, I tend to forget about the last one. When I do a new application I -- well, I don't necessarily forget about the last one, but I -- I don't remember right off. Just give us a second. We'll locate it.

(BRIEF PAUSE)

MR. DARREN RAINKIE: Mr. Peters is always kind to -- to put --

MR. BOB PETERS: It's Tab 15, Mr. Rainkie --

MR. DARREN RAINKIE: -- put the right material in the -- his book of documents for me to use, but yeah, if you looked at page 140. I'm not sure if this has even been marked as an exhibit yet, but --

MR. BOB PETERS: We'll have to have it put up on the screen, if you could give Ms. Villegas a few minutes to -- or maybe just a few seconds would be appropriate. Thank you.

(BRIEF PAUSE)

MR. MANFRED SCHULZ: And perhaps, Mr. Chairman, while we're deliberating on this, if I can just quickly provide the reference to you, in terms of you asked the question, the historical starting point for the provincial debt guarantee fee, that was in response to MH/MPA-3(a) -- or 3(b) rather, was a -- a quick description of it.

(BRIEF PAUSE)

DR. HUGH GRANT: Could I just ask one (1) thing, just for my own clarification? On slide 72, which is a great slide, it's a great economic history, but...

(BRIEF PAUSE)

DR. HUGH GRANT: There we go. Yeah. It's a great economic history. Your son's probably not wrong, but it's a great economic history. I guess I just want to try to understand the importance of the debt-equity target, and would I be right to, first of all, say that there's pretty much a direct tradeoff between -- if higher rate increases will generally yield a higher equity-to-debt ratio?

So if I put it this way, if you were willing to tolerate a lower equity ratio over a longer period of time, the -- the tradeoff might be you could get away with lower rate increases?

Would that be generally correct?

MR. MANFRED SCHULZ: Perhaps I'll start with this, and I'm sure Mr. Rainkie will want to jump in on this as well. First of all, I acknowledge that my son -- and when he categorizes me as a nerd, he's probably correct. I don't shy away from that.

You know, Dr. Grant, there's the risk in return to all of these things, obviously. And the -- the question of how low can you go and how long can you stretch the elastic band of the equity ratio is a -- a question, I think, that's germane.

We talked about how far can we move it down the X-axis? I think the commentary would be that you would want to return it as quickly as possible, maintaining balance to all those other matters of customer sensitivity rates and so on. How long can you go is a matter of -- of risk, how much risk tolerance Manitoba Hydro has and so on.

The caution here, and it's not just from us, it's also from the credit rating agencies and others who look at this, is how low do you go because of -- of risks that you have that might be hydrology-based or other things that may occur?

If -- if you go really low, you're running the risk that adverse situations would have a significant impact on the Corporation, and from my perspective as treasurer, and Mr. Rainkie can probably affirm this and probably add to it, we want to make the risk as manageable as possible, and -- and lower and manageable as possible, so I don't think we're wanting to add and escalate and put more risks onto this.

If we were to get rate increases from a cash flow perspective, and this is my perspective as treasurer, there's certainly the aspects as an account, and I -- I am that as well, in terms of the financial statement impact and retained earnings, but from a cashflow perspective, having rate increases provides cash, and having those cash and having that impact not only in the cash, but also on the accounting side, provides an increase to the -- the cashflow that we have incoming now from cash flow from operations to give us that buffer as a proactive measure moving forward.

So that's why you'll hear the argument over and over and over again from us, saying that we need to have these rate increases now and not wait until we're at the equity ratios of eleven (11), and that's why it's so important for us, even in the good years, in the wet years, or, you know, the positive years, it's not a time to start chiselling us back, because what you end up having to do, then is having the higher rate increases later.

And at that point in time, it becomes problematic, and -- and so you'll hear this from us repeatedly, perhaps. So the cash flow that comes from rate increases is important proactively as we move into it, because, at some point in time, you may -- if -- other things were, if you didn't take action, you would end up having to have stronger rate increases, and we would prefer not to do that.

MR. DARREN RAINKIE: Maybe I can just add to that, as well, and it's -- I certainly don't disagree with anything that Mr. Schulz said, but one (1) of the other things to keep in mind is that all these financial targets knit together, you know. And so if you start reducing your equity cushion, your interest coverage and your cap -- capital coverage is going to suffer as well. So you -- you have to -- I mean, I'm not going to get into the math of it with you, but they all -- they all knit together in some ways.

And as well, we would like to maintain retained earnings sufficient to cover, you know, a -- a five (5) year major drought, and so there's also, I guess, a quantitative minimum, if you like, retained earnings, from our particular perspective that we want to maintain as well.

So all of these things work together in ter -- in -- including, as Mr. Schulz said, trying to maintain rate stability for customers. If we kick the can down the road too much on rate increases, we run the risk of then having higher rate increases in the future and building up those pressures.

So -- so when we look at our financial targets, we try to mesh all those things together, as well as customer sensitivity. I mean, what you're seeing here on this slide is a patient company, right, that's not asking to return to its, you know, ratios, you know, to two (2) years or three (3) years. We're talking decades.

So I think we do demonstrate a -- a balance between financial integrity, customer impacts, and -- but ultimately, the customers pick up in a -- in a decent regulatory regime, the costs of the Company.

If we kick the -- if we kick it down the road, we're just putting customers at risk. I don't enjoy the great balance sheet just because I like to see a great balance sheet, as a -- as a CFO. It's there -- it's there on behalf of the customers. There's no -- there's no shareholder getting a return and no bonuses being paid.

DR. HUGH GRANT: Yeah, okay. I guess I just -- when I look at the green part and I see prudent, wise management, and then my eye drifts back to the light blue part, at a time when nominal interest rates may have been hitting 15 percent and such. Now, you're -- you're free to answer this, or -- because they're probably all dead now.

Is -- were -- were you looking at a period of incredibly reckless financial management of Manitoba Hydro, or has the world changed that dramatically from the '60s and '70s till this period we're looking forward to?

MR. MANFRED SCHULZ: Well, I wasn't a part of Manitoba Hydro back in the day.

DR. HUGH GRANT: That's why you're free to speak.

MR. MANFRED SCHULZ: I -- I would -- I would venture to say, and having worked with Mr. Warden, who is well-known to the regulatory folks here in his long tenure, it would be -- it would be impossible for me to consider that it would have been reckless in any way, shape, or form. The -- the level of prudence that would have been undertaken to get us here was at an exceedingly high level.

But, you know, you are where you are. The context is where they were in the '60s to where they are -- where we've grown now. I mean, it is an achievement in terms of the growth and the balance sheet and the strength of it, and as Mr. Rainkie said, it's not just for -- for the aesthetics of the accountants. It -- it's -- it's real and it's beneficial to us.

The cautionary aspect on this, and -- and one that always needs to be balanced when we talk about risk about, you know, the opportunity and the risk. If you're looking at what happened in the '03/'04 drought, and you can see that equity ratio moving down there in that piece of it, is to make sure that we have a buffer against that. So I would caution against saying, Hey, we're good at eleven (11) and it's perfect, and that, you know, we're never going to have another risk.

\- We want to have the ability to have that shock absorption, and we want to have that as -- as readily and as -- as earnestly as possible. And so I wouldn't want to, sir, just assume away that we would be able to not have any droughts and no impacts moving forward. That's why we need to have the rate increases now and need to have the strength now in moving forward.

MR. DARREN RAINKIE: I would add, Mr. Grant, that I think -- I think the attitude towards government and quasi-government levels of debt has changed over the decades, and probably going more into the economics realm, which is not my -- not my forte. I'm a -- an accountant by trade, but I -- I think that perspectives have shifted. You know, when managing things like inflation, whereas in those years, inflation was fairly sig -- significant, as you would recall.

So I think there has been a huge shift in the thinking about this. I don't think it was mismanagement. I think it was just a shift in society over time, and -- and thinking on these matters. And -- and certainly, you see most governments trying to balance their books these days through austerity measures, et cetera, et cetera, and so I think that certainly is -- is all through, you know, government and govern -- quasi-government agencies such as ours.

THE CHAIRPERSON: I believe all the questions have been addressed, so I wonder if we should recess now and resume proceedings at about a quarter after 1:00. Does that sound appropriate, Ms. Boyd? Is that enough for your team?

MS. MARLA BOYD: It -- it sounds fine, sir. There's just one (1) matter that Mr. Rainkie was pulling up the rate increase you had asked about, and he has it available if you wanted to just finish that off, and then we're -- we're ready for lunch.

MR. DARREN RAINKIE: If I can impose upon the document management individual to pull up page 140 from Mr. Peters' Volume IV book of documents. You can -- you can see that 2000 -- the 2004/'05, there was a rate increase, shortly after the drought period, of 5 percent on August 1st, 2004.

What I was trying to recall is one (1) of these rate increases, the Public Utilities Board gave us a higher rate increase than what we -- than what we asked for. And I -- I can't recall offhand if that was one (1) of those cases. But at any rate, what -- between what was asked for and what actually happened, there was a 5 percent rate increase on August 1st, 2004, and then two (2) conditional rate increases coming out of that of 2.25 percent on April 1st, 2005, and 2.25 percent on March 1st, 2007, that were ultimately confirmed by the Public Utilities Board.

Also, if you look at our historical income statement, I don't think this should get lost in the -- in the shuffle. While we had a loss, I think, of something like $436 million on a consolidated basis in 2003/'04, the situation actually flipped quite quickly, I think, two (2) years later.

If my memory serves me right, we had a very good hydrology year, and we made the largest net income the Corporation's ever seen in terms of 415 or $16 million. So Mother Nature had a bit to play in that as well, along with the help of the Public Utilities Board.

THE CHAIRPERSON: Thank you. I think we should recess now and quarter after 1:00, please.

MR. KURT SIMONSEN: Mr. Chair, can we enter Mr. Peters's exhibit as PUB 58-4, since it was referenced in this conversation, if Mr. Peters is comfortable with that?

MR. BOB PETERS: Thank you. Yes, please.

--- EXHIBIT NO. PUB-58-4: MIPUG Volume IV book of documents, page 140

--- Upon recessing at 12:32 p.m.

--- Upon resuming at 1:20 p.m.

THE CHAIRPERSON: Good afternoon. I

believe we're ready to resume the proceedings. If there are no administrative matters to attend to, we will -- I will turn over the microphone to Mr. Peters, please.

MR. BOB PETERS: Thank you, and good afternoon, Mr. Chairman, panel.

CROSS-EXAMINATION BY MR. BOB PETERS:

MR. BOB PETERS: Good afternoon, witnesses. As I often do, Mr. Rainkie, as I single out who I will suggest is the -- the leader of the team here at this time, and I'm not sure if that's accurate or not, but I'll assume it's you because of your executive position, and you will understand that my questions are for the panel, and not necessarily any individual. Would that be acceptable?

MR. DARREN RAINKIE: That's what we've come to know and love, Mr. Peters.

MR. BOB PETERS: All right. And so the best -- the best information that Manitoba Hydro has should be provided to the panel, and my questions, Mr. Rainkie, are not designed to elicit commercially sensitive information onto the public record, and so if you or any of your colleagues believe that you need to provide commercially sensitive information to respond to a question, that should be done by way of undertaking, if that would be acceptable to you.

MR. DARREN RAINKIE: Yes, Mr. Peters. And, fortunately most of our information is aggregated at -- in -- in income statement line items, so I hope -- hopefully we won't have much of that in this panel.

MR. BOB PETERS: And you didn't have very many CSI IRs, if any, did you?

MR. DARREN RAINKIE: I've lost track, Mr. Peters. I don't think so.

MR. BOB PETERS: Mr. Rainkie, way back when your president was here, I had Manitoba -- I had an Exhibit 58-1, and page 12 of that exhibit set out Manitoba Hydro's development plans, and you'd be familiar with that, would you, sir?

MR. DARREN RAINKIE: Yes, sir.

MR. BOB PETERS: And when we look at the development plans that were embarked on by the Company, were those development plans selected all by Manitoba Hydro, or was there any -- and any external input into those development plans?

MR. DARREN RAINKIE: My understanding, Mr. Peters, is that was -- that was all part of our normal resource planning process. I don't believe there was any external input.

MR. BOB PETERS: Manitoba Hydro didn't get a direction from -- from the government, or from this Board in terms of any particular plans that should be run?

MS. MARLA BOYD: We're back, Mr. Peters, to communication between the government and Manitoba Hydro, and it's not an area to be discussed.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: All right. Mr. Rainkie, Manitoba Hydro didn't get any requests from this Board as to what the Preferred Development -- or what development plan should be tested, did it?

MR. DARREN RAINKIE: No, I don't recall any direction from the Public Utilities Board in terms of what should be tested.

MR. BOB PETERS: And none was sought?

MR. DARREN RAINKIE: I don't believe so, Mr. Peters.

MR. BOB PETERS: And the same answer applies to the Intervenors? Manitoba Hydro didn't ask the Intervenors which development plan should be -- should be studied?

MR. DARREN RAINKIE: Once again, my understanding is that's -- that's correct.

MR. BOB PETERS: And so on page 12, which is shown on the screen in front of you, Manitoba Hydro embarked on their economic analysis of those plans, and even though Manitoba Hydro did the economic analysis on those fifteen (15) plans, Mr. Rainkie, when it came time for the financial evaluation, we see on page 6 of Board counsel's book of documents that's marked as fifty-eight four (584) (phonetic), that would be the one that was handed out for the finance panel, on page 6, Manitoba Hydro whittled down that number from fifteen (15) down to eight (8) plans, on which a financial analysis was going to be conducted, correct?

MR. DARREN RAINKIE: Yes, that's correct, Mr. Peters.

MR. BOB PETERS: And again, how did Manitoba Hydro select which eight (8) were going to be the subject of the financial analysis? Do you know, Mr. Rainkie?

MR. DARREN RAINKIE: I'll let Mr. -- Ms. -- Mr. -- Ms. Carriere talk about that, Mr. Peters.

MR. BOB PETERS: Thank you.

MS. LIZ CARRIERE: The eight (8) that were selected were eight (8) of the more economic plans that the -- the economic evaluation identified. You know, obviously, we'd like to run all of -- all fifteen

(15) of them, but the process of -- of running economic and financial evaluation is such that they have to run much of the economic and evaluations before they can pass on data for the financial evaluations, so they run sort of consecutively.

So we don't have quite as much time in the financial evaluations as they do in the economic evaluations, so we had to -- to shortlist the -- the list of fifteen (15).

MR. BOB PETERS: And now Ms. Boyd referred Mr. Williams this morning to Manitoba Hydro Exhibit 90, and Manitoba Hydro Exhibit 90 was Manitoba Hydro indicating what additional studies would be done based on new information this Board heard during the week of March the 10th, 2014.

Am I correct with that, Mr. Carriere?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And so when we look at the -- page 1 of 2 of Manitoba Hydro Exhibit 90, we see that under the financial analysis, there's a -- a caveat there that -- here's the timing, but depending on the ability of the panel who will be testifying, as well as working on these issues, it's attempting to get the following information.

And so by Monday, March 24th -- and I

understood that date is still on track. Did I understand correctly?

MS. LIZ CARRIERE: That's correct. That's my understanding.

MR. BOB PETERS: And this would be the Preferred Development Plan only against different base levels and options of DSM?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And that would update it, would it, Mr. Carriere, for the capital costs of Keeyask and Conawapa which have come in?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And does it -- will it also ensure that the -- the investment in the 750 line is done by Manitoba Hydro and not by a -- a third party?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: Ms. Carriere, can you inform the panel how long it takes to run a financial plan once the -- once the economic data is dumped on your desk?

MS. LIZ CARRIERE: Well, the answer is, it depends. It's a -- a little more onerous to make adjustments to the timing of capital, so that tends to take a little bit longer, and -- but generally, if --

if it's just an adjustment to the -- the production flows and so forth, we're seeing about a week to two (2) -- two (2) weeks, and that's once all the data we have in hand is finalized.

There's a fair amount of going back and forth with the economic evaluation folks to ensure that we're using and interpreting the data appropriately, but it usually takes about one (1) to two (2) weeks, depending on whether we have to adjust capital.

One (1) of the other items that tends to take a little bit longer is where we have to adjust load growth, or -- or the underlying load forecast. That one will take a little bit longer, because all of the -- all of the assumptions throughout then change.

MR. BOB PETERS: Now, on Manitoba Hydro's Exhibit 107, Ms. Carriere, we -- this panel heard from Manitoba Hydro, and, in response to Undertaking number 30, some updated information was provided based on some revisions that were made on approximately March 10th of 2014. If we can look to the next page of this we'll see the bar chart -- or the bar graphing of -- of different plans.

Would the panel be correct in understanding that from what's shown at the top of the page in terms of the 2012 reference case, and there's six (6) plans shown there, that Manitoba Hydro, based on the newest information and the updated capital costs and DSM, has only updated from an economic analysis three (3) plans?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And it's these three (3) plans that are going to find their way -- or did find their way to your desk for the financial analysis to be run?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And in terms of numbering, which -- numbering these plans, there is some movement in some of these plans in terms of dates of capital in-service.

You're aware of that? For example, Conawapa coming in on different dates.

MS. LIZ CARRIERE: Yes, I --

MR. BOB PETERS: Did that --

MS. LIZ CARRIERE: -- understand that.

MR. BOB PETERS: Did that necessitate adjusting the capital for those plans, so that an in-service date of '30 for Conawapa is going to have a different run than an in-service date of '31, or an in-service date of '33?

MS. LIZ CARRIERE: Yes, it would have

that impact.

MR. BOB PETERS: And yet -- and -- and for purposes of our discussion, the K19/Conawapa/750 is -- is what Manitoba Hydro is now considering it's Preferred Plan regardless of the date of Conawapa?

MS. LIZ CARRIERE: Well, that's one (1) of the plans we're evaluating, yes.

MR. BOB PETERS: And you're evaluating it as the Preferred Development Plan for Manitoba Hydro?

MS. LIZ CARRIERE: We're -- the Preferred Development Plan is -- is the same as the -- the 2014 update with Keeya -- or Keeyask in '19, and Conawapa in '26 with a 750 interconnection, and the sales.

MR. BOB PETERS: Then if we -- if -- and -- and then, Ms. Carriere, if we look at the -- the graph in front of you, we see under the solid line the -- the 2013 DSM studies that are being done. We see the middle plan is the K19/C26/750, and that's the Preferred Development Plan as Manitoba Hydro has labelled it?

MS. LIZ CARRIERE: That's my understanding, yes.

MR. BOB PETERS: Okay. And if we go

down though, Ms. Carriere, to -- to look at some of the other 2014 options of the -- of the groupings of three (3) that are shown, one (1) of the groupings has both Keeyask and Conawapa, correct? Each -- each grouping has one (1) plan of --

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: -- that includes Keeyask and Conawapa, correct?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And does that now become Manitoba Hydro's Preferred Development Plan in terms of the study that was done, or is there still going to be a different run done with Conawapa at '26 instead of Conawapa in '30 and '31?

MS. LIZ CARRIERE: I don't believe we've been asked to run a Keeyask19/Conawapa26 with a 750 megawatt interconnection. I under -- my understanding is that we are running -- taking from the base level of DSM, and the purpose of running this is to demonstrate the impacts of DSM in deferring Conawapa.

MR. BOB PETERS: All right. And so when we look at -- at the Exhibit 107 that's in front of us on the screen, Ms. Carriere, which Preferred Development Plan is finance running to have information available for Monday, March 24th?

MS. LIZ CARRIERE: Well, under the -- the 2013 DSM base level, we will have the Keeyask19/Conawapa26. Under Option 2, we will have Keeyask19/Conawapa31. And under DSM Option 3, we will have Keeyask19/Conawapa33.

MR. BOB PETERS: And each one of those then is -- is what Manitoba Hydro is putting forth as the -- as a Preferred Development Plan?

MS. LIZ CARRIERE: I'm not sure that you would characterize the Conawapa31 or Conawapa33 as a Preferred Development Plan any longer.

MR. BOB PETERS: All right. But can you -- did I hear you correctly that you're not now running the K19/C26/750 Plan anymore through the finances?

MS. LIZ CARRIERE: Yes, we will run it through with the DSM base level option. So in this Exhibit 107, we will run three (3) cases exactly as they're shown in -- in this -- this table -- or this graph.

MR. BOB PETERS: And so the panel will be clear, maybe we can scroll up a little bit on this and just see the -- the bottom three-quarters (3/4s) of the page.

(BRIEF PAUSE)

MR. BOB PETERS: Which now, of the three (3) sets of three plans, should the Board expect from the finance analysis?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Mr. Epp is advising me that there's a -- a level missing on here. We'll be running, for March 24th, the 2013 DSM with the plans that are there. We'll be running a 2014 Option 1 with the plans listed there. And then a 2014 Option 2 and Option 3 with the plans listed there. On March 31st we are anticipating to bring then the analysis of the Options 1, 2, and 3 with the pipeline load.

MR. BOB PETERS: And that's the Preferred Development Plan with Options 1, 2, and 3 of DSM?

MS. LIZ CARRIERE: Correct.

(BRIEF PAUSE)

MR. BOB PETERS: Now, on March 31, under 2(b) on Exhibit Manitoba Hydro 90, the Board sees that on March 31 there's going to be the Keeyask/Gas run provided, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And it'll be run, as well, with the base as well as Options 2 and 3 of the DSM, all without the pipeline load?

MS. LIZ CARRIERE: As well as the Option 1. There'll be a base level and then Options 1, 2, and 3.

MR. BOB PETERS: So you're adding Option 1 to that list?

MS. LIZ CARRIERE: Correct.

(BRIEF PAUSE)

MS. LIZ CARRIERE: I stand corrected. It is base, Option levels 2 and 3.

MR. BOB PETERS: Thank you.

(BRIEF PAUSE)

MR. BOB PETERS: And back to the -- the Keeyask/Gas/750 that's being run. Is that considered Plan 5 or Plan 6 by Manitoba Hydro?

Do you know the number that you're

putting on it?

MS. LIZ CARRIERE: It's Plan 5.

MR. BOB PETERS: All right. Again, if we can go back to Exhibit 107, please, and we look at -- under the solid line. Well, we can start at the top of the page, Keeyask/Gas25/750, that's Plan 5.

Would that be correct?

MS. LIZ CARRIERE: That's my understanding, yes.

MR. BOB PETERS: All right. And then if we go down below that solid line and we look at the first, Keeyask/Gas is now not '25, but it's '26.

And that's still being run as a Plan -- as a Plan 5?

MS. LIZ CARRIERE: Yes, Plan 5, but assuming Gas in '26, correct.

MR. BOB PETERS: And for all of the rest of the Keeyask/Gas shown on Exhibit 107, does it assume that the in-service of the gas then is '26 and not '25?

(BRIEF PAUSE)

MS. LIZ CARRIERE: I'm advised that the -- the gas in each of the subsequent levels of DSM are deferred. I'll have to get you the dates.

MR. BOB PETERS: All right, we'll -- we'll wait, Mr. Carriere, to see what -- what's filed.

MR. ED WOJCZYNSKI: Pardon -- pardon me, if you go to Exhibit -- Manitoba Hydro Exhibit 104-1, which was provided earlier, it provides the in-service dates of the gas turbines in the various plans. And what's being used in the financials is consistent with what was done in the economics.

(BRIEF PAUSE)

MR. BOB PETERS: Ms. Carriere, should the panel -- before you request a further run be done from a financial analysis, is that going to add an extra two (2) weeks to the time, in terms of delivery?

MS. LIZ CARRIERE: I'm not sure which financial analysis you're requesting.

MR. BOB PETERS: Well, if -- if a full set of financial analysis was to be run on a plan that's not one (1) of the three (3) that Manitoba Hydro was going to be working on between now and the end of the month?

MS. LIZ CARRIERE: It would likely be longer. What I did not include in that time frame before is it's one (1) to two (2) weeks once the data we receive is final. The back and forth between the economic evaluation folks also takes a few days. And then our own time to analyze and put in a presentation format would add to that, as well, so it might be longer than two (2) weeks.

(BRIEF PAUSE)

MR. BOB PETERS: If we go back to page 6 of PUB Exhibit 58-4, would the panel understand correctly, Ms. Carriere, that Manitoba Hydro's analysis will now be done on these remain -- on these three (3) plans will -- will only relate now to Pathway 4 and 5?

There'll be no other pathways explored in the -- in the updated financial analysis?

MS. LIZ CARRIERE: Yeah, Pathway 1 is in there, as well, the All Gas.

MR. BOB PETERS: All right, thank you. But there'll be no Pathway 2 or 3?

MS. LIZ CARRIERE: That's not my understanding, no.

MR. BOB PETERS: There will be additional plans from some of the other pathways?

MS. LIZ CARRIERE: No. Sorry, I mean

we are -- I don't believe we'll be analyzing anything further in Pathways 2 or 3.

MR. BOB PETERS: And there'll be no analysis of any 250 interconnection?

MS. LIZ CARRIERE: That's my understanding.

MR. BOB PETERS: Mr. Rainkie, if -- if for any reason the province of Manitoba directed Manitoba Hydro to -- to go with a 250 interconnection, then Manitoba Hydro is going to do its level best to make that option work. Would that be a fair assumption?

(BRIEF PAUSE)

MR. DARREN RAINKIE: Mr. Peters, I guess my understanding from listening in on the transcript from time to time has -- has been that that option isn't possible any longer, and I'm -- I think we're asking the -- the government for a -- a particular plan. I'm not sure if they're directing us, and I -- I might not be the -- the best person to ask on -- in that regard, but my understanding was the 250 line wasn't a real possibility at this point any longer.

MR. BOB PETERS: Well, Manitoba Hydro has put evidence forward that it now prefers the 750 interconnection for the reasons that this panel heard from Manitoba Hydro's previous witnesses, correct?

MR. ED WOJCZYNSKI: Pardon me. Manitoba Hydro has not said that we prefer to do the seven fifty (750) over the two fifty (250). What we said is that the two fifty (250) option, as it stands now, is not a viable option, and is not an option available to Manitoba Hydro. It's off the table. We didn't say we prefer one over the other.

We said the two fifty (250) plan is not a viable option, and physically you can do a two fifty (250) line, but the business case and the negotiations that were associated with it would no longer be ones that would, in all likelihood, be one that we can move forward with, even if we tried to.

MR. BOB PETERS: Mr. Wojczynski, if the province of Manitoba, for whatever reason, determined that a 750 interconnection, under the terms proposed by Manitoba Hydro, was not supported by the government, but rather, the 250 interconnection was -- was directed to Manitoba Hydro, would it not be the case that Manitoba Hydro would do its level best to try to put together a business case on the 250 interconnection?

MR. ED WOJCZYNSKI: Mr. Chair and panel, if the seven fifty (750) panel -- if the 750 megawatt interconnection plans were -- were -- we were told by the government that we were not to pursue those anymore, we would not have approval for them, but that if we -- that what might be approved or would be approved would be something like a two fifty (250) plan, Manitoba Hydro would do its absolute level best to pursue that as an option.

But the option of a two fifty (250) plan would not look the same as it does now. We would have to -- as Mr. Cormie indicated earlier, we would have to go back to Minnesota Power and tell them we would like them to stop the work they've been doing on the 750 Plan, including the Certificate of Need process and everything else, and that we would like them to switch to the two fifty (250), but also that the -- that we would like to proceed with the purchase agreement -- the Power Sale Agreement that we have with them on the two fifty (250).

And as Mr. Cormie indicated, there -- that the chances are that they would want to renegotiate that, and we'd have to now go into an extensive renegotiation process and prob -- and not see the kind of same business case that we have at this time.

MR. BOB PETERS: And those business cases, Mr. Wojczynski, developed rather lately in -- in this NFAT process in terms of the signed WPS agreement. Would that be correct?

MR. ED WOJCZYNSKI: There was two (2) aspects to this. One (1) is, as we communicated in the IR process in December, and I referenced that in testimony earlier last week, maj -- we had a major concern that is an -- an increasing concern, but even back in the fall we had the concern that we likely would not -- there's a high chance we would not receive regulatory approval in Minnesota for a two fifty (250) option.

Secondly, since then, there has been an increasing likelihood that, from the pure business side of it as opposed to the regulatory side, that that would no longer be considered acceptable by -- by Minnesota Power, and that is what Mr. Cormie had communicated, and that was more recent than the fall, yes.

MR. BOB PETERS: Well, that was communicated after March the 3rd, after the NFAT started, correct? Wasn't it March the 10th that that was put on the -- put before the panel?

MR. ED WOJCZYNSKI: I'm sorry, which one, the regulatory one?

MR. BOB PETERS: Well, no --

MR. ED WOJCZYNSKI: The regulatory one was December.

MR. BOB PETERS: Taking off the 250 interconnection pathway.

MR. ED WOJCZYNSKI: The -- our concern and thinking that the -- the 250 pathway was not a viable pathway was already an issue in the fall, which is why we had the interrogatory with -- with the expression of that concern in December already. After that, the concern increased further. It's not that it started in March. The -- the concern increased over time, but it had started in the fall already.

MR. BOB PETERS: And the final decision was made on March the 10th, 2014, to -- to take the two-fifty (250) pathway out of the NFAT consideration, from Hydro's perspective?

MR. ED WOJCZYNSKI: I wouldn't quite say that, no. I would say that we -- prior to coming here, we were thinking that would be the case, but we waited until we had the panel 2 (sic) to fully communicate that, and there was a -- a -- if you want to call it 'the last straw' was when Manitoba Hydro was looking at the impacts with the new capital costs, and I believe Mr. Cormie explained that.

MR. BOB PETERS: So, Ms. Carriere, would the panel be correct in understanding that there will be no financial analysis based on the 250 interconnection put before them based on the newest information Manitoba Hydro has received in respect of the capital costs and the DSM information?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And in looking at the financial scenarios that were analyzed, Ms. Carriere, you had explained with your graphs that the intent was to have rate increases to get to a 75:25 debt-equity-ratio by 2032, correct?

MS. LIZ CARRIERE: That was the approach we used to -- to conduct a financial evaluation for comparative purposes between the plans, yes.

MR. BOB PETERS: And in doing your evaluations, the variable that would change in your spreadsheets would be what would be that -- that equal annual rate increase to get to that 75:25 debt-equity ratio under whatever plan you were analyzing?

MS. LIZ CARRIERE: Well, I don't have spreadsheets, but, yes, we would vary the -- the even-annual rate increase in -- in our analysis.

MR. BOB PETERS: And as I think you indicated to Board -- to Board member Grant, that after you achieved 75:25, you then mechanically went over to an interest coverage ratio of one point two-zero (1.20), correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And that one point two-zero (1.20) interest coverage ratio, Ms. Carriere, it was previously one point one-zero (1.10), was it not, in the not too distant past?

MS. LIZ CARRIERE: At one time, yes, it was.

MR. BOB PETERS: Do you remember how long ago?

MS. LIZ CARRIERE: No, not off the top of my head. It's -- I believe it's in a response to MPA -- MPA IR.

MR. BOB PETERS: The economic analysis, Ms. Carriere, excludes the sunk costs, correct?

MS. LIZ CARRIERE: I'm sorry, did you say the economic analysis?

MR. BOB PETERS: Yes, the economic analysis that you received from your colleagues did not include sunk costs?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: Maybe a better way to put it is that the sunk costs were made the same for every plan?

MS. LIZ CARRIERE: Theoretically, I think the result is the same.

MR. BOB PETERS: All right. And from a financial analysis, you can't ignore those sunk costs. You have to somehow account for them, correct?

MS. LIZ CARRIERE: That is correct.

MR. BOB PETERS: And even in the plans that don't include Keeyask or Conawapa, Manitoba Hydro has added in sunk costs in the financial analysis?

MS. LIZ CARRIERE: In the plans that do not include Keeyask and/or Conawapa, the costs incurred to June of '14 are amortized over an eighteen (18) year period.

MR. BOB PETERS: And those costs are $1.6 billion in total?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: One point two (1.2) of that I think related to Keeyask, and 400 million related to Conawapa?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And you say in over an

eighteen (18) year period, that would take it out to 2032, correct?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And Manitoba Hydro selected that amortization period?

MS. LIZ CARRIERE: It was a simplifying assumption for evaluation purposes.

MR. BOB PETERS: And does that mean, Ms. Carriere or Mr. Rainkie, that a longer amortization period could be directed by, say, the Public Utilities Board if it was setting rates and that was one of the costs Manitoba Hydro was trying to recover?

MR. DARREN RAINKIE: If your question is for rate-setting purposes, yes, Mr. Peters. Whether or not we could amortize that over that period on our books would be dependent on whether rate-regulated accounting continues over the long run. I think we have to distinguish between rate setting and financial statements because of that possibility.

MR. BOB PETERS: And at this point in time, all indications are that rate-regulated accounting will continue for Manitoba Hydro, Mr. Rainkie?

MR. DARREN RAINKIE: At least for the interim period, Mr. Peters. The International

Accounting Standards Board is working on a longer-term project to which -- much like interim orders of the Board, that doesn't mean that they won't go the other way ultimately when they make their final determination. But probably for a couple more years at least, Mr. Peters, or two (2) to three (3) we have a standard -- an interim standard that allows us to continue to practice rate regulated accounting. What happens after that point is uncertain at this point.

MR. BOB PETERS: This panel has heard that back in, I think, the 1990 era, Mr. Rainkie, Conawapa had its first review before the Public Utilities Board.

And you're aware of that?

MR. DARREN RAINKIE: Yes, I wasn't personally involved in that, but I understand it happened.

MR. BOB PETERS: You were still in high school, were you, Mr. Rainkie? Mr. Rainkie, at that time -- are any of the costs from back then still on Manitoba Hydro's books?

(BRIEF PAUSE)

MS. LIZ CARRIERE: It's my

understanding that the cost from that time period were being amortized as part of the planning studies over a fifteen (15) year period. There may have been another portion that had an amortization of ten (10) years. But I can't comment right now on whether there's any unamortized portions left in that -- in that sunk -- the sunk cost total of the 400 million. I'd have to confirm that.

MR. BOB PETERS: Would it be correct, Ms. Carriere, that if the -- if the plan that was ultimately the one that found approval was Gas/Keeyask, you wouldn't then need to write off any of the Keeyask sunk cost because that would still be in your planning studies, in your planning horizon?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And this $1.6 billion a year over the eighteen (18) years, you're looking at roughly $90 million a year that's being added to the financial analysis to be recovered in -- in rates?

MS. LIZ CARRIERE: Yes, approximately, assuming the eighteen (18) year amortization period.

MR. BOB PETERS: And so as long, Ms. Carriere, as the Keeyask or Conawapa generating stations are still in the planning horizon of Manitoba Hydro, those costs would not have to be recovered as sunk costs, would they? They would wait until the -- the plant came in service?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: In terms of on page 9 of Board counsel's book of documents, Ms. Carriere, and we look at the Diagram 11.1, would the panel be correct in understanding that the financial analysis looked at the same probability distributions as did the economic analysis?

MS. LIZ CARRIERE: Yes, we did.

MR. BOB PETERS: Now, we've heard evidence that of these probability distributions, and we go to the energy prices, the high had a 15 percent probability, the reference fifty-five (55), and the load thirty (30).

Is that the same numbers that you used?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And then for the economic indicators, the high probability was 35 percent, the reference was fifty (50), and the low was fifteen (15), again, the same numbers you used?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: Now, here's where I want to make sure the panel is corre -- is -- is following you, Ms. Carriere, that when it came time for

Manitoba Hydro's filing, the probability of high capital costs was 30 percent, the reference was fifty (50), and the low was twenty (20).

Would that be correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: But on March the 10th, that probability distribution changed, and the high probability was then 20 percent, the reference became sixty (60), and the low remained at twenty (20), also correct?

MS. LIZ CARRIERE: I'd have to check. We're in the process of running that analysis.

MR. BOB PETERS: All right. And the reason for my question then, Ms. Carriere, is when you're running your analysis, are you using the probability distribution that was revised on March the 10th of 2014, or are you using the probability distribution that was in the original filing?

MS. LIZ CARRIERE: We will use the probability distribution that's consistent with the economic evaluations.

MR. BOB PETERS: Is there -- are you planning to file new expected values for the different distributions?

(BRIEF PAUSE)

MS. LIZ CARRIERE: In our analysis, we're only doing the reference case scenario, so the probability distributions don't apply in this situation, so we will not be providing an expected value.

MR. BOB PETERS: So in terms of the -- the high/reference/low, and the twenty-seven (27) different scenarios that were run, you're just going to run a reference/reference/reference scenario and not the -- and not -- not the twenty-seven (27) variations of that?

MS. LIZ CARRIERE: That's correct.

(BRIEF PAUSE)

MR. BOB PETERS: In terms of the financial analysis that you have before the Board, what -- what, Ms. Carriere, are the -- what -- what's the highest sensitive risk factor that you've -- you've uncovered?

MS. LIZ CARRIERE: I think the slides in the uncertainty analysis we saw this morning showed that the economic indicators are the highest sensitivity.

MR. BOB PETERS: And yet you're not going to run a full suite of those for the -- for the updated information? That's not your plan?

MS. LIZ CARRIERE: That's not our plan at this time, given the timeline of this proceeding.

MR. BOB PETERS: And how long does it take if the Board was to request that the -- that the runs that are being done in terms of the discrete scenarios would include different levels of the economic indicators, the net present value measure?

(BRIEF PAUSE)

MR. ED WOJCZYNSKI: It's Ed Wojczynski here. Just to provide some continuity from the previous evidence, Ms. Flynn, who test -- she testified that the information about the highs and the lows, whether it's the economic indicators, the energy prices, have not been developed by the Corporation, so we're not even in a -- in a position to start doing those right now. Those would have to all be developed, and then the -- and then the runs made using that information.

MR. BOB PETERS: Mr. Wojczynski, I

don't understand that comment to the panel. Does that suggest that the probability distributions for the energy prices and the economic indicators have changed?

MR. ED WOJCZYNSKI: They would change for the 2013, yes.

MR. BOB PETERS: But Manitoba Hydro hasn't -- hasn't run those yet?

MR. ED WOJCZYNSKI: No, we haven't. We've been preoccupied with trying to get everything for this process. It's the same people again.

MR. BOB PETERS: And I'm not pointing fingers, Mr. Wojczynski, so -- so please don't -- don't interpret my questions in that vein.

And, Mr. Wojczynski, if this panel wanted those -- those scenarios run, what would be the -- the timeline that Manitoba Hydro would require to provide that information?

MR. ED WOJCZYNSKI: I'm afraid I don't know and I'd have to take that as an undertaking. But I would like to add that we already have strong indications and much information about the impacts of the variability using the 2012 information. And I think with taking the information we're going to be providing and are providing with the reference, that one can use judgment to apply the vast amount of information we already have on the effect of uncertainties, and then transpose that using the -- the new information on the reference case.

So I think the combination of the new information with the reference case, combined with the extensive information on the 2012 with the twenty-seven (27) scenarios, in our view, would be sufficient to make judgments on the economics and on the risks.

MR. BOB PETERS: What you're telling the panel, Mr. Wojczynski, is that...

(BRIEF PAUSE)

MR. BOB PETERS: What you're telling the panel, Mr. Wojczynski, is that, directionally, the Board should be able to decipher which way circumstances would go based on -- on different probabilities, even though it wouldn't have the precision of having those runs done?

MR. ED WOJCZYNSKI: It's -- it's not so much the probabilities as -- as the evidence that's being provided, such as what Ms. Carriere provided this morning, giving an indication of how the results vary due to capital costs or -- or economic indicators.

Those general indications would still be valid whether we provided an updated one or we were relying on the information already presented. So those general conclusions, those general trends, would still all be valid.

MR. BOB PETERS: It's the precision that wouldn't be provided?

MR. ED WOJCZYNSKI: Yes.

MR. BOB PETERS: And on page 11 of Board counsel's book of documents, the projected cumulative annual percentage rate increases by development plan, Ms. Carriere -- you thought your slide was busy; likewise, this one -- this represents the cumulative annual percentage increase for each of the eight (8) plans that finance initially ran, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And these aren't on a net present value basis?

MS. LIZ CARRIERE: No, they're the cumulative rates over the fifty (50) year period.

MR. BOB PETERS: And they haven't been updated for the -- for the new capital and the no WPS investment and the changed probabilities?

MS. LIZ CARRIERE: No, they have not specifically been updated. But the -- like I showed this morning, the high capital cost scenario which falls within that range would -- would appear in -- in that graph.

MR. BOB PETERS: Well, let's just talk about that. Manitoba Hydro this morning said that if you use the high capital -- and maybe we can -- we'll just go back to slide -- slide 9, and -- page 9 in Board counsel's book of documents, I apologize, page 9 of Exhibit 58-4, and we look, Manitoba Hydro is suggesting to this panel that even though it doesn't have the precision yet, the capital costs on a high basis would be the proxy for what the expected rate increases could be based on the new information from March the 10th, 2014?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And did -- did the panel -- would the panel be correct in understanding that, whereas before, the annual cumulative rate increases were 39 -- 3.95 percent, if you used the proxy for high capital costs, that three nine five (3.95) would be replaced by 4.27 -- 4.27 percent?

MS. LIZ CARRIERE: That's correct under the methodology we used for the evaluation purposes.

MR. BOB PETERS: I'm sorry, I missed your -- your qualification on that, Ms. Carriere.

MS. LIZ CARRIERE: Based on the eval -- the methodology we used for the evaluation purposes. I think we also said that we would be able -- likely be able to maintain the three nine-five (3.95) if we allow the debt-equity ratio to defer.

MR. BOB PETERS: Well, you could keep three nine-five (3.95) -- I mean, you could keep 3 percent, I think I heard Mr. Rainkie say this morning, if you wanted to let the debt-equity ratio slide even further into the future, correct?

MR. DARREN RAINKIE: In this case, Mr. Peters, I don't think it would be sliding more than a year or two (2) into the future. So I think the -- you know, from the analytical world, the differential was the three nine-five (3.95) to the four two-seven (4.27), as you're indicating, but in the real world certainly management of Manitoba Hydro would try to maintain the three nine-five (3.95).

And if we are able to obtain the level of net income and cash flow that's coming in the late '20s after the in-service of Conawapa, we would be fairly easily able to let the equity ratio slip by a year or two (2).

MR. BOB PETERS: That's a strategic decision, Mr. Rainkie, where Manitoba Hydro would --

would want rate increases to be three nine-five (3.95) and not above four point zero (4.0), just perhaps optics if nothing else?

MR. DARREN RAINKIE: Optics and sensitivity to customer rate increases, Mr. -- Mr. Peters. Like we will do our best to hold the line in our forecasts as best we can.

MR. BOB PETERS: And so Manitoba Hydro has -- has determined that the line of demarcation is 3.95 percent as -- and at that point it's financially responsible and it's not -- it's still responsive to consumers?

MR. DARREN RAINKIE: Well, there's -- there's no fine point on it, Mr. Peters. It's -- in our judgmental rate setting methodology that we have, you know, it's -- it's a judgment in terms of what the rate increases are. And we do indicate that these are pro formas going out twenty (20) years.

But as our -- as our forecast stands right now, we are conscious that the projected rate increases are double the rate of inflation. And, you know, we are ratepayers too. We sympathize with customers. We sit at the kitchen table at Easter and talk to our families, as well, and they ask us, Why are -- why do we need these types of rate increases?

So we're going to do our best to manage. I can't predict with certainty what might happen in ten (10) or fifteen (15) years, Mr. Peters, but certainly the discussion that we had at the executive committee and the Board in the last few weeks is we would try to maintain the 4 per -- as close to the 4 percent as we could.

MR. BOB PETERS: You won't be sitting with your family this Easter, Mr. Rainkie. You'll be working, from what I'm hearing, so.

Ms. Carriere, I want to stay on this slide on the screen on page 9 of Board counsel's book of documents. I'm not sure I understood one of your answers to the panel.

When the capital costs were updated for Keeyask and Conawapa, together with capital costs for DSM measures, did that not take it out of the reference range in the initial analysis and actually put it through even higher than what the high level was based on the twenty (20) -- based on the August 16th, 2013, probabilities?

MS. LIZ CARRIERE: Yes, I think I mentioned to the panel on that slide this morning that the high capital cost scenario that we filed in this summer turns out to be relatively close to the -- the reference case from the March 10th update.

MR. BOB PETERS: But the reference case was even higher than the high, is what I'm -- what I'm asking, was it not?

(BRIEF PAUSE)

MS. LIZ CARRIERE: My back row is advising that they're both 6.3 billion.

MR. BOB PETERS: And that's for -- for Keeyask, but does that -- was it also the same for -- for Conawapa going up from, I believe, ten point two (10.2) up to ten point seven (10.7)?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Conawapa is both 10.4 billion.

(BRIEF PAUSE)

MR. BOB PETERS: Ms. Carriere, help me tidy up the record. Under the -- the capital costs on a high basis for Keeyask, under the August 13 filing was how much?

MS. LIZ CARRIERE: Six point three

(6.3) billion.

MR. BOB PETERS: And Conawapa, at that time, was?

MS. LIZ CARRIERE: Nine point four (9.4).

MR. BOB PETERS: That would have been the economic number, not the -- not the capital cost in-service number for Conawapa?

MS. LIZ CARRIERE: It's the reference in-service.

MR. BOB PETERS: All right. Now I've got your point. I've got your point. Thank you.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Rainkie, just -- just sliding through pages 20 and 21, this is the IFF that you've tried to forget, I think, isn't it, the 2012?

It's now been superceded by the IFF13?

MR. DARREN RAINKIE: Yes, this is the electric operations portion of that, Mr. Peters.

MR. BOB PETERS: And if we turn to page 22, Mr. Rainkie, the Board will see that under IFF12, Manitoba Hydro was, in the year 2015, writing off regulated assets of about $225 million, correct?

MR. DARREN RAINKIE: Yes, on the electric side of the business.

MR. BOB PETERS: And that's no longer the plan, is it?

MR. DARREN RAINKIE: No, Mr. Peters, because on January 30th of this year, the International Accounting Standards Board approved an interim standard, allowing us to transition to IFRS with rate-regulated accounting. We are not planning on writing those off, obviously. We have assumed an IFF thir -- I'm -- I'm sure we're going to get into this, so I might as well just give you the answer now, Mr. Peters. Sorry, I don't want to preempt your cross, but let me do my little speech and you can come back.

What we assume -- because it's uncertain what the longer-term view on this is going to be, we have just assumed in IFF13 that rate-regulated accounting would continue over the whole twenty (20) year period. When the International Accounting Standards Board makes its final determination, then we'll have to update our forecast as appropriate, but for now we're assuming that that write-off does not occur in the forecast period.

MR. BOB PETERS: And the impact of not

writing off 225 million, that's like finding an additional 10 percent on your retained earnings?

MR. DARREN RAINKIE: Mathematically. I mean, it doesn't change our cash flow, but in terms of retained earnings, yes.

MR. BOB PETERS: It puts you in a stronger debt equity position?

MR. DARREN RAINKIE: Yes, and I -- and I think you saw in my charts this morning that in the initial years of IFF13, we have a stronger position, and then that generates towards the back end.

MR. BOB PETERS: And while you've -- you've introduced in your slides, and I guess we'll find on page 30 of Board counsel's book of documents, we'll see the information taken from IFF13, correct, Mr. Rainkie?

MR. DARREN RAINKIE: Sorry, Mr. Peters, I'm just getting there. Page 30?

MR. BOB PETERS: Yes, sir.

MR. DARREN RAINKIE: Yes, that's the summarization of the various key financial metrics from IFF13.

MR. BOB PETERS: And this has also been marked as Manitoba Hydro Exhibit 97 in these proceedings, in case you're not aware, but we -- we've got it, the full IFF on the record, Mr. Rainkie, so if there's anything you want to refer to in there, please let the -- the panel know.

While we're looking at the summary page, Mr. Rainkie, the panel will note that the net income is now projected from 2018 to 2022 to be in the red, or a -- as a loss, correct?

MR. DARREN RAINKIE: That's correct, Mr. Peters.

MR. BOB PETERS: And that was not the expectation in 2012, was it?

MR. DARREN RAINKIE: I believe, Mr. Peters, there was a small loss in one (1) of those four (4) years. But cert -- certainly, as -- as I mentioned, because of the lower load expectations and higher capital costs, that has denigrated a bit.

MR. BOB PETERS: And --

MR. DARREN RAINKIE: I mean, that -- that time period, of course, is -- is coming into service of Bipole III and -- and the Keeyask generating station, which are large assets, suddenly coming into our -- into our income statement, if you like, Mr. Peters.

MR. BOB PETERS: And the reason that's significant is when those large assets come onto the income statement, Mr. Rainkie, they bring with them costs that have to be recovered?

MR. DARREN RAINKIE: I'm having trouble with the mics, Mr. Peters, so bear with me here.

MR. BOB PETERS: Is it on?

MR. DARREN RAINKIE: Yeah. Yes, Mr. Peters, that's the case from the cost side, that those -- those plants flip over from being deferred in construction and progress to being in service. And we start to depreciate those plants, and the finance costs associated with those plants come into our income statement. But as I was trying to indicate this morning, that doesn't mean that there's a 1:1 increase in our rates.

MR. BOB PETERS: I have your point, but what you -- what you told the Chairman this morning was that when these large capital assets come onto the operating statement, they bring with them depreciation expense, finance expense, and I guess the operating and maintenance expense?

MR. DARREN RAINKIE: We'll make an accountant out of you yet, Mr. Peters. That's correct.

MR. BOB PETERS: Well, thank you for trying. The -- you and the Chairman got it up to about 8 percent of the capital cost in terms of what would hit the operating statement. But when you add the operating and maintenance, it's probably closer to 9 percent.

Would you agree with me on that?

MR. DARREN RAINKIE: You know, Mr. Peters, I think you've been down this road with Mr. Warden a number of times in the last two (2) GRAs. And, you know, that's -- that's probably -- probably close if you -- if you look at interest costs at 6 percent and depreciation at 2. I'm not sure if operating cost is a full point or not.

I guess my only point is that when you -- when you look at the life cycle of a hydroelectric generating station, it could be misleading to look at the carrying cost in year 1. A better metric is to look at the levelized cost over -- over time, Mr. -- Mr. Peters.

MR. BOB PETERS: All right. A levelized cost view is a different metric than in-service cost, correct?

MR. DARREN RAINKIE: Yes, and it aligns well with our rate-setting methodology, where we smooth in rate increases over time.

MR. BOB PETERS: And so -- so in IFF12 Manitoba Hydro was, I think, projecting losses through

-- from '19 to '21 -- or 2019 to 2021 of about 84 million. Those losses are now closer to 145 million, but over a five (5) year period.

You'd accept that, Mr. Rainkie, as accurate?

MR. DARREN RAINKIE: Subject to check, Mr. Peters. Once again, this is -- this is the confluence of all of the assumptions in the financial model. Obviously, as we get closer to those years, we would try to take any management actions that are possible to -- to manage those numbers more into the -- into the black than in the red. But that is the forecast as it stands right now.

MR. BOB PETERS: All right. And it's been Manitoba Hydro's pension not to want red ink on its net income line.

Isn't that also correct?

MR. DARREN RAINKIE: Yes, it has been, Mr. Peters. But once again, if you want to be sensitive to customer rate impacts and -- and smooth in rate increases over time, we -- when large assets such as Bipole III and Keeyask come into -- into service, it's -- it's difficult to maintain a healthy net income. When the last generating units of Conaw -- I'm sorry, Limestone came into service many years ago, Mr.

Peters, we had a loss then as well.

MR. BOB PETERS: That'd be the last example you can provide the panel of when -- when losses were deliberately carried on the net income line?

MR. DARREN RAINKIE: Mr. Peters, you know, there probably have been other times if -- because of water flows that there have been losses in that period of time, up to particularly 2003/'04, Mr. -- Mr. Peters, comes to mind. But it's -- it's just -- it's just the nature of our business. We're -- we're always investing in assets and we're trying to smooth rates for customers. And -- and when you have large assets coming into service, that can result in -- in red ink. We don't like it, but the alternative is having, you know, volatile rate increases or large one (1) time rate increases. We don't like that worse.

MR. BOB PETERS: Volatile rates are worse than -- than red ink?

MR. DARREN RAINKIE: I think from a customer perspective, they are. I think customers would prefer to have rates smoothed over time, Mr. Peters.

MR. BOB PETERS: And just to -- to conclude on this, Mr. Rainkie, when the panel looks at page 30 and sees under the, "Net income," line those -- those losses that are shown, what would be the approximate rate increases that would be needed to -- to wipe out those losses, or remove the losses, I guess?

MR. DARREN RAINKIE: Well, Mr. Peters, just using a rough guide, as I indicated, our -- our revenue requirement at current rates is about $1.4 billion, so a 1 percent rate increase is, you know, $14 million. Of course, that will increase with time over rate increases.

But let's say just for rounding's sake, $15 million is a 1 percent rate increase. So a -- a 3 percent higher rate increase would probably cover off the 55 million in 2018/'19, and then, of course, that stays there and overshoots the 19 million in the next year, et cetera, so. But that just gives you, you know, a rough indi -- indication. One (1) percent is 14, $15 million.

MR. BOB PETERS: So an additional 4 percent rate increase in 2018 would wipe out the losses for the next few years?

MR. DARREN RAINKIE: It might be three and a half (3 1/2), but somewhere in that range, Mr. Peters.

MR. BOB PETERS: Thanks for the order of magnitude, Mr. Rainkie. And in these expenditures, Mr. Rainkie, Manitoba Hydro is planning to spend -- is it about $2 billion, or a -- a bit more than $2 billion on capital expenditures throughout this period, including new capital as well as the base capital?

MR. DARREN RAINKIE: Sorry, Mr. Peters. Our capital program is moving in the range of a billion and a half to 2 1/2 billion in the next few years, so I think you're -- you're cutting a -- a line somewhere different than what I'm thinking.

MR. BOB PETERS: All right. Let's turn to page 36 of Board counsel's book of documents, Mr. Rainkie, and go down to the investing activities in the, "Property plant and equipment net of contributions."

(BRIEF PAUSE)

MR. DARREN RAINKIE: I have that, sir.

MR. BOB PETERS: And if the panel looks to the, "Property plant and equipment net of contributions," it sees a line of, in 2015, about $2 billion, and it's over $2 billion for the next five (5) or six (6) years, Mr. Rainkie?

MR. DARREN RAINKIE: Yes, on an annual basis.

MR. BOB PETERS: And that would --

MR. DARREN RAINKIE: I think that's where we were disconnecting.

MR. BOB PETERS: Okay. Yes. And -- and that would -- that would include the base capital, as well as the capital spent on major capital projects?

MR. DARREN RAINKIE: That's right. It would include all of our capital.

MR. BOB PETERS: And when this panel hears the words 'base capital,' they should think, Mr. Rainkie, of it being the capital that is spent each and every year by Manitoba Hydro on maintaining the system and upgrading it as the system -- as the system grows?

MR. DARREN RAINKIE: Yes. A more common word would be 'sustaining capital', Mr. Peters, but I -- I agree with your characterization.

MR. BOB PETERS: And that sustaining capital, Mr. Rainkie, is about $500 million a year?

MR. DARREN RAINKIE: It too can range in the 5 to $600 million range, Mr. -- Mr. Peters.

MR. BOB PETERS: And everything above that 5 or 6 million -- 6 billion -- sorry, everything above that 500 to $600 million number, Mr. Rainkie, that is spent on capital goes primarily, then, to the major capital projects, which include the Bipole III, Keeyask, Conawapa, as well as other ones that would be listed in your capital expenditure forecast?

MR. DARREN RAINKIE: Yes, Mr. Peters. Typically those projects that increase -- that are large in size and increase the capability of our system.

MR. BOB PETERS: And the largest of those major capital projects are the ones that I've listed, which was Bipole III, Keeyask, and Conawapa?

MR. DARREN RAINKIE: Yes, Mr. Peters.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Rainkie and Ms. Carriere, if Conawapa was deferred, and I'm going to go back to page 30 for that summary table that we were looking at just a few minutes ago.

(BRIEF PAUSE)

MR. BOB PETERS: That summary table of rate increases, Mr. Rainkie, includes the Preferred Development Plan, correct?

MR. DARREN RAINKIE: Yes, Mr. Peters.

MR. BOB PETERS: Did -- did Manitoba Hydro, from a financial point of view, look at it to say what would happen if -- if Keeyask was -- was not proceeded with?

MR. DARREN RAINKIE: Well, Mr. Peters, maybe I'm not understanding your question, but in the financial, and -- sorry, the financial analy -- analysis information that Mr. -- Ms. Carriere was talking about this morning, we did have an All Gas Plan, so we have analyzed a -- a situation in which we are not going with a hydroelectric plant like you --

MR. BOB PETERS: But I was thinking of Keeyask being included, and so that you'd draw the Board to the Keeyask/Gas Plan to look at those -- those representative rate increases, which would implicitly exclude Conawapa?

MR. DARREN RAINKIE: Well, we're back to the eight (8) plans we talked about that we analysed with -- with all the variants, Mr. Peters, yeah.

MR. BOB PETERS: And on page 32 of the book of documents, Mr. Rainkie, the panel will see that there's a new line item that you've added for 2013, and it's the Bipole III reserve account, correct?

MR. DARREN RAINKIE: Correct.

MR. BOB PETERS: And that represents monies that have been ordered by the Public Utilities Board to be held in a deferral account out of consumer rates from the last PUB Board order?

MR. DARREN RAINKIE: Yes, that was 1 1/2 percent under the 3 1/2 percent rate increase on May 1st, 2013, was designed to be included in a capital reserve account.

MR. BOB PETERS: And the intention was, from Manitoba Hydro's understanding, to help feather in the impacts of Bipole III?

MR. DARREN RAINKIE: Yes, that was the stated intention in Order 43/'13.

MR. BOB PETERS: Will it have that impact, Mr. Rainkie?

MR. DARREN RAINKIE: It -- it will -- it will help, Mr. Peters. As you can see, it's -- it'll build up to a certain amount, and in -- in the forecast, that we've assumed a fairly quick amortization period, because there was no amortization period specified in Order 43/'13. I think it was to be determined at a future general rate application.

MR. BOB PETERS: But my point, Mr. Rainkie, is that even with the Board having put away the proceeds from 1 1/2 percent rate increase at the last GRA, Manitoba Hydro still intends to come forward and -- at a 3.95 percent annual request?

MR. DARREN RAINKIE: Yes, Mr. Peters. We asked for 3 1/2 percent in the last general rate application for the '13/'14 fiscal year. The Public Utilities Board gave us 3 1/2 percent. They just divvied it up a little differently than how we were going to use it.

So I'm not sure why there would be any expectation that with all the same parameters, IFF13 would result in anything but the 3.95 percent rate increases, because simply designating a point and a half, taking that out of your current income statement and pushing it over a few years isn't really going to change the equation all that much.

(BRIEF PAUSE)

MR. BOB PETERS: What I hear you saying, Mr. Rainkie, is that regardless of how the Board directed it, it doesn't change the fact that the percent increase that's going to be sought by Manitoba Hydro will -- will not change.

MR. DARREN RAINKIE: That's right. And -- and you have to add to the fact that, as I mentioned this morning, the net income outlook is worse in IFF13 than IFF12, so certainly for that -- in that reason alone, I don't think you would expect us to pull back from the 3.95 percent rate increases.

MR. BOB PETERS: And the reason the -- the revenues were down, Mr. Rainkie, I think Ms. Carriere said it this morning, the primary reasons were the reduced domestic load, and the second reason was that the off -- sorry, the on-peak opportunity export price was down about 3 percent.

MR. DARREN RAINKIE: Yes, that and higher capital costs, Mr. Peters.

MR. BOB PETERS: Higher capital costs, including those that are going forward for the -- for the projects, for the major capital projects?

MR. DARREN RAINKIE: Major capital projects and re-estimates of base capital projects as well, Mr. Peters.

MR. BOB PETERS: And on page 30 of Board counsel's book of documents, Mr. Rainkie, you have two (2) columns. One is called, "Interest Coverage," and we heard -- Ms. Carriere, you can jump in any time if you -- if you choose, the interest coverage ratio that Manitoba Hydro now has as its newest -- the latest number is a 1.20 percent, correct?

MR. DARREN RAINKIE: It's one point two-zero (1.20), not a percent, Mr. Peters, but yes.

MR. BOB PETERS: It -- it's a ratio?

MR. DARREN RAINKIE: You're one (1) step closer to that accounting designation, Mr. Peters.

MR. BOB PETERS: And when the Board looks at the interest coverage ratios shown on page 30 that's before them on the screen, they're going to note that, starting in 2019, Manitoba Hydro dips below one point zero (1.0), correct?

MR. DARREN RAINKIE: Yes, it -- it does. It's -- point nine-five (.95) is the projection.

MR. BOB PETERS: And it goes down -- it goes to point nine-eight (.98), point nine-five (.95), point nine-seven (.97) for the next four (4) years, there?

MR. DARREN RAINKIE: That's correct.

MR. BOB PETERS: Would it be simplistic for the panel to understand it, Mr. Rainkie, is that when that happens to Manitoba Hydro, Manitoba Hydro now has to send Mr. Schulz out to borrow money to pay for interest, because there wasn't enough money from operating?

MR. MANFRED SCHULZ: At a capital cover -- or interest coverage ratio of one point zero (1.0), just because of the way the mechanics of that ratio works, it's an accounting net income driven calculation. There's always depreciation and amortization that's part of the accounting equation.

So in terms of the amount of money that would be still needing to be paid out as gross interest to bond holders, it is not exactly true to say that we can go -- any -- if we're below one point zero (1.0) on the interest coverage ratio, that the corporate treasurer needs to go and -- and borrow the incremental amount in the capital debt markets.

MR. BOB PETERS: So you're saying you can meet that interest coverage -- that interest expense from internally generated funds, even if it's below one (1)?

MR. MANFRED SCHULZ: The payments to bond holders can be made if the interest coverage ratio is below one (1). At one (1), the interest coverage to bond holders and to interest payments can still be made.

MR. BOB PETERS: And if it's below one (1), Mr. Schulz?

MR. MANFRED SCHULZ: And if it's below one (1), it depends how far low we go, because net income also includes, from an accounting perspective, noncash items for depreciation and amortization. If one were to add those items back into the amount of available cash available to pay for bond holders, you would find that at measures slightly below one (1), we still have funds available to meet all of the interest payment requirements.

MR. BOB PETERS: So you don't need a one point two (1.2) ratio. You need at least a one point zero (1.0)?

MR. MANFRED SCHULZ: No. The one point two (1.2) interest coverage ratio is a really sound and solid ratio for the consideration of the Corporation's financial strength on an ongoing sustenance basis. The -- the notion that you have the point two (.2) above the one (1) is a -- is a sound and solid and prudent cushion that we would have.

I'm just saying as a technical matter, if one were to look at the precision of the calculation for the determination of precise cash flow requirements to meet bondholder interest payments, you can go -- go below one (1) on the interest coverage ratio. If you're looking at the interest coverage ratio, not as an ongoing measure, but rather, as a strict definition of liquidity and -- and to meet the bondholder requirements, you still have room to go below one point zero (1.0).

MR. BOB PETERS: All right. At what point in time do you -- do you go cap in hand looking for money to pay your bondholders?

MR. MANFRED SCHULZ: How low can you go is the question? It does depend somewhat on the -- again, from the net income perspective, if you were to add back the amortization/depreciation amounts to see how much head room you have, it does depend -- so it -- it's not easily determined and deciphered from a ratio perspective, but generally, we find that if you go down to about point eight (.8) on our definition of interest coverage ratio, we generally still have sufficient headroom to make all of our interest payments.

MR. BOB PETERS: Thank you, Mr. Schulz. On the capital coverage ratio, you use the same -- the same target of one point two-zero (1.20)?

MR. MANFRED SCHULZ: The capital coverage ratio is one point two-zero (1.20).

MR. BOB PETERS: And the Board will see in the capital coverage column that's on page 30 in front of them on the screen, that the capital coverage ratio goes below one point zero (1.0) starting as early as 2015, through 2016 and 2017, correct, sir?

MR. MANFRED SCHULZ: Correct.

MR. BOB PETERS: And the notion is that if the capital coverage ratio gets too low, Manitoba Hydro will have to go borrow money for the base capital, or the sustaining capital, that Manitoba Hydro wants to spend every year, correct?

MR. MANFRED SCHULZ: The general proposition is, is that if you have a capital coverage ratio of one (1), you have enough cashflow from operations to meet all of your base capital requirements. Should it be below one (1), then the incremental difference is something that you would need for debt financing to meet not only the base capital requirements, but any other incremental new borrowings -- or new capital projects.

MR. BOB PETERS: And can you -- how low can you go on the capital coverage ratio before you have to borrow to pay for your capital -- for your base capital or sustaining capital expenses?

MR. MANFRED SCHULZ: Any amount below one (1) by the arithmetic of that calculation would be incrementally having to be borrowed in the capital markets.

MR. BOB PETERS: All right. Thank you, sir. Mr. Rainkie, have you got the electric operations financial forecast, Manitoba Hydro 13, with the electric financial ratios shown on the bottom, as often as requested of Manitoba Hydro?

MR. DARREN RAINKIE: Not in my hands as I sit here, Mr. Peters. We do that -- let me back up one (1) -- one (1) touch here. We only have financial targets at the corporate level. Given the scale and the scope of our electric business, it doesn't make sense to have two (2) sets of financial targets.

We do calculate those for the PUB and the PUB advisors during GRAs. So we -- we can produce that. It -- it's usually pretty close to what the -- the corporate ratios are. It's -- it -- it won't show you anything much different, Mr. Peters.

MR. BOB PETERS: If you could provide that as an undertaking, Mr. Rainkie, that would be appreciated.

MR. DARREN RAINKIE: Sure, Mr. Peters. For the court reporter, we'll undertake to provide the financial ratios associated with electric operations in IFF13.

Is that acceptable, sir?

MR. BOB PETERS: Yes, it is. Thank you, Mr. Rainkie.

--- UNDERTAKING NO. 47: Manitoba Hydro to provide

the financial ratios
associated with electric
operations in IFF13

MR. BOB PETERS: And, Mr. Chairman, in light of the hour, this might be an opportune time for the afternoon recess. I'll continue after the recess, if that suits the panel?

THE CHAIRPERSON: I have some questions for Mr. Wojczynski. Is he -- is he coming back, or...?

MS. PATTI RAMAGE: Yes. I just excused him.

THE CHAIRPERSON: If he's coming back after -- after the break, I can -- I can reserve the questions for the break.

(BRIEF PAUSE)

THE CHAIRPERSON: Mr. Wojczynski, I guess it's a -- it's a combined question, I guess, in the sense that I'd like to address the issue of the approval of a 750 megawatt line in the US, and if you had a scenario where the -- that line was not approved by US authorities, we would -- we would have constructed Keeyask and we would still be able to -- to sell the power generated from Keeyask into that US marketplace, all of it, would we?

MR. ED WOJCZYNSKI: Yes, we would, and if you look at the Keeyask/Gas Plan, you'll see in that case that is exactly what happens in that -- that we don't have any additional interconnection capacity, and we're still able to sell the power from Keeyask. What -- what would happen in some situations -- well, at least some situations, you couldn't shift as much into the on-peak, because you don't have the tie-line capacity.

There will be times when you can't shift as much of the energy from Keeyask into the on-peak. You have to sell it in the off peak, so you wouldn't get as much benefit from Keeyask as if you had the bigger tie-line, but you could still -- most of the time, you could still sell the Keeyask power.

THE CHAIRPERSON: So you would then have removed the costs associated with the intertie, the 750 intertie out of the -- out of the equation. I guess what I'm trying to establish is that are there costs related to such a decision, from your perspective?

In other words, if the US authorities don't -- don't approve the line, the -- are there cost consequences to Manitoba Hydro resulting from that, in other words, if we get a scenario where Keeyask effectively becomes a bit of a stranded asset?

MR. ED WOJCZYNSKI: It -- it doesn't become a stranded asset. It becomes an asset which isn't worth quite as much as it was with the interconnection. Again, if you go to the plan with Keeyask/Gas, you -- I don't -- as we've demonstrated, it is still beneficial compared to the All Gas Plan, and even with the higher capital costs, that's still the case.

So if you lose the interconnection, you lose two (2) -- you lose two (2) things. The interconnection brings benefits to the existing system by enabling it to move energy from the off peak to the on peak, and it provides imports in emergencies and all those other things we've talked about -- into -- it loses that, plus Keeyask.

When you add Keeyask with the interconnection, you're able to take more of Keeyask's off-peak energy and put it into the on peak, and export it and get a higher value from it, whereas if you don't have the interconnection, you can still sell the power most of the time. It's just that a larger percentage would be in the off peak, and would -- would have a somewhat lower value.

So it's not that it's stranded. It's just not quite as valuable as with the interconnection.

THE CHAIRPERSON: What would become stranded though would be any cost that you've spent trying to get approval of the line, any preparation costs you would have incurred to set the line up and so on, right?

MR. ED WOJCZYNSKI: That's correct. There would be costs related to the engineering and the planning, the community consultations that are underway right now, and I -- I might add a -- a small -- add an addition to that. You weren't asking, but I'll take the opportunity to mention that, as we said in our submission, we would fully expect, and it's scheduled that we'd have all our approvals for the 750 megawatt export line and import line before we have to make any commitments to Conawapa.

And if we did not have those yet, if there was -- there were delays in that, what we can fully expect is that no commitment would be made to Conawapa until we did have that.

If, for some reason, the -- we -- let's say we were proceeding with the full Development Plan with both Keeyask and Conawapa, and let's say, for some reason, that we're -- we get surprised and the interconnection approval process takes longer than we anticipate, for whatever reason, and we had already -- have sales agreements that would be looking at Conawapa. What I would fully expect is we would defer Conawapa commitment until we actually had those approvals on the -- the new interconnection.

THE CHAIRPERSON: What then becomes stranded though, is any costs you would have spent on Conawapa to prepare the -- to -- to protect the in-service date?

MR. ED WOJCZYNSKI: Yes. That is true, yes. But we -- having said all that, we think it would be a very low risk that 750 megawatt interconnection would not be approved. The -- it's shown to have a lot of benefits into the Minnesota area as well -- well as the Wisconsin area. There are so -- there are local supporters for it. The state regulators, the MISO entities, and -- and the regulatory authorities are all seeing a -- a need for -- and -- and the federal regulators, a need for transmission enhancements, and they see this as being very beneficial to the ratepayers, to the customers in Minnesota and Wisconsin.

And -- and that's -- Mr. Cormie and Mr.

Jacobson had explained that with those wind studies, how -- how the interconnection and the addition of the generation in Manitoba assists in -- with their wind plans, as well as providing our power to them.

So we think the -- the risk of not getting the 750 megawatt line approved is -- is low, but it's -- there's no guarantee.

THE CHAIRPERSON: Now, there are two (2) permits involved in that line, aren't there? There's a certificate of need, which is done by one (1) authority, and then the siting is done by another authority.

Am I right?

MR. ED WOJCZYNSKI: Yes, that's correct. And as I -- that's correct.

THE CHAIRPERSON: But the opposition from the public, if it were to come, would likely come through the siting permit, wouldn't it?

MR. ED WOJCZYNSKI: Yes. And as Manitoba Hydro has extensive experience with -- and every other transmission line builder, you -- you will -- you will just about always have some opposition to the local siting, routing of the line. And one of the things that you can do with a transmission line that you can't do with generation is you can shift where it is.

You can -- you can take jogs in it. You can -- you can go around corners. So unlike the generation station, you can't move it around; with the transmission line you start with a broad swath, and then -- then you narrow down to -- to one (1) broad swath. But then within that you have a lot of flexibility. And one of the -- one of the advantages that we'd be looking at in the States is using existing right-of-ways, for example, or road -- road -- I can't remember what they're called.

(BRIEF PAUSE)

MR. ED WOJCZYNSKI: Allowances, and -- to -- to minimize the -- the perturbance to the local activities. So the -- the -- so that greatly reduces the risk associated with the siting process.

THE CHAIRPERSON: Now, the rate consequences of Conawapa not proceeding, are you in a position to -- to expose those?

In other words, are you prepared to -- are -- are -- can we get access to what the rate consequences would be if Conawapa is not part of the picture?

MR. ED WOJCZYNSKI: Well, first of all I think if we're talking about the rates, we'll have to ask the -- the financial people on the panel. But maybe if we can just explore what the question is. I think what you're asking is if we're planning to do Conawapa in the Preferred Plan, and then for whatever reason we -- we -- let's say we proceed with Keeyask and the interconnection but then we stop working on Conawapa, what are the impacts of that?

Was that your question, sir?

THE CHAIRPERSON: Yes, I think it is.

MR. ED WOJCZYNSKI: So let me do the front end of that, and then the financial people will do the tail end. As I don't have it at my fingertips, but we have provided in interrogatories what we'd be spending roughly every year with Conawapa to protect it. And -- and, so you know, depending on which year you -- we -- we would stop work on Conawapa, that would dictate how much money we'd have spent.

So we can certainly bring that forward again as a reminder. The second issue then comes out as: Are you assuming that Conawapa never happens, or is it that it's just delayed a number of years? And that would affect the financial people. But at this point I think they have to take over from there.

THE CHAIRPERSON: Well, look at it from our perspective, you know. You -- you've introduced a level of uncertainty now with respect to the Preferred Development Plan. You -- you indicated that Conawapa is sort of hanging in the wind for the time being. So I think the panel would need to know, if -- if Conawapa does not proceed, what would be the rate consequences to -- to Manitobans?

And -- and I think -- you know, I'm -- I'm not presupposing that any decision has been made about Conawapa. I'm just simply indicating that it should be a relatively easy part of the mix to establish a picture, were Conawapa not to be part of the package that's approved by government.

MR. ED WOJCZYNSKI: I -- I think Manitoba Hydro would agree. That's an important piece of information. If we carry on and then we ultimately don't proceed with Conawapa but we've invested in the front and the infrastructure -- well, it's not so much the infrastructure, it's in the preparation -- what are the consequences of that. And that's why we have provided the -- the cost information from what we'd expend.

Maybe what we could do is come back with an -- unless the financial -- other financial people --

the financial people can say something otherwise now, we could do a worst-case scenario and say, What if we went up to the summer -- summer or fall -- fall, you know, to the end of 2017 and stopped work, we have that number, how -- that's -- how many hundred million dollars that is; and -- and then secondly the financial people, whether they can give some indication of what the rate impacts of that would be.

But I -- I suspect they can't do it on -- at the table today, but I think Ms. Carriere or Mr. Rainkie would have to comment on that.

MS. LIZ CARRIERE: We'd have to take an undertaking to do that.

THE CHAIRPERSON: Maybe I could -- I could express the undertaking. If Manitoba Hydro will let you -- let Manitoba Hydro do their own undertaking. I -- I'm trying to get at the information regarding rates applicable to a scenario whereby Conawapa does not proceed for whatever reason. I -- I think, even better, I think --

MR. ED WOJCZYNSKI: So I -- what -- what we're talking about is we proceed with the Preferred Plan, and you switch from the Preferred Plan to Pathway 5 in the end of 2017, and then what is the impacts of that? So that would be the undertaking.

--- UNDERTAKING NO. 48: Manitoba Hydro to indicate
the impact of proceeding
with the Preferred Plan,
and then switching from the
Preferred Plan to Pathway 5
in the end of 2017

MR. RICHARD BEL: Mr. Wojczynski, I have a related question. If Conawapa doesn't proceed, which was one (1) of the pathways, it was Keeyask/750/Gas, was the net cost of not connecting Bipole III to the Conawapa section netted from that capital, because there was a -- there was a $300 million cost to hook Conawapa into Bipole III?

MR. ED WOJCZYNSKI: The -- the cost to connect Conawapa itself into the Bipole III station at Keewatinook, that would not be incurred, and that would be part of the cost saving. Yeah, and -- and perhaps also the other part that's worth mentioning is the -- the AC system upgrades from the north to the south out have to happen in addition to Bipole III. That would not -- also not have to be incurred, and so that -- so that cost saving would also be eliminated from the Preferred Plan.

MR. RICHARD BEL: So -- so --

MR. ED WOJCZYNSKI: So what we would eliminate from the Preferred Plan is the cost of the generating station itself, the cost of the transmission to hook Conawapa into the northern collector system, into the DC collector system, and the third is we would save the cost of the upgrades in the HV -- high voltage AC system from the north to the south that Dr. Jacobson talked about.

MR. RICHARD BEL: Was that -- was that part taken out when we -- when we're comparing the plans and the economics?

MR. ED WOJCZYNSKI: Yes, that -- that is -- that is part of it, so when we compare plan -- the Preferred Plan to -- to Plan 5 or to Plan 6, as Ms. Carriere did earlier today, that was already a difference that was incorporated in what she presented to you.

MR. RICHARD BEL: Thank you.

MS. MARLA BOYD: Mr. Chair, just before we break, I do have some filings I could make now, if you'd like them. There's a series of exhibits to be filed, which I believe are making their way to you.

(BRIEF PAUSE)

MS. MARLA BOYD: The first two (2) are part of Exhibit 104. They would be 104-3 and 104-4. So that provides the supply and demand tables for the DSM evaluation, and the economic summary tables.

--- EXHIBIT NO. MH-104-3: Supply and demand tables for the DSM

--- EXHIBIT NO. MH-104-4: Economic summary tables

MS. MARLA BOYD: Also, behind those in the package is the response to Manitoba Hydro undertaking number 24. We would propose that that be Manitoba Hydro Exhibit 112.

--- EXHIBIT NO. MH-112: Response to Undertaking 24

MS. MARLA BOYD: Next is Manitoba Hydro Undertaking number 35. That's from transcript page 1820, and we would suggest that that be Manitoba Hydro Exhibit number 113.

--- EXHIBIT NO. MH-113: Response to Undertaking 35

MS. MARLA BOYD: Next is the response

to Manitoba Hydro undertaking number 41. That's from transcript page 2081, and we would suggest it be marked as Manitoba Hydro Exhibit 114.

--- EXHIBIT NO. MH-114: Response to Undertaking 41

MS. MARLA BOYD: Following that, response to Manitoba Hydro Undertaking number 37, from transcript page 2050, and we'd propose that that be Manitoba Hydro Exhibit 115.

--- EXHIBIT NO. MH-115: Response to Undertaking 37

MS. MARLA BOYD: Next is the response to Manitoba Hydro Undertaking number 38, from transcript page 2-71, and we would propose that that be marked as Manitoba Hydro Exhibit 116.

--- EXHIBIT NO. MH-116: Response to Undertaking 38

MS. MARLA BOYD: Then we have the response to Manitoba Hydro undertaking number 39, from transcripts page 2,040 -- sorry, twenty seventy-four (2,074), and we'd propose that that be Manitoba Hydro Exhibit 117.

--- EXHIBIT NO. MH-117: Response to Undertaking 39

MS. MARLA BOYD: And the last page in that package does not have a transcript number. It's just from the request this morning, so we've proposed that that be marked as Manitoba Hydro Exhibit 118.

And that comes from your request to include the information for residential bills in North Dakota, Minnesota, and Wisconsin. You'll see them added on the graph. Thank you.

--- EXHIBIT NO. MH-118: Response to Undertaking 45

THE CHAIRPERSON: I propose that we take a fifteen (15) minute break, so back here at fifteen (15) after. Thank you.

--- Upon recessing at 2:58 p.m.

--- Upon resuming at 3:17 p.m.

THE CHAIRPERSON: Mr. Peters, I believe we are ready to resume the proceedings.

MR. BOB PETERS: Yes, thank you, Mr. Chairman.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: I'd like to move along to page 39 of Board counsel's book of documents. And, Ms. Carriere, you'll find an extract from Appendix 11.4 at page 39 of Board Counsel's book of documents.

You have that, ma'am?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And this is the financial forecast that represents the Preferred Development Plan, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And this plan is being updated as one (1) of the three (3) plans that you are providing additional financial analysis on?

MS. LIZ CARRIERE: For the DSM analysis and the capital cost increase, correct.

MR. BOB PETERS: Is the DSM analysis and capital cost increase coming as two (2) separate analyses, or is it going to be combined into one (1)?

MS. LIZ CARRIERE: It will be one (1).

MR. BOB PETERS: Thank you. And what's before the Board here doesn't include the additional capital cost increases that were incorporated into CEF13 or the capital cost increases announced on March the 10th, 2014?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And this is an example of Manitoba Hydro seeking to recover the rates -- or, sorry, design the rates to have equal annual increases to get to a 75:25 debt-equity value by 2120 -- by 2031 and 2032?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And what the Board will see under the column of 2032 is that the cumulative general consumers revenue percent increase line under that 2032 column is at 107.76 percent, Ms. Carriere?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And that indicates to the panel that at that point in time domestic rates under this proposal would have increased 107 percent from where they are today?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And at the top of the page, when the Board looks at additional general consumers revenue line item, that number of 1.8 billion is the actual revenues that will have been coll -- collected if the PUB approves the rate increases shown on this table?

MS. LIZ CARRIERE: That's the amount of

additional revenue, yes.

MR. BOB PETERS: And at that point, the consumers will have paid $1.9 billion more, and the extra-provincial revenue on that date looks like it comes in at about $1.2 billion, correct?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And last point, just to be clear, the 2020 -- 2033 column shows that the additional general consumers revenue percent increase has a drop of 23 percent, and that was the sharp downturn where Manitoba Hydro mechanically adjusted its for -- its analyses to switch to a debt-equity ratio over to the interest coverage ratio?

MS. LIZ CARRIERE: That's correct, yes.

MR. BOB PETERS: And on page 40, Ms. Carriere, Manitoba Hydro ran this out over a fifty (50) year time horizon, correct?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And what confidence should the panel have in the information that's shown some fifty (50) years out?

MS. LIZ CARRIERE: Well, it's -- it's a forecast, so we know there's going to be changes between now and fifty (50) years from now. But assuming all things remain constant in the assumptions today, this shows you the general direction of trends in rates relative to the other -- the other development plans. It's not necessarily the -- the absolute value of the rate increases in that -- at that very point in time, and in 2062 that is particularly meaningful, it's what it is in relation to the other development plans.

MR. BOB PETERS: And on this particular operating statement, looking out at 2048, Ms. Carriere, that appears to be the year in which Manitoba Hydro makes an assumption that there will be no additional general consumers revenue at approved rates?

MS. LIZ CARRIERE: Similar to the economic evaluation, the load growth is assumed to be zero from that point forward.

MR. BOB PETERS: What wasn't assumed to be zero was the increase in export revenues from that point on, correct?

MS. LIZ CARRIERE: The export revenues are an average of the last three (3) years, and they're growing by inflation at that point.

MR. BOB PETERS: Does Manitoba Hydro then suggest that rather than there being consumer incre -- growth, whatever growth would be only on the export market?

MS. LIZ CARRIERE: Inflationary growth.

MR. BOB PETERS: It takes -- it takes the energy that would have been used for domestic customers and exports it at inflationary increases?

(BRIEF PAUSE)

MS. LIZ CARRIERE: There's no real growth in the export revenues beyond that point, so it's simply an average of the -- the last three (3) years that we have the detailed information. So if you have a net flow related revenue of, for example, $60 million, that it would grow just at inflation from that point.

MR. BOB PETERS: Turning the page, Mr. Carriere, to page 41, we see the balance sheet for the Preferred Development Plan run that was done and filed on August 16th of 2013; and it's not updated. But under 2028, it appears that the long-term debt hits the peak at around $28.4 billion?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: With the new information coming, that number's expected to increase, is it, Ms. Carriere?

MS. LIZ CARRIERE: Yes, I would expect that to increase.

MR. BOB PETERS: And on page 46 under Tab 5 of the book of documents, this run, Mr. Carriere, also came out of Appendix 11.4, and it's the Preferred Development Plan except under a scenario where there are low export revenues forecast, correct?

MS. LIZ CARRIERE: Low export and gas prices.

MR. BOB PETERS: And under this scenario, the cumulative annual rate increases out to 2032 would be as much as 131 percent compared to today?

MS. LIZ CARRIERE: Yeah, a hundred and thirty-two (132).

MR. BOB PETERS: Thank you. And the additional revenue from those domestic customers at that point would be $2.3 billion of additional revenues coming out of ratepayers?

MS. LIZ CARRIERE: Correct.

(BRIEF PAUSE)

MR. BOB PETERS: On page 53, Ms. Carriere, under Tab 6, there's the All Gas analysis. And All Gas is -- it's the least capital intensive alternative that Manitoba Hydro studied?

(BRIEF PAUSE)

MS. LIZ CARRIERE: I think it has the lowest capital cost, but I'd have -- subject to check.

MR. BOB PETERS: Thank you. And the panel will see that under 2032 the cumulative annual rate increases out to 2032 would be in the range of 90 percent?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And this includes recovery of the $1.6 billion of sunk costs that you had mentioned earlier in your testimony today, Ms. Carriere?

MS. LIZ CARRIERE: That is correct.

MR. DARREN RAINKIE: Mr. Peters, I -- I think I'm doing a pretty quick run here, not to interrupt you -- but I think you have to look at that 89 percent in 2060 -- sorry '32. If you focus towards the left-hand you see the losses that come out of the All Gas Plan between 2015 and 2020 as a result of the mechanical way of calculating this. I -- I suggest to you that 89 percent rate increases by 2032 would not be sufficient. I think the -- the rate increases would have to be higher upfront. And -- and for some reason we're stopping at year 20 in this analysis -- I'm --

I'm not sure why -- because of the correction factor right after -- in year 21. I mean, the real point of this exercise is going out over the long-term and seeing what the -- what the rate increases are over time.

I mean, the -- the whole point of a hydroelectric generating system it's going to have a long life, so to do a proper comparison against other shorter life assets you have to compare the -- the time periods.

I'm not sure if we're going to point that out to the Board or not, but certainly -- if you were going to point that out to the Board through your cross, but certainly we would want to make sure that the Board is looking over these entire -- this entire time frame in terms of understanding the various alternatives; particularly because of that correction factor stopping at year 20, I don't think is necessarily a fair picture of the -- of the alternatives.

MR. BOB PETERS: Well, let's do what you're suggesting then, Mr. Rainkie.

On page 54, out to 2062 the accumulative annual increases are 176 percent. Is that the number you wanted to draw to the Board's attention?

MR. DARREN RAINKIE: That's correct. And I think then if you compare that a couple tabs back to the Preferred Development Plan, that number's 106 percent. So there's a 70 percent differential going out fifty (50) years, which is quite significant.

MR. BOB PETERS: And this All Gas Plan, Mr. Rainkie, does not include any export revenue as a result of the gas plant.

Is that correct?

MR. DARREN RAINKIE: There is still export revenue, Mr. Peters, but it wouldn't be as high as in a hydraulic situation.

(BRIEF PAUSE)

MR. BOB PETERS: At what point, Mr. Rainkie, does the Preferred Development Plan crossover with the All Gas Plan? How many years out in terms of the rate increases, including the correction that you've -- you've noted?

MS. LIZ CARRIERE: It's -- it crosses over in 2035, which is fifteen (15), sixteen (16): seventeen (17) years.

MR. BOB PETERS: All right. Hang onto that thought, Ms. Carriere. We'll come back to that.

In Tab 7 of the book of documents, on page 58, there was discussion about consumer rate impacts happen over time and they have intergenerational impacts.

Would you agree with that?

(BRIEF PAUSE)

MS. LIZ CARRIERE: I'm sorry, what's the question?

MR. BOB PETERS: Manitoba Hydro's consumer rates are expected to happen over time, and have intergenerational impacts?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: For all plans?

MS. LIZ CARRIERE: For all plans, correct.

MR. BOB PETERS: And in terms of evaluating them, while I think Manitoba Hydro was asked to provide a net present value of those rates at a -- at a 5.05 percent discount rate, Manitoba Hydro used the one point eight-six (1.86) that you spoke of in your evidence, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And if we see on page 61, the derivation of your 1.86 percent, Manitoba Hydro equates that to the short-term Canadian T-Bill rate after adjusting it for the consumer price index.

MS. LIZ CARRIERE: Yes. The -- it's based on real dollars -- or real -- a real rate, and after removing the guarantee fee from Manitoba Hydro's forecast of short-term Canadian T-Bill rates.

MR. BOB PETERS: And you probably got assigned reading by Ms. Ramage like the rest of us, did you, Ms. Carriere?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And in -- in the literature that was circulated, it -- it -- would it be correct to say that there are a number of different views in terms of what's the appropriate discount rate for the -- for whatever problem was trying to be examined?

MS. LIZ CARRIERE: I would agree that there's a lot of views in economic theory.

MR. BOB PETERS: And Manitoba Hydro selected 1.86 percent, which represents Manitoba Hydro's determination of a risk-free savings for -- for customers -- for its customers?

MS. LIZ CARRIERE: Yes, we used a consumption rate.

MR. BOB PETERS: And Manitoba Hydro -- I think in your direct evidence, you called this, "The social time preference rate?"

MS. LIZ CARRIERE: Correct. That's the economic term for it.

MR. BOB PETERS: And by doing that, would you agree that Manitoba Hydro is valuing ratepayers' long-term considerations with a short-term interest rate?

(BRIEF PAUSE)

MR. DARREN RAINKIE: Mr. Peters, I'll -- I'll start out here and Ms. Carriere can add to this if she wants. I -- I don't think that's the proper perspective. I think what we're saying is, is that when you're discounting a revenue requirement, the revenue requirement already has the cost of capital, you know, the debt requirements, the cost of our debt, as well as any reserve requirements built into it.

So if you're going to discount at a weighted average cost of capital, you're double counting that in the calculation. So it's not a matter of matching up short and long-term rates. It's a matter of, What are your -- what are you doing mechanically? And while there's a number of different technical perspectives on the record in terms of, you know, how to calculate discount rates, there's a policy perspective here, as well.

If you use a really high discount rate, by the time you get out to twenty (20) years, you're essentially putting no value, just mechanically, by calculating a discount rate. You're putting no value on -- on future benefits, particularly from a long-lived hydro plant. So we can have a lot -- you know, some great technical discussions about this, but the implications of, number 1, either truncating the analysis period to a short period of time, or jacking up the -- the discount rate unnecessarily is that you're essentially scoping out a hydroelectric plant.

You -- we can have technical discussions about rate of returns and all those types of things, but you have to be careful about that. What are you doing? You're trying to -- in using that 1.86 percent discount rate, equate kind of a time value of money, because the cost of capital is already included in the revenue requirement, and we don't want to double count that, which is different than the economic analysis, where in the economic analysis you're looking at the revenue and expense flows only, and you have no interest costs in that calculation, so you're embedding the cost of capital, interest, and equity in the discount rate.

So whenever you're discounting anything you have to be careful: What are you discounting? And whether, you know, that's -- it's the same thing for real and nominal. If you're going to take a -- a nominal flow, you have to use a nominal discount rate. If you're going to take a real flow, you have to take a real discount rate. If you mix and match those, the results you get are meaningless.

MR. BOB PETERS: Shouldn't you include, Mr. Rainkie, a rate for the opportunity of foregone investments by that consumer?

MR. DARREN RAINKIE: That's what's already in here, Mr. Peters. And as I said, we'd be -- I think we'd be double counting. We're -- we're looking at discounting a revenue requirement, and if we're going to put a -- a second return in there, we're double counting, Mr. Peters.

So, I'm not sure -- I'm not sure I can get past that -- that part.

MR. BOB PETERS: Well, if you're taking --

MR. DARREN RAINKIE: -- double counting.

MR. BOB PETERS: Okay. If you're taking money out of consumers' pockets, in terms of my vernacular, Mr. Rainkie, that means the consumer doesn't have the opportunity to invest that as that consumer sees fit.

Do you agree with that?

MR. DARREN RAINKIE: And that's what this one point eight six (1.86) discount rate is doing, Mr. Peters. I mean, I'm not -- I'm not sure if you're trying to impute, like, a 10 or 20 percent rate of return, that Manitoba Hydro like a financial institution, that we pay you a 20 percent return for -- in -- in exchange for our rates. I'm not kind of getting the -- the discussion here.

I mean, I -- I've seen discount rates in -- in the material of 10 percent. And if you assume a 75:25 capital structure, a 10 percent discount rate at about a 6 percent -- weighting a 6 percent long-term debt rate is like imputing a 21 percent rate of return. And -- and I guess I've never, from a policy perspective, ever thought that Manitoba Hydro was going to offer a 21 percent rate of return, especially since we don't, in our -- in our actual revenue requirements, we don't follow a rate-based rate of return methodology. We don't charge the customers a 9 or 10 percent rate of return. In fact, if you look at our net income and -- and -- and kind of back calculate that over our equity, we probably charge a 3 to 5 percent rate of return.

So, am I going to pay the customer 21 percent when I'm only charging them, you know, 3 to 5 percent in the first -- first instance? That would seem rather perverse. I -- I've never thought of Manitoba Hydro as a financial institution where you put your money and we offer a rate of return. We provide a critical service to Manitobans at a fair cost.

So I -- I guess I'm having trouble from a policy perspective, in terms of -- of -- of this, and I think, you know, all the technical arguments aside, I'd hoped the Board would consider that as well.

MR. BOB PETERS: I have your point, Mr. Rainkie, but you're not paying the customer. The customer is paying Manitoba Hydro by way of money out of the customers' pockets, correct?

MR. DARREN RAINKIE: That's correct. But by using a discount rate, Mr. Peters, you're saying that I -- I should, in -- in looking at different options over time and the revenue that I collect, I should embed, you know, anywhere from a 10 to 21 percent -- and I'm looking at the discount rates of 5 to 10 percent that have been, you know, put in some of the material that's on the record. To me, that's saying that I have to look at the opportunity cost of capital as being 10 to 21 percent for the customer, and yet I'm not requiring that. So why would I -- why would I think that way?

I'm not requiring the customer to pay 21 percent, so why would I, when I was trying to evaluate options for the customer, impute a 21 percent rate of return? And when I do that -- when I impute a 21 percent rate of return and use a 10 percent discount rate, essentially what I'm saying is: I don't really care what happens to, you know, rates ten (10) or twenty (20) years down the line. I'm only worried about the -- you know, the next five (5) or ten (10) years. Because, mathematically, at that type of a discount rate, the -- the fact that -- that you're multiplying any value of it is so small.

So, I think what you're doing is actually imputing intergenerational inequity in the situation. You just have to be careful that by jacking up discount rates or truncating evaluation periods, that you're really not just screening hydro-electric power out; the very same fuel that's got us to the -- you know, the favourable rate position that we have right now.

MR. BOB PETERS: Why shouldn't the ratepayers' perspective be consistent with how Hydro views the opportunity?

MR. DARREN RAINKIE: It is, Mr. Peters. We -- we --

MR. BOB PETERS: Well, if Manitoba Hydro is using a discount rate of five point four zero (5.40)...

MR. DARREN RAINKIE: But it's a different flow, Mr. Peters. The -- the five-o-five (505) that Manitoba Hydro is using -- first of all, that includes a rate of return of 9.3 percent, if I -- if I'm correct. Now, that discount rate -- we could have put in a much lower discount rate, Mr. -- Mr. Peters, just a debt discount rate. We didn't have to put in the nine point three-o (9.30). We do that. It's a stringent test. It's a corporate-like test.

But in discounting -- in the economic analysis what you have is you have the incremental revenues and you have the incremental expenses.

There's no interest cost in that -- in those calculations. So you're using the full kind of a corporate discount rate, which I would argue is a very stringent test in the economic analysis.

But when we -- when we come to the ratepayer analysis we've already included in the revenue requirements the return that Manitoba Hydro requires in terms of paying our bondholders and a very small return that we require in terms of contribution to reserves. So if I'm not charging the customer 10 percent in my revenue requirement -- or sorry, 9.3 percent rate of return, why would I discount at that? It would seem to me that we're looking at like Manitoba Hydro as a financial institution. It's -- actually, you know, you're putting your money and you're getting a greater return or something like -- almost like you're investing it in an investors' group or something like that.

I just have never thought of our business in that context, for the provision of a public service.

MR. BOB PETERS: But you'll go so far as to say that there may be different econo -- different views by -- by economists on that subject?

MR. DARREN RAINKIE: Yes, there are,

Mr. Peters. But I -- I just -- you know, whenever you're entering into any type of financial analysis you have to ask yourself, Why am I doing it and what are my -- what are -- you know, what's the outcome of it.

And I'm -- I'm just -- when -- when I see 10 percent discount rates, that to me means that you're saying -- it's like we're having a rate case and we're worried about the next couple years of -- of rate increases: I really don't care about what happens in year 20, 30, and 40.

Manitoba Hydro is here, through its mandate, to provide power for the long-term. We have to care about what's happening in the current generation and the future generation -- future generations of Manitobans.

So be careful that, in getting mixed up in the theory and imputing high rates, you don't throw the baby out with the bathwater, so to speak, and say, We don't care, for theoretical reasons, about customers in year 20 and 30 and 40. That's my -- that's my -- my proviso.

MR. BOB PETERS: Anything to add, Mr. Carriere?

MS. LIZ CARRIERE: I think Darren did quite well. Thank you.

MR. BOB PETERS: Okay. On page 70 of the -- 69 and 70 of the book of documents, this table reflects the cumulative domestic revenue collected from ratepayers, including what's in base rates.

Would that be correct, Ms. Carriere?

MS. LIZ CARRIERE: Sixty-nine (69), I believe that's the case, And seventy (70), I think so, too.

MR. BOB PETERS: Seventy (70) wasn't prepared by Manitoba Hydro; it was a PUB-prepared document. But this was to reflect Table 11.2 values by way of -- I guess we call these quilts.

Is that what we do?

MS. LIZ CARRIERE: I believe they use them in the economic evaluation, yes.

MR. BOB PETERS: And these cumulative domestic revenue -- revenues collected from ratepayers have been discounted at the 1.86 percent that Mr. Rainkie was defending?

MS. LIZ CARRIERE: Yes, they seem to be the same numbers.

MR. BOB PETERS: And on the colour chart, green being lower cost to ratepayers, would that be correct?

MS. MARLA BOYD: I think we need to be

a bit careful about this. I had a discussion with Mr. Cas -- Cathcart earlier, that the colour coding here is done by Mr. Cathcart, as I understand, and doesn't reflect the --necessarily the same kind of ranges and degrees that you might otherwise find. So you need to be careful about laying this against a quilt of a different kind in Manitoba Hydro's application.

He assures me he learned it in kindergarten; however, it's a little bit different.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Well, I'm sure Excel has their own gradient. But we can see from the values, can we, Ms. Carriere, that the green on any particular plan in any particular year, the darker the green, the less money collected from the ratepayers?

(BRIEF PAUSE)

MS. LIZ CARRIERE: A quick glance at it, that seems to be what's happening.

MR. BOB PETERS: Would the panel be correct, Ms. Carriere, in -- in reviewing this to -- to look to see that the crossover point of impact on ratepayers in respect of the All Gas versus the

Preferred Development Plan, that would be Plan 1, All Gas versus Plan 14, K19/C25/750, comes around 2046?

MS. LIZ CARRIERE: I think I agreed with you in my presentation this morning.

MR. BOB PETERS: Earlier, I had asked you a similar question, and I think your answer was it -- it was some seventeen (17) years out in which the crossover point came. Was that on a different -- in -- in respect of a different -- a different matter?

MS. LIZ CARRIERE: No. That is true for the present value analysis.

MR. BOB PETERS: Ms. Carriere, from a present value analysis, using the 1.86 percent real discount rate, the crossover point here is 2046, correct?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: All right. And that's approximately thirty-three (33) years out into the future?

MS. LIZ CARRIERE: Thirty-three (33) years from today, but seventeen (17) years from when Conawapa's last unit is in service.

MR. BOB PETERS: All right, fair enough. And so the value that you had pointed out in your slides in terms of accruing to the ratepayers, that additional benefit to ratepayers then accrues in the last seventeen (17) years of the forecast?

MS. LIZ CARRIERE: On a present value basis, but the nominal rates are lower much earlier than that.

MR. BOB PETERS: On page 75, Ms. Carriere, I think we can flip ahead to one of the graphs, this was prepared using the high economics? The export revenue was low and the capital was high, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And what this -- and this also uses the 1.86 percent discount analysis on the consumers' revenues?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And under these conditions, several plans collect less from ratepayers than the Preferred Development Plan over the -- over the full six (6) -- the full fifty (50) year analysis?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: The green line that runs horizontal at the zero intercept is the -- is the Preferred Development Plan?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And, so every plan

that is charted below that horizontal line would indicate to the panel that less money is being requested from the ratepayers?

MS. LIZ CARRIERE: On a present value basis.

(BRIEF PAUSE)

MR. BOB PETERS: Does that answer, Ms. Carriere...?

(BRIEF PAUSE)

MR. BOB PETERS: Ms. Carriere, does your last answer suggest that it would be ina -- it's inappropriate for the panel to look at it with a -- a discounted -- a discounted perspective?

MS. LIZ CARRIERE: I'm just suggesting that there's another perspective, if we looked also at the nominal rates being charged to customers.

MR. BOB PETERS: And I think we saw that in your presentation this morning?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: All right. Sliding ahead to pages 89 and 90.

(BRIEF PAUSE)

MS. LIZ CARRIERE: I'm sorry, what page?

MR. BOB PETERS: Start on page 89, please, ma'am.

(BRIEF PAUSE)

MR. BOB PETERS: What Manitoba Hydro was doing on -- on this chart was to show the Board the impact of equal annual rate increases for the next twenty (20) years under the different plans?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And in this particular case, the Preferred Development Plan is the green plan?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: All Gas is red?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And the Board will be familiar that -- I think these -- Mr. Wojczynski introduced us to them as the -- the box-and-whiskers charts, if I have that right. What the box does is it bookends the P25 and P75 levels of probability of those rates being in effect under those plans?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And then the whiskers take it out further to the -- at the high end, the P90, and at the low end, the P10 levels, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: On page 90, we have the -- the fifty (50) year view as opposed to the -- the twenty (20) year view that we saw on the previous page, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And when the Board looks at page -- page 90 and it sees the probabilities of equal annual rate increases under the Preferred Development Plan, at the -- the P50 level, that can be compared to the -- the P50 level of the other plans as well, correct, and that's the solid line in the middle of the box?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: All right. We have that. Thank you. And this has not yet been updated for the new capital costs, correct?

MS. LIZ CARRIERE: No, not specifically, but the -- the reference -- the ref/ref/high capital cost scenario would fall within that -- this range.

MR. BOB PETERS: Does that suggest that the P50 level for the Preferred Development Plan, which is in green, would move up from where it's shown at 1.47 percent up closer to the 2.19 percent?

MS. LIZ CARRIERE: No.

(BRIEF PAUSE)

MS. LIZ CARRIERE: No, I would -- I don't know the exact value, but we slightly are higher than the one (1) -- one point four-seven (1.47).

MR. BOB PETERS: And what -- what does a higher level of DSM impact -- how does that impact this analysis?

MS. LIZ CARRIERE: I don't know yet.

MR. BOB PETERS: Directionally?

MS. LIZ CARRIERE: I don't know yet.

(BRIEF PAUSE)

MR. BOB PETERS: Ms. Carriere, are you going to be able to provide updates to these -- these charts when you provide your updated information?

MS. LIZ CARRIERE: I don't know that we would update the chart, but we can certainly insert the new evaluation in these charts.

MR. BOB PETERS: All right. Please do when you -- when you do your filing. No, we won't put that as an undertaking. That'll be just part of the -- the work already assigned, I believe.

And I suppose I should have asked you for the benefit of the panel, Ms. Carriere, when we look at these -- these eight (8) plans that are shown here, which -- which three (3) will show up on the -- on the next version?

It'll be the All Gas. It'll be the Preferred Development Plan, and I take it it's going to include the Keeyask19/Import Gas/750 on the far right side?

MS. LIZ CARRIERE: That's correct. The red, green and gold-y-brown.

MR. BOB PETERS: All right.

MS. LIZ CARRIERE: I'm getting my seven fifty (750) cases mixed up. The plan -- plan -- the gold-brown plan on the far right is Plan 6. We're actually going to be running Plan 5, and the difference is the timing of the gas plant, as well as the sale -- WPS sale. Yeah.

MR. BOB PETERS: And -- and so, which one is -- is it that you're going to include on the updated view?

MS. LIZ CARRIERE: It will be Plan 5, but it's not on here.

MR. BOB PETERS: Oh, I see. All right. Ms. Carriere, if we can move to page 95, Tab 10? Again, it's not a Manitoba Hydro document, but it was to represent the net present value of additional incremental domestic revenue over periods of time.

Is that how you understood it?

MR. RICHARD BEL: Could I -- could I -- I'm a little confused between Plan 5 and Plan 6.

MR. BOB PETERS: Perhaps I can ask Ms. Villegas to put up out of PUB 58 -- Exhibit 58-1 -- put up page 12, and...

MR. RICHARD BEL: So are -- so are we -- are we going to be seeing the Keeyask/Gas/750 including the WPS sale, but not including the investment, or is the WPS sale being taken out of? It's a big deal.

(BRIEF PAUSE)

MS. LIZ CARRIERE: When we evaluate Plan 5 for the DSM evaluations, the WPS sale will be in -- in the evaluation, but there will be no WPS investment.

MR. RICHARD BEL: Okay, so then that's the one we're going to run --

MS. LIZ CARRIERE: That's the one we're running.

MR. RICHARD BEL: -- okay.

MR. BOB PETERS: Ms. Carriere, back to page 95 briefly. These -- ninety-five (95) at Exhibit PUB-58-4 -- this is the net present value of additional domestic revenue over various periods of time. Is that how you interpreted it?

MS. LIZ CARRIERE: Well, I think it's based on the additional revenue and not total general consumers revenue, and that appears to be what it's doing, although we were not able to reproduce the same values.

MR. BOB PETERS: Well, let's take the -- the very first sliver at the top. The Board will see that it was done at a discount rate of three point eight-zero (3.80) nominal, which equated to your one point eight-six (1.86) real?

Would that be -- that be correct?

MS. LIZ CARRIERE: Close.

MR. BOB PETERS: And under the reference case, the Preferred Development Plan would collect more incremental domestic revenue on an NPV basis over the next thirty (30) years?

MS. LIZ CARRIERE: I'm sorry, where are you looking?

MR. BOB PETERS: If we look to the Preferred Development Plan, Plan 14, at the far right-hand column?

MS. LIZ CARRIERE: M-hm. Okay.

MR. BOB PETERS: Let's start at the NPV twenty (20) year number, comparing -- and we'll just compare the All Gas to the Preferred Development Plan. The All Gas appears to be seeking additional domestic revenues of about nine (9) -- $9 billion, and the Preferred Development Plan is ten point seven (10.7)?

MS. LIZ CARRIERE: After twenty (20) years?

MR. BOB PETERS: Yes.

MS. LIZ CARRIERE: Okay.

MR. BOB PETERS: And on the face of it, could the panel conclude that Plan 6 is more beneficial to ratepayers, as it collects less moneys from them over those first -- at least the first thirty (30) years?

MS. LIZ CARRIERE: Relative to what?

MR. BOB PETERS: Relative to the

Preferred Development Plan.

MS. LIZ CARRIERE: In that short time frame, I would say so, but you're cutting off almost entirely the benefits that might accrue to customers after that time period for the rest of the ninety (90) plus years of the asset.

MR. BOB PETERS: Well, then let's look at -- at the -- at forty (40) years out of this fifty (50) year analysis. At forty (40) years out, the -- the Preferred Development Plan collects $20.751 billion, and the All Gas would be $22 billion, correct? So it's crossed over, and the benefits are now seen under the Preferred Development Plan starting after about forty (40) years?

MS. LIZ CARRIERE: That's correct. And --

MR. BOB PETERS: And then it follows through to fifty (50) year -- fifty (50) years, and again, the amounts can be compared from amongst any of the plans, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And Plan 4 was included in here. That was the Keeyask19/Gas250. And it, likewise, had benefits up to forty (40) years out, relative to the Preferred Development Plan. but after that, the Preferred Development Plan had greater benefits, correct?

MS. LIZ CARRIERE: That may have been true when we prepared the analysis, but my understanding, that that's not an option -- that Plan 4 is not an option any longer.

(BRIEF PAUSE)

MR. BOB PETERS: The last one of these I want to look at with you, Ms. Carriere, is the high capital one, which is the second analysis down on these fifty (50) year cuts. And again, this one hasn't been updated for the current information, but Manitoba Hydro is using high capital as the proxy for what has happened on March the 10th?

MS. LIZ CARRIERE: Yes, that's the correct -- the high capital scenario. The Keeyask and Conawapa are almost identical to what's in the -- the new reference case. The other thing is, is that this -- the high capital scenario, relative to the new -- the new update scenario that we're going to be running, the cap -- high capital scenario in this case is -- also has high gas capital in it under the All Gas Plan, and also for the later combined -- sorry, the simple cycle turbines later on in the Preferred Development Plan.

MR. BOB PETERS: Did Manitoba Hydro obtain updated capital costs on the gas turbines?

MS. LIZ CARRIERE: No, there's no updated capital costs on the gas turbines. All I'm saying is that if you want to use this as a proxy -- so when we're saying the rate increase is at 4.27 percent, it's probably actually higher than -- than what they would need to be under just the Keeyask and Conawapa high capital.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Rainkie, if we turn to Tab 11 and page 122 of the materials, the panel will see what -- what payments to the province of Manitoba and the various provincial municipalities has been by Manitoba Hydro? And this comes from some usual information provided at general rate application, sir?

MR. DARREN RAINKIE: Yes, Mr. Peters, it looks familiar.

MR. BOB PETERS: And the provincial payment as a percentage of gross revenues of Manitoba Hydro, the far right-hand column, shows relatively consistently that based on the gross revenues of

Manitoba Hydro, approximately 15 percent is paid over to the province.

MR. DARREN RAINKIE: Yes, it's in that 15 to 16 percent range in the years current.

MR. BOB PETERS: And then it -- it does drop, Mr. Rainkie, down as low as 12 percent, and is that expected to -- to hold constant over the -- the financial planning horizon?

MR. DARREN RAINKIE: I'm not sure I understand your question, Mr. Peters. It -- sorry, it's moving down from sixteen (16) to twelve (12). Are you ask -- are you asking me, with IFF13, is that relationship changing, or maybe I didn't understand the question?

MR. BOB PETERS: When the Board -- when we get past 2032, Mr. Rainkie, based on the most current IFF, do the payments to government as a percentage stay around the 12/13 percent number?

(BRIEF PAUSE)

MR. DARREN RAINKIE: Mr. Peters, I -- I thought somewhere in this mass of information there was a -- an IR that runs this out to the end of the -- to the fifty (50) year period, but I'd have to see that --

it's not intuitive to me what the answer to that question is right now.

MR. BOB PETERS: All right. I -- I'm just wondering if it was -- if formulaically it held true, or whether there would be some moving parts that could cause this number to change, Mr. Rainkie?

MR. DARREN RAINKIE: I must admit, Mr. Peters, that's not one of the relationships I've got in my head as we sit here, but I'll try to source that Information Request to see where that relationship goes over time.

MR. BOB PETERS: All right. Thank you, sir. No, it's not an undertaking.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Rainkie, if we just pick the 2014 or 2015 year and just run across this table, the water rentals we've heard are charged on both export and on domestic use, correct?

MR. DARREN RAINKIE: Yes, it's on total -- total hydraulic generation.

MR. BOB PETERS: And agai -- the debt guarantee fee is based on the year-end debt of Manitoba Hydro?

MR. DARREN RAINKIE: Yes, the prior year-end debt.

MR. BOB PETERS: And capital taxes still apply to -- to Manitoba Hydro, even if they don't apply to other corporations?

MR. DARREN RAINKIE: Yes, still us, and I think financial institutions.

MR. BOB PETERS: The total provincial payments in 2014 are about $271 million?

MR. DARREN RAINKIE: Yes, just net of any business taxes, I think that that's what that column is trying to do. It's more the provincial guarantee fee, water rentals, and capital taxes in that calculation, Mr. Peters.

MR. BOB PETERS: You were taking out the payments to municipalities?

MR. DARREN RAINKIE: Yes, I think that's the way it was it was asked in this IR.

MR. BOB PETERS: And then post-Conawapa, under the Preferred Development Plan, if we go down to, say, 2026/'27, the total provincial payments would essentially double from the $270 million over to $520 million?

MR. DARREN RAINKIE: Yes, Mr. Peters. As our asset base increases, those payments follow that

-- that same type of pattern.

(BRIEF PAUSE)

MR. BOB PETERS: In terms of the study, and this might be Mr. Wojczynski's area, although I think I've managed to out-weight him, Mr. Rainkie, see if you can field this one.

MR. DARREN RAINKIE: Mr. Peters, I think I found the IR that I was looking for. Sorry, I keep interrupting you.

MR. BOB PETERS: You've done your homework.

MR. DARREN RAINKIE: Maybe --

MR. BOB PETERS: You were going to tell the Board what happens to the -- to the provincial payments as a percentage of gross revenue out -- out to -- at least till '62?

MR. DARREN RAINKIE: Okay. So we filed in the response to PUB/Manitoba Hydro First Round 73a, two hundred and sixteen (216) analysis of this for every one (1) of our -- our financial pro formas. If you look on page 136 of 216, we calculate that very percentage. Now, this one (1) includes grants in lieu of taxes, property taxes in it, but -- so we see the relationship going down to about, you know, 10 to 12 percent.

Sorry, you can't see it unless somebody can pull it up, but -- it may be hard and -- it's page 136 of 216. Yeah, the attachment...

(BRIEF PAUSE)

MR. DARREN RAINKIE: I'm not sure what attachment. This is a long Information Request. I think there's more than one (1) attachment in it.

MS. MARLA BOYD: Try about page 741 or thereabouts.

(BRIEF PAUSE)

MR. DARREN RAINKIE: So you can see, Mr. Peters, that it -- over time, it chips down a little bit to about the 10 or 11 percent level on the long -- on the long run from that Information Request, including grants in lieu of taxes.

(BRIEF PAUSE)

MR. BOB PETERS: This one just didn't

net out the provincial payments then, Mr. Rainkie?

MR. DARREN RAINKIE: That's correct. It includes the grants in lieu of taxes.

MR. BOB PETERS: All right. Thank you for that.

(BRIEF PAUSE)

MR. DARREN RAINKIE: Grants --

MR. BOB PETERS: Grants in lieu of taxes is what you've is what you said.

MS. PATTI RAMAGE: Mr. Peters, you didn't outlast Mr. Wojczynski, just to let you know.

(BRIEF PAUSE)

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: On page 123, just so we can clean this area up, the -- I think this was from the pre-filed testimony of Mr. Bowman.

(BRIEF PAUSE)

MR. BOB PETERS: Would it be correct if we followed, I suppose, Pathway 5, Plan 14, the present value of government benefits are about $3.5 billion out to --

MR. DARREN RAINKIE: Sorry, Mr. Peters, which -- which --

MR. BOB PETERS: -- over the fifty (50) years?

MR. DARREN RAINKIE: -- scenario are you in?

MR. BOB PETERS: I was looking at page 123, Mr. Rainkie.

MR. DARREN RAINKIE: Pathway 5, but which of the various economic assumptions are you in?

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Rainkie, let's -- let's -- for the benefit of the panel, let's look at the ref/ref/ref case. Take it right in the middle where the highest probability of occurrence was, $3.89 billion would be the present value of government benefits over a fifty (50) year horizon?

MR. DARREN RAINKIE: This is Mr. Bowman's calculation at 5.05 percent real. I -- I know we've done a similar calculation, I think on the multiple ben -- a multiple account analysis, but I'm not sure what discount rate we used as -- as we sit here, but I'm not sure that's important at this point to your -- to your line of questioning, Mr. Peters, but I -- I -- I'm not sure. I think the next panel would tell you how they valued the -- the payments to government.

MR. BOB PETERS: Are -- are you suggesting, Mr. Rainkie, that the five point zero-five (5.05) real discount rate is not the appropriate number?

MR. DARREN RAINKIE: You know what, Mr. Peters, to be fair, I've been looking at the financial analysis and not this an -- this analysis, and I -- I don't personally have a preference of the discount rate to use here, and I think we filed evidence on terms of what we would like to use, so I would rather that, you know, that be taken as our preferred calculation.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Rainkie, if we turn from the benefits to the government and turn over to page 125 of the book of documents, again, we see some evidence from Mr. Bowman, and I'm not sure how far you want to go with these, Mr. -- Mr. Rainkie, but the

-- does this suggest that over fifty (50) years, there's a downside risk to the ratepayers based on what's -- what's shown in red at the top part of the chart?

MR. DARREN RAINKIE: Well, the red would be the -- if I understand how this table is constructed -- All Gas is a zero, so an NPV with a negative bracket around it in the red would be a higher cost to ratepayers than the All Gas pathway, if I'm understanding this evidence correctly.

MR. BOB PETERS: And the -- the negative, or the -- the benefits to ratepayers is grouped primarily where export revenue is higher than forecast?

(BRIEF PAUSE)

MR. DARREN RAINKIE: It's getting late in the day, Mr. Peters. I'm not sure I understand -- understand your -- your question.

MR. BOB PETERS: All right, well, let's start -- let's just back up a little bit here, then. Under certain plans, and -- and in particular, where export prices are lower than forecasts, there would be negative implications to ratepayers, and that would be seen in the predominately red areas of the chart on the fifty (50) year analysis?

MR. DARREN RAINKIE: Yes, Mr. Peters. You're pointing to the quadrant where energy prices are low and they seem to be in the red.

MR. BOB PETERS: And the present value of benefits to ratepayers -- where the export revenue is higher, we end up seeing that's where the ratepayers benefits would come in?

MR. DARREN RAINKIE: Certainly the benefits of the -- sorry -- relative all -- to All Gas, yes, but it's getting larger as you go further down the table. It doesn't mean that there's no benefits of other scenarios, Mr. Peters, but as the energy prices get higher directionally, the NPV, as calculated by Mr. Bowman here, is getting larger.

MR. BOB PETERS: But back on page 124, Mr. Rainkie, even though there may be an upside and a downside, as you pointed out, to the ratepayer, the government benefits seem to be throughout all the plans, correct?

I'm looking at Pathway 4 and 5 in the green from top to bottom.

MR. DARREN RAINKIE: Well, Mr. Peters, because most of the payments -- I mean, water rentals, of course, are based on hydraulic generation. The larger of the payments to government being the provincial guarantee fee, and the capital tax is based on the size of our balance sheet -- the amount of debt that we have, or the amount of -- in the case of provincial guarantee fee, and the amount of total capital that we employ both debt and equity in terms of the capital tax calculation.

So, simply by a -- the function of hydroelectric options, we'll have a bigger balance sheet, which will result in higher payments to government.

MR. BOB PETERS: Mr. Rainkie, you might be right -- it is getting late in the day. And Mr. Chairman, I'm going to move on to a new subject here in terms of some debt questions.

I wonder if this would be an opportune time to adjourn for the day, and I'd pick it up tomorrow morning at nine o'clock with an expectation to -- to conclude certainly by the lunch hour before I hand it over to counsel opposite.

THE CHAIRPERSON: Unless there is some additional business to attend to, I propose that we adjourn right away. Just to put you on notice that tomorrow afternoon we will be adjourning at 4:20, so you can bank on that because somebody wants to leave.

So, Mr. Peters, in terms of tomorrow, the -- the -- tomorrow afternoon, the proceedings will be how? How will they proceed?

MR. BOB PETERS: Good question, Mr. Chairman. I -- I should counsel with members opposite here, but I do believe that Mr. Williams will take the microphone as soon as I'm finished, and he's been allocated, I believe, a half a day. And then after Mr. Williams, it would go to Mr. Gange, and then following Mr. Gange will be Mr. Hacault.

So that'll be our normal roster, unless counsel have agreed amongst themselves to change the order, but at -- that appears to be the order that we're going to be working in.

MR. BYRON WILLIAMS: Mr. Chair, just in terms of time allocation, I believe the MMF will not have a very long cross-examination, if any, and I think at least one (1) other party sitting to my left may have a shorter -- a shorter cross-examination, as -- as well, just in terms of our schedule.

THE CHAIRPERSON: Thank you. So with that, I will adjourn today's proceedings, and we will see each other again tomorrow morning at nine o'clock. Thank you very much. Have a good evening, everyone.

(PANEL RETIRES)

--- Upon adjourning at 4:23 p.m.

Certified correct,

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Cheryl Lavigne, Ms.

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