MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO

2017/18 and 2018/19

GENERAL RATE APPLICATION

PUBLIC HEARING

Before Board Panel:

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

HELD AT:

Public Utilities Board

400, 330 Portage Avenue

Winnipeg, Manitoba

December 6, 2017

Pages 619 to 873

APPEARANCES

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

LIST OF APPEARANCES (cont'd)

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

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--- Upon commencing at 9:08 a.m

THE CHAIRPERSON: Good morning, ladies and gentlemen. Before I call on Ms. Steinfeld for a brief outline of the day's procedures, the Board has con -- has further considered Manitoba Hydro's objection to a question asked by counsel for the Assembly of Manitoba Chiefs late yesterday afternoon. The matter is referenced beginning at page 589 of yesterday's transcript.

Counsel for Assembly of Manitoba Chiefs was introducing the Truth and Reckon Commission's Calls To Action and also referencing the United Nations Declaration on the Rights of Indigenous Peoples, Manitoba Hydro's president and Chief Executive Officer.

Manitoba Hydro's objection was based on the questioning by Assembly of Manitoba Chiefs not being relevant to the rate-setting matters before the Board in this General Rate Application.

Having considered the submissions by counsel, the Board will allow Assembly of Manitoba Chiefs depose its questions in writing to Manitoba Hydro this week for a written response next week by its president, Chief Executive Officer. Both the questions and the answers are to be expressly restricted to matters that relate to the revenue requirements of Manitoba Hydro, and the rates that the Utility seeks to charge its customers.

The written questions and written responses are to be filed with the Board and all parties as exhibits. Thank you.

Ms. Steinfeld, would you provide us with an outline of the procedures for today.

MS. DAYNA STEINFELD: Thank you, Mr. Chair. Briefly this morning we will be starting with the Manitoba Hydro revenue requirement witness panel scheduled to give direct evidence for a total of two (2) hours. We suggest that a morning break be taken where appropriate.

Following that direct evidence there will be cross-examination by Board counsel, and we will be concluding today at 4:30. Thank you, Mr. Chair.

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

MS. PATTI RAMAGE: Thank you, Mr. Chair. In the interests of time, what we are proposing to do, all of the witnesses have already been sworn now. Rather than my introducing each one and going through their qualifications, as they go through the slides they will -- they will begin their portion of the presentation by introducing themselves and their role in this proceeding.

And the good news is while we are a very full front and back row, we are not planning on having all of the witnesses speak in terms of the presentation, but we wanted the entire revenue requirement panel here on -- at the beginning and then we are looking to counsel for both the Board and the Intervenors to assist us by telling us who they want as they proceed through their cross-examinations.

THE CHAIRPERSON: Thank you, Ms. Ramage. When you're introducing them will they be indicating their position and areas of responsibility, could you also ask them to indicate how long they've been working for Manitoba Hydro?

MS. PATTI RAMAGE: Certainly.

THE CHAIRPERSON: Thank you.

MANITOBA HYDRO PANEL 2 re REVENUE REQUIREMENT

LIZ CARRIERE, Sworn

LOIS MORRISON, Sworn

DAVID CORMIE, Sworn

SANDY BAUERLEIN, Sworn

JOEL WORTLEY, Sworn
SUSAN STEPHEN, Sworn
CHUCK STEELE, Affirmed
JAMES MCCALLUM, Sworn
HAL TURNER, Affirmed
GERALD NEUFELD, Affirmed
DAVID SWATEK, Sworn

MS. PATTI RAMAGE: So with that, if we could bring up the slides and, Ms. Carriere, I think will -- will take over from me.

PRESENTATION BY MANITOBA HYDRO PANEL 2 - REVENUE REQUIREMENT:

MS. LIZ CARRIERE: Thank you, Ms. Ramage, and good morning Board Chair, Madam Vice-Chair Kapitany and Board members, McCutcheon, Ring, McKay, and Dr. Grant. Good morning also to the Board advisors and staff, and all -- and parties.

My name is Liz Carriere and I'm the manager of Strategic and Financial Planning. I'm a certified professional accountant, formally known as a certified general accountant prior to the merge of the three body -- accounting bodies in the province of Manitoba. I have a Bachelor of Commerce Honours degree from the University of Manitoba and I have been employed with Manitoba Hydro for twenty-seven (27) years.

My responsibilities include: managing the preparation and analysis of Manitoba Hydro's integrated financial forecast or otherwise known as the IFF, which include the proposed rate increases and indicative rate increases.

I'm also responsible for the financial evaluation of major projects and other strategic initiatives, supporting senior management decision making, including Indigenous participation in partnerships with Manitoba Hydro.

I've testified on behalf of the Mani -- of Manitoba Hydro at the Need For and Alternatives To proceeding in 2014 and the 2015 Electric General Rate Application. I've had these responsibilities for the last ten (10) years, and prior to these proceedings I've supported Manitoba Hydro witnesses in preparing applications, responding to Information Requests and hearing -- other hearing support as required.

More recently in the restructuring at Manitoba Hydro I've also been assigned responsibility for the corporate strategic plan and corporate risk-management.

The next slide here, slide 2, just lists -- gives you a list of all the revenue requirement panel members.

And moving on to the next slide 3, we've got a summary of the order of presentation. I'll be providing an introduction which will introduce you to the integrated financial forecast cycle and -- and the process. I'll also be talking about the Corporation's economic outlook.

Ms. Morrison will be discussing the electric load forecasts and DSM.

Mr. Cormie will be discussing water conditions, energy prices and the export market.

I will be reviewing the long-term energy prices and export revenues included in the forecast.

Ms. Bauerlein will review operating and administrative costs, and regulatory deferrals.

Capital of expenditure forecast and asset management will be reviewed by Mr. Wortley.

And Ms. Stephen will review Manitoba Hydro's debt management strategy.

And finally I'll be providing -- discussing pre -- previous rate plans and a summary of this presentation.

So moving on to slide 5, for the benefit of -- of the Board Chair Gabor and the new members but also to refresh, Board Vice Chair Kapitany and Board member Dr. Grant, I'd like to take a moment to walk through with you Manitoba Hydro's forecast cycle at a very high level. I'll be pointing out which of the witnesses here today on this panel have responsibility for certain components of this forecast and the presenters that follow me will provide further detail, as required.

The forecast cycle starts off with the forecasting of economic, demo -- demographic, and financial assumptions. These would include the forecasting of consumers price indices, gross domestic product, disposable income, population, US exchange rates and -- and interest rates. These are consensus forecasts prepared by averaging the independent forecasts provided by several financial institutions and consultants.

The number of forecasters is dependent upon availability but is relatively consistent from forecast to forecast. The annual forecast is historically prepa -- been prepared annually in the spring, but we review it on a quarterly basis. I'll be discussing this forecast further following this introduction.

Manitoba Hydro's load forecast, which is on the left of slide 5, uses variables such as gross domestic product, population and disposable income in the forecast of Manitoba demand. Separately, Manitoba Hydro plans demand-side management activities for the current year, in conjunction with the government of Manitoba.

Until Energy Efficiency Manitoba begins operation, the plan for the current year remains unchanged from the 2015 DSM plan. The net demand is then priced based on the current PUB approved customer rates to generate a Mani -- Manitoba domestic revenue forecast.

Ms. Morrison will be discussing the load forecast and DSM later in this presentation.

The net demand from load forecasts and DSM inform the balance of demand and supply for Manitoba Hydro resources that are considered in the resource planning assumptions and analysis. The demand supply analysis determines surplus dependable energy; that's the amount of energy available in excess of the lowest water conditions on record, available for firm sales, and surplus opportunity energy available for opportunity sales when water conditions are above the lowest on record.

Mr. Cormie, extending from his responsibilities for operational activities, also has responsibility for the forecast of generation costs and interchange revenues in the near term, or the first two (2) years of the forecast. In addition, the forecasts of revenues and costs for Manitoba Hydro signed long-term wholesale power contracts originate from Mr. Cormie's area. Mr. Cormie will be discussing water conditions, near term export prices, and Manitoba Hydro's activities in the neighbouring markets.

The forecast of long-term energy prices projects electricity export prices in the midcontinent independent system operate -- operator or MISO market, as well as natural gas, coal and oil prices that influence that market.

Similar to the economic outlook, the forecast of long-term energy prices, our consensus forecasts, based on the average of independent proprietary forecasts by four (4) -- provided by four (4) consultants. The long-term forecast of generation costs and interchange revenues and forecasts use the energy price forecast and economic outlook.

I'll be reviewing the long term export

price and export revenue forecast following Mr. Cormie.

Over arching the entire forecasts is the corpor -- corporate strategic plan with sets out Manitoba Hydro's four (4) pillars of strategy priorities as discussed by Mr. Shepherd yester -- on Monday. Along with the significant restructuring and transformation of the Corporation's strategic plan is in transition and will evolve with the Corporation.

The risk-management function monitors the residual risk that may affect the achievement of the Corporation's priorities and objectives. These plans guide the operational and capital activities including the asset management function.

Manitoba Hydro has begun on a path to improve for capital project decision-making by providing the tools and processes necessary to support evidentiary-based prioritization. These functions inform the business planning within the operational groups to generate the Corporation's operating and administrative and capital expenditure forecast.

Ms. Bauerlien and Ms. Wortley will be discussing the O&A forecast and deferral accounts and the for -- capital forecast and asset management function, respectively.

Along with this is subsidiary forecasts on the far right of this graph. O&A, capital expenditures and revenue forecasts are aggregated to determine the cash and borrowing needs for the Corporation. In addition to existing debt outstanding and the associated financing charges, forecasted interest rates are applied to new debt issuances to determine the total forecast finance expense.

Ms. Stephen will discuss our debt management strategy later in the presentation.

Now, this is hugely oversimplified, but in the next iterative forecast steps Manitoba Hydro then balances its costs, its export revenues, domestic revenues at current PUB rates with its progress towards financial recovery and the impacts of rate increases to customers to generate a rate proposal.

The final Manitoba Hydro Electric Board approved integrated financial floor -- forecasting including the proposed and indicative rates form the basis for the per -- prospective cost of service study, which along with rate design are aggregated into Manitoba Hydro's rate application to the PUB.

I'm going to move on to the next slide unless there's any questions. So slide 7 shows Manitoba Hydro's forecasted long-term Canadian interest rate forecasts that -- used since MH14. MH14 and MH15 reflect the interest rates underlying an average twenty (20) year term to maturity while MH16 and MH16 Update with interim reflect those rates underlying an average twelve (12) year term to maturity.

As indicated by Mr. Shepherd and Mr. McCallum, we can see that Manitoba Hydro's has benefitted greatly from lower forecast interest rates as compared to MH14 and 15. However, in the six (6) months between the time when MH16 and MH16 Update were prepared interest rates are forecast to be on average 20 basis points higher.

This unfortunately impacts the remaining years of construction on Keeyask and the borrowing necessary for that project. With an estimated 8 1/2 billion required in new borrowing over the next ten (10) years, this 20 point basis increase results in about $17 million more per year.

On slide 8, one of the other key variables forecast in the economic outlook is the US exchange rates. It's used in the forecast to convert US dollars -- dollar denominated export revenues, fuel and power purchases, interest payments and debt issues to Canadian dollars for financial reporting purposes.

Since MH15, the Canadian dollar has weakened considerably from around a dollar ten Canadian dollar to US dollar to about a dollar twenty-seven on average in the first seven (7) years.

While a weaker Canadian dollar is beneficial to revenue, it also has the inverse affect on our US dollar denominated costs.

On slide 9, this is taken from the table in PUB-MH-1-45 and it shows the sensitivity of the Man -- MH16 Update with interim to changes in forecast use -- US exchange rates, or changes to interest rates. It demonstrates that a $0.10 weakening or strengthening of the Canadian dollar has a relatively immaterial impact to the -- to the forecast at about $200 million either up or down over the eight (8) year period to 2026/'27.

Manitoba Hydro's net income is relatively unaffected by changes in interest rates. And this is because the offset of Manitoba Hydro's US denominated revenues by US denominated interest payments and costs, so, they roughly balance each other out. The sensitivity to a 1 percent interest rate change, however, is the significant -- has -- has a significant result of about of 750 million impact on retained earnings on -- on the downside, and a 690 million on the upside.

Ms. Stephen is going to discuss interest rate risk further with you later in this presentation.

At this point, I'll turn the presentation over to Ms. Morrison to cover the load forecast and DSM plan with the panel. Thank you.

MS. LOIS MORRISON: All right, Good morning, Mr. Chairman and members of the Board, Intervenors, and others present. My name is Lois Morrison and I hold the position of Director of Marketing and Sales in the marketing and customer service operating group.

I'm a graduate of the University of Manitoba Faculty of Commerce. I have been with Manitoba Hydro for twenty-eight (28) years working in various customer service and marketing areas, with the majority of that time supporting our smart initiatives.

I have been involved in several proceedings related to Manitoba Hydro and Centra Gas applications before this Board. As part of the revenue requirement panel, as Ms. Carriere mentioned, I will be speaking to Manitoba Hydro's electric load forecast and demand-side management impact.

Turning to slide 11. Manitoba Hydro's forecast is prepared by sector with three (3) primary sectors being residential, basic general service mass-market and general service top consumers. The residential basic represents the majority of our residential customers, which include single detached multi-attached dwellings and individually metered apartment blocks -- sorry, individually metered apartment suites.

General service mass-market represents all customer and industrial customers, excluding our top consumers. The top consumers are ten (10) companies or 20 -- representing twenty-six (26) accounts representing Manitoba Hydro's largest customers. These sectors represent the majority of Manitoba Hydro's system load and their forecast methodologies and inputs differ by sector.

Slide 12. Our sector forecasts are informed largely by economic projections incorporated through econometric forecasts. Our forecasts are updated annually to reflect the most current available market data. The forecast models and methods continue to be adjusted whenever appropriate to make improvements

THE CHAIRPERSON: Sorry, Ms. Morrison,

can I interrupt you for a second.

MS. LOIS MORRISON: Yes.

THE CHAIRPERSON: Can you go back to the previous screen?

MS. LOIS MORRISON: Yes.

THE CHAIRPERSON: Can you explain losses and station service. It's a term I haven't come across before.

MS. LOIS MORRISON: So with our system we have a number of transmission lines and distribution lines. And so in order to bring -- in order to equate our energy requirements up to the generation level, we have to recognize that there's a certain level of losses over those lines to the customer.

And so the 12 percent represented there is our transmission -- transmission and distribution line losses.

THE CHAIRPERSON: Okay, and stations -- losses part actually I -- I thought of. The station service is --

MS. LOIS MORRISON: There's a certain amount of energy consumed by our stations and so that's included in that calculation.

THE CHAIRPERSON: Thank you very much.

MS. LOIS MORRISON: The last forecast reviewed before this Board was the 2014 forecast. The economic outlook for 2017 is different than that presented in 2014, which translates into an overall lower load forecast.

So we can see here, we've presented the economic inputs for both 2014 and 2017 that are incorporated into our models. In addition, some model enhancements were pursued with the change to the top consumers having a notable impact upon the long-term forecast.

This enhancement was explored specifically to address past PUB concerns regarding the potential inappropriate upward adjustment in the forecasting for this sector. With this change we adjusted the customers included within the sector, extended the time frame for when the long-term forecast is introduced, and excluded the initial load connected for any customer joining the system after 1983/'84. However, any change in the operation of those customers was included within the model.

Slide 13. Looking at each of these sectors individually and beginning with the residential basic sector, we can see that over the last twenty (20) years the energy requirements for this sector have grown at a rate of 1.7 percent per year.

Under the 2017 forecast, Manitoba Hydro is projecting average annual growth of 1.3 percent per year over the next twenty (20) years. This is compared to the growth rate of 1.2 percent presented under the 2014 electric forecast. This is prior to -- for any energy reductions to be achieved through DSM programming.

The residential basic econometric models are informed by forecasts of population, or the number of customers, the price of natural gas, price electricity, and domestic income. We can see that in the early years of the 2017 forecast reflect the increased electricity price, combined with a lower income growth projection than was presented under the 2014 forecast. This is offset in later years with a higher population forecast and a return to electricity rates -- rate increases at the rate of inflation.

Slide 14. Turning to the general service mass-market sector, over the last twenty (20) years the energy requirements for this sector have grown at a rate of 1.4 percent per year. Under the 2017 forecast Manitoba Hydro is projecting an average annual growth of 1.5 percent per year over the next twenty (20) years. This is compared to the projection of 1.4 percent average annual growth under the 2014 electric load forecast. Again, prior to any adjustments for DSM programming.

The general service mass-market econometric models are informed by the forecasts of residential customers, electricity price and the Manitoba Canada and US GDP forecasts. We can see that the early years of the 2017 forecast also reflect the increased electricity prices combined with lower GDP growth projections than was presented under the 2014 load forecast.

This is offset in the later years with a higher residential customer forecast and a return to rate increases at the rate of inflation. I should note as part of the adjustments to the top consumer sector, the seventh smallest top consumers representing approximately 400 gigawatt hours was moved to the general service mass-market sector.

To present an appropriate comparison between the 2014 and 2017 forecast, the 400 gigawatt hours was added to the 2014 forecast and that is denoted by the dashed yellow line.

Finally, turning to the top consumer sector. Over the last twenty (20) years the energy requirements for the top consumers have grown at a rate of 1.7 percent per year. Under the 2017 forecast, Manitoba Hydro is projecting average annual growth of 0.9 percent per year over the next twenty (20) years. This is compared to the growth forecast of 2 percent presented under the 2014 electric load forecast. Again, this is prior to any reductions that would be achieved through DSM programming.

The short-term forecast for top consumers is based upon the individual customer plans for the next five (5) years. Longer term growth in the top consumer sector, year 6 to 20, is based upon econometric forecast models which are informed by forecasts of electricity price and Manitoba Canada and US GDP forecasts.

As mentioned, as part of the adjustments, the top consumers sector, the seven (7) smallest top consumers, representing approximately four hundred (400) gigawatt hours, were moved to the general service mass-market sector, and in order to present the 2014 forecast in a -- in a comparable manner, we have added back in -- sorry, we've removed the four hundred (400) gigawatt hours and reduced the forecast in order to provide a 2017 comparison. That's denoted by the dashed yellow line.

Slide 16. Putting all of the sectors together, including transmission and distribution losses, produces our overall forecast for gross firm energy. Over the last twenty (20) years, Manitoba's energy requirements have grown at a rate of 1.6 percent per year. Under the 2017 forecast, Manitoba Hydro is projecting average annual growth of 1.2 percent over the next twenty (20) years. This is compared to a growth rate of 1.5 percent presented under the 2014 electric load forecast.

When you factor in Manitoba Hydro's current planned DSM programming, Manitoba Hydro's electricity require -- sorry. Manitoba's electricity requirements are forecast to decline over the next ten (10) years, then grow for an overall average annual growth rate of 0.7 percent over the next twenty (20) years.

(BRIEF PAUSE)

MS. LOIS MORRISON: As would be expected, Manitoba's historic growth and forecast for total peak are similar to that presented under the gross firm energy forecast.

Slide 18. Slide 18 compares the

domestic revenues for MH14 to MH16 update with interim, including additional revenues associated with proposed and indicative rate increases. MH14 and MH15 domestic revenues were very similar at approximately $21 billion cumulatively over the ten (10) years from 2018 to 2027. Under the same 3.95 percent annual rate increase trajectory, MH16 update with interim results in $1.3 billion lower cumulative domestic revenues. Comparatively, MH16 update with interim and 7.9 percent rate increases results in $22 billion in cumulative revenues over the period.

Under the high and low domestic load forecasts, 90 percent and 10 percent confidence level forecasts respectively, the cumulative impacts on net income are about $400 million after eight (8) years, by 2027. This is attributable to the dif -- differential between domestic rates and export prices.

Slide 19. It's important to note, as Ms. Carriere mentioned, that the responsibility for demand-side management, program design and delivery will be moving to Efficiency Manitoba. Until that time, Manitoba Hydro is simply maintaining our current offerings. At this point, there remains uncertainty as to how Efficiency Manitoba will proceed in fulfilling their mandate. It should be noted that the mat -- that the 2017 DSM long-term projections included within the MH16 update fall short of the 22.5 percent fifteen (15) year overall energy savings targets presented under the Efficiency Manitoba Act.

Slide 20. As Mr. Shepherd testified, since the preparation of the 2017 forecast, a number of circumstances have changed within the market. A large project in the petrol, oil, and natural gas sector has been cancelled, and the PUB has awarded an interim rate increase of 3.36 for August 1st, 2017, deferring rate increases to future years.

These changes result in an overall reduction in forecast energy requirements by 2036/'37 of 1,470 gigawatt hours, reducing Manitoba's forecast energy growth to an average of 1.0 percent per year over the next twenty (20) years, prior to any adjustment for DSM programming.

As previously noted, there is uncertainty in how Efficiency Manitoba will pursue their mandate. However, assuming that they pursue the 1.5 percent annually for an overall reduction of 22.5 percent over fifteen (15) years, Manitoba Hydro's energy forecast will decrease by .8 percent over the next ten (10) years, with an expected overall average annual growth of .01 percent over the next twenty (20) years.

Slide 21. As part of these proceedings, Daymark Energy Advisors reviewed Manitoba Hydro's load forecasting methodologies. Overall, Daymark concluded that the methodologies employed by Manitoba Hydro to develop its projections of future energy and demand are reflective of industry practice. As mentioned, Manitoba Hydro continues to review and enhance forecast models and approaches. We appreciate Daymark's efforts, and will be speaking to a number of discussion points in our rebuttal plan for December 15th. Recognizing the timing of these proceedings, though, we would like to highlight a few points.

Price elasticity values are within industry range. The elasticities and methodology presented under the 2014 forecast, and utilized in subsequent forecasts, were validated through a review by an external consultant contracted by Manitoba Hydro. Manitoba's popu -- Manitoba population forecasts, as Ms. Carriere mentioned, is created by a consensus forecast, and is based on several respected and known independent sources.

Fuel substitution is a consideration in the forecast. The fuel share forecast of new residential customers is based upon a ratio of price of natural gas to price of electricity, and fuel share is further adjusted to reflect the heating fuel choice initiative for both space and water heating.

Weather normalization is an approach -- is a -- the weather norm -- normalization approach is justified. The twenty-five (25) year weather normal, including alternatives, was examined during the centre gas 2011/2012 costs of gas hearing. This and the determination of the heating/cooling coefficients, and the analysis supporting this approach, was presented at the NFAT hearing.

And finally, top consumers' long-term forecast is reasonable. This change to the methodology was in response to PUB concerns regarding the top consumer's long-term forecast, and is reasonable, given the adjustments to the customers included within this forecast, that being greater than 25 megawatts.

Thank you, and with that, I will be turning it over to Mr. Cormie.

BOARD MEMBER GRANT: Can I just ask a few questions? If you go back -- maybe back a slide. So with the 2014 forecast, did you change the economic model from the one you were using that was presented at the NFAT, because I don't recall that you had a price variable in there?

MS. LOIS MORRISON: The 2014 forecast is where we incorporated price elasticity and income elasticity into the econometric model. The forecast was used during NFAT was based upon a more linear trend models. And so no, the forecast originally introduced, which was based on a 2013 forecast, did not include those elasticity components.

BOARD MEMBER GRANT: And so the model from 2014 and 2017 is the same, there's just different data?

MS. LOIS MORRISON: There have been small changes, because we added -- every time we add a year of data, the -- the models change. But fundamentally, the models are similar.

BOARD MEMBER GRANT: On the second bullet on the screen, I understand the difficulty in, obviously, population forecasts, and I -- I imagine this is a pretty important variable.

Do you do any attempt to look at household formation, because I know CMHC spends a lot of time, you know, when they're looking at the housing market, dealing with the really changing demographics that are going on. So you've got aging population, and -- and so there's not necessarily a one-to-one correspondence between population growth and household formation that I imagine in terms of, in your case, residential accounts.

Do -- do you take any that into consideration when you do these forecasts?

(BRIEF PAUSE)

MS. LOIS MORRISON: We have -- right now, we assume a certain number of people per house in terms of prep -- preparing that forecast of number of customers based upon the forecasted population. However, we would have to get back you as to whether or not additional analysis has been done to validate a change over time.

BOARD MEMBER GRANT: And -- and one last question. If I could go back to slide 13, and the residential Basic. It's an interesting scale, here, so it's hard to read.

I'm just -- I'm -- I think it's around 2014/'15, or '15/'16. You notice where the -- the water adjusted forecast is slightly above -- I -- I can't tell the range of error there.

MS. LOIS MORRISON: It's weather adjusted.

BOARD MEMBER GRANT: It's slightly above the forecast.

MS. LOIS MORRISON: Yes, the weather adjusted forecast is slightly above what we had forecast for 2014.

BOARD MEMBER GRANT: Do you know what, I'm sure you've gone back and look -- looked at it. Do you know what was different there? Was it a population -- what -- or --

MS. LOIS MORRISON: That is actually what we are fondly referring to -- our -- as anomaly year. It occurred also on our natural gas side of the operations, and it was actually an increase in the average use by customers in that year.

The population forecast was relatively in line with what we had expected, and so it was a -- there -- there is random variation in average use, and so within that year, that's basically what we were seeing, because it was a relatively -- almost normal weather year of the weather patterns, and so what we were seeing was an actual increase in average use in that one (1) year.

BOARD MEMBER GRANT: Okay. Thank you.

(BRIEF PAUSE)

MR. DAVID CORMIE: Good morning, Mr. Chairman, Madam Vice-Chair, and members of the Board. My name is David Cormie. I hold the position of Director of wholesale power and operations. In addition, I am vice-president of 6690271 Manitoba Limited, Manitoba Hydro's wholly-owned subsidiary established to facilitate the financing, development, and construction of the Great Northern Transmission Line in conjunction with Minnesota Power.

I'm a registered professional engineer in Manitoba, and I have a bachelor of science in engineering, and I have been employed at Manitoba Hydro for thirty-eight (38) years.

My responsibilities include directing the management of Hydro's energy supply, including the regulation of our system of river -- rivers and reservoirs. In addition, I direct the management of Hydro's marketing, sales, and market access activities both in Canada and United States wholesale electricity markets.

I'm also responsible for Manitoba Hydro's commercial relationships with the two (2) private wind farms in Manitoba, and I've had all these responsibilities for the past fifteen (15) years. I have testified previously on behalf of Manitoba Hydro in several regulatory and environmental hearings, the most recent being the 2016 PUB Cost of Service hearing.

Slide 23. First, I'd like to update the Board on current water conditions and market conditions. Water conditions and hydraulic generation for the current year are expected to be above average, as you've seen previously. This is shown in our chart of the hundred and four (104) year history of -- of the water supply. The chart demonstrates that the water supply is highly variable, with a range as low as 50 percent of average during droughts to as high as 160 percent in extreme floods. The chart also shows that there can be multiyear periods of high flows, which are inevitably followed by multiyear periods when water flows have been persistently below average.

We are currently in a relatively long period of above-average flows. The current stretch is similar to high flow periods which ended in the mid-1950s and the mid-19 -- and the mid-1970s. However, quite abruptly, we moved into long periods of low water. Unfortunately, we can't predict when these shifts will occur, but what we do believe is that a shift to below-average flows is -- is inevitable as flows return to average. This would result in a long period of reduced export revenues and increased import costs.

For financial forecasting purposes, Manitoba Hydro uses the historic record. For the first year of the forecast, we account for current reservoir storage conditions, and we project flows for the remainder of the year based on current inflows. For subsequent years, we assume that each flow year from the record has an equal probability of occurring in each year. For each of the historic flow cases, we can calculate, then, the associated export revenues from the surplus energy, the import costs and generation costs if we are short of energy. We then average these revenues and costs, and these averages are input into the integrated forecast.

However, as the chart indicates, we have never experienced year after year of average water -- or average financial results, as the forecast indicates. Rather, we should expect and must prepare for highly variable yearly results following a pattern similar to those shown in the chart. As Mr. McCallum indicated on day 1, the variation next year we can expect is roughly 500 million from the lowest flows to the highest flows. We could lose 400 million from the -- from what's forecast if water flows are -- are low, and we could increase revenues by a hundred million if water conditions are favourable.

And in the forecast period, the historic record tells us there -- there is a risk of significant extended drought. For this contingency, we use the consecutive five (5) year flow record as shown on the chart from 1988 to 1993, and from the consecutive seven (7) year record starting in the late 1930s, ending in the early '40s, as a measure of the risk of extreme drought. As indicated in our application, a repeat of the five (5) year drought would impact our financial position by approximately 1.2 billion adversely.

Slide 24. Water flows in our rivers originate from precipitation. In the summer, water flows respond almost immediately to rainfall. However, in the winter, snowfall has little immediate effect on river flows. Rather, the snow pack accumulates over the winter, and ultimately melts in April in the South and in May -- and in May in northern watersheds. Accumulated precip -- precipitation from November to early April is a leading indicator of the spring runoff volume, and is an especially strong indicator useful in predicting spring floods. And we've seen that especially on the

Red River basin, where we have large snowfall events. The Province is able to predict the massive floods that can come down the Red River.

We -- pretic -- precipitation is tracked from across Western Canada. This chart, on slide 24, shows variations in precipitation from average for the last thirty-two (32) months over our watersheds. And as you can see, precipitation, since last spring, has been quite variable, well below normal through the spring and summer, followed by well above average precipitation in September. The variation shown here is a major contributor to the changes in the first two (2) years of the IFF we've been reporting to you since the preparation of our IFF last spring.

Slide 25. This chart indicates daily inflows to reservoirs over the last two (2) years overlaid on the yearly record since 1977, shown in the light grey background lines. The red line indicates what happened in 2017. This year, flows declined from the spring peak flows from the spring snowmelt runoff. They declined gradually over the summer period, falling from -- from very high to very low due the dry conditions over the summer. Flows recovered in mid-September from heavy rainfall over Eastern watershed, and since then they've been averaging -- they've been remaining around the average.

River flows are now such that Manitoba Hydro expects to purchase energy this winter in the off-peak hours to support on-peak exports when economical. This is a market position we haven't experienced for many years due to the recent string of favourable water.

Slide 26. Reservoir storage is important to our Hydro system. It's similar to a bank account, but rather than storing money, reservoirs hold backwater that is not needed immediately for generation. It holds it back for future use. And just as each of us monitor our separate accounts, Manitoba Hydro monitors the levels in reservoirs across Western Canada that supply Manitoba Hydro. And showed -- and here we show the total amount of energy in reservoir storage on this chart.

Our biggest reservoir is Lake Winnipeg, and it accounts for over 50 percent of the storage capability in Western Canada. However, because Lake Winnipeg is also regulated for flood protection, much of the extra water that flows into the lake, as occurred this last spring, in an average -- in an average or an above average year, must be drained from the lake as quickly as possible in order to provide flood protection. It provides little benefit in additional Hydro generation, so it is not unusual to be spilling water in the spring and summer, like we did this year, and then to be buying electricity back in the fall and in the winter. Mr. McCallum referred to this in his presentation when he indicated our storage capability was small relative to the variability we experience in inflows.

This summer, Hydro generation was buffer -- buffered from the lack of rainfall that we saw on the previous chart, and this is buffered over the summer by the record high reservoir storage carryover that occurred from the wet fall last year, and the need to maintain maximum outflows from Lake Winnipeg over the summer for flood protection, and those out -- maximum flows continued until the end of August. And this is shown on the blue line on this chart. Again, some of the near year -- near-term IFF changes we reported since our application are as a result of reservoir operations for flood management.

Today, storage is about 2 million megawatt hours above average, and we expect this 2 million favourable situation to continue into next spring, which will provide a slight buffer for operations next year if conditions start out dry.

Slide 27. I'll now return -- I will -- I will now turn to exports. Wholesale prices for electricity remain soft in the export markets. The factors that contribute to these prices are low natural gas prices, increasing amounts of new wind generation being built in our market, spurred by a -- spurred on by the US production tax credits and relatively flat demand growth for electricity.

US production tax credits and investment tax credits are anticipated to end in a few years. In the meantime, Manitoba Hydro's US export customers continue to contract for or build new renewable supplies. These early investments are softening the market for Manitoba Hydro's long-term product. However, as there are no government subsidies available in Canada, the Canadian market is becoming the preferred market.

Regardless of near-term prices, Manitoba Hydro is essentially sold out of summer capacity until Keeyask begins generating in 2021. So even though we are in discussions with all our export customers with regard to their long-term needs, there will be no new major export sales beginning in the near term that could significantly boost Manitoba

Hydro's financial picture for at least five (5) to eight (8) years.

Slide 28. Where electricity's sold in the US wholesale markets at the border, prices this past year, both on-peak and off-peak, were similar to those of the last eight (8) years, with similar seasonal variation, slightly higher in the summer, lower in the winter, aligning with the US demand patterns.

For electricity sold at firm prices under long-term contracts, prices continue to escalate in real terms. They are currently in the ninety-two dollar ($92) megawatt hour range on average compared to the on-peak MISO market prices, which have averaged thirty-three dollars ($33), both values for the calendar year 2017 to date.

Slide 29. I'd like to now update the Board on Manitoba Hydro's expanded market access into the Southwest Power Pool. Dec -- in December in 2016, we began selling electricity in a new market. It's called the Southwest Power Pool, which is a large power pool in the United States, which has a peak demand of almost 51,000 megawatts, with 86,000 megawatts of generation.

This opportunity became possible last

year for Manitoba Hydro because the SPP market tariff was amended such that they could take delivery and assume title to Manitoba Hydro's electricity at the Saskatchewan/United States border. This is similar to the MISO exports where title tran -- also transfers at the US border. Transfer at the border is essential in order to -- for Manitoba Hydro's activities to not be subject to US tax.

The Southwest Power Pool market is large, and at times, prices in the -- that market can be more attractive than in MISO. However, the amount of available transmission between Manitoba and Saskatchewan in the Southwest Power Pool market is very limited compared to our access to MISO, and that limits the potential for new revenue. However, since last year, revenues from this new market have been 1.6 million. For the purposes of reporting US market sales, we now report prices that are a blend of all our SPP sales and our MISO sales.

Slide 30. We'll now turn -- return to the recently-announced settlement between Manitoba Hydro and the Ontario Independent Electricity System Operator. This was reported in the Winnipeg Free Press a few months ago. The announcement was that Manitoba Hydro and the Ontario Independent Electricity

System Operator reached a settlement into an alleged breach of the Ontario market rules by Manitoba Hydro that occurred between October 2011 and September 2012. Manitoba Hydro agreed to the settlement without admitting any wrongdoing, and the settlement does not attempt to sort out blame or omissions on the various items in contention.

Manitoba Hydro has returned to the IESO $9.6 million for market activities in question. There was no finding of breach of market rules by Manitoba Hydro, and the IESO posted a public notice of settlement on its website under a newly created page for settlements of this nature, as depo -- as to -- as opposed to posting it on its penalty page.

Details about the settlement beyond these are confidential and subject to a nondisclosure agreement between the IESO and Manitoba Hydro, so I'm limited in what I can say further on this. However, what I can say is that Manitoba Hydro had previously accrued this liability for the -- for the entire 9.6 million, and so there is no additional impact on Manitoba Hydro's current rate application or financial outlook.

Slide 30. So I'd like to now to turn to our activities in Western Canada. As reported in our filing, Manitoba Hydro has signed a twenty (20) year firm 100 megawatt power sale agreement with Sask Power that will commence in 2020. This fixed-price sale is at a fixed -- is at a price which is a win/win for Saskatchewan, Manitoba, and our shared environment. Sask Power saves money as it avoids building and operating a more expensive generating facility.

Manitoba Hydro wins because there is a high likelihood that this power would've been sold in the spot markets at unpredictable and potentially very low prices. We now have a locked in long-term revenue stream for surplus energy that supports our need to improve the financial health of the Corporation. The third win is for the environment, because the construction of a gas-fired generating station and its associated emissions have been avoided.

As a condition of the sale, Sask Power required the construction of a new, relatively short interconnection to increase the firm transfer capability between the provinces. This line will run between Birtle, Manitoba and Tantalon, Saskatchewan, and will require an investment by Manitoba Hydro of $57 million. This commitment to build a new line not only facilitates this sale, but will provide market access for Manitoba Hydro surplus energy to Western Canadian markets in perpetuity.

Because of Sask Power's aging generation fleet and their need to significantly reduce carbon emissions, there still remains a strong market for additional long-term sales of surplus, non-emitting hydro, Manitoba Hydro energy to Saskatchewan. In that regard, we are continuing discussions with Sask Power on what further we can do. However, these opportunities are limited, given that there only remains a small amount of unused firm transmission capacity between our provinces, and that the next major in incremental firm transfer capability would be very expensive to build.

Because the electric sectors in Saskatchewan and Alberta are significant emitters, the federal government has initiated studies to determine which electricity projects in the West could be most effective in helping Canada achieve its carbon reduction targets. Canada has indicated a willingness to potentially fund these project -- a Western grid which has been discussed for many years, but up until now, with the evolving need for national carb -- action on carbon, there has been little interest in the project.

The studies in Western Canada are being funded by Canada, and they involve Manitoba Hydro, and other utilities, and the Alberta market operator. The study is being undertaken under the federal regional electricity cooperation and strategic infrastructure initiative, and results are expected early next year. Options being studied between Manitoba and Saskatchewan involve both small and large interconnections.

However, having committed to building a new five hundred (500) interconnection to the United States, Manitoba Hydro cannot justify further major investments to gain additional market access. But you can see, there could be a role for federal funding if a new interconnection was found to be the -- to be in the best interests of Saskatchewan and Canada.

A major new line would provide Saskatchewan access to Manitoba's large surplus renewable and flexible hydro power resources. However, as these are only conceptual studies, any project that would involve Manitoba Hydro is at least a decade away, and has not been considered in any of our forecasts.

Slide 31. I'll now speak to our current activities associated with the Great Northern

Transmission Line. Minnesota Power is actively constructing the Great Northern Transmission Line today, he US leg of the new 500 kV interconnection to the United States. Manitoba Hydro's interests on this project are represented through its subsidiary 6690271 Manitoba Ltd., which has representation and voting rights on the project's management committee. Through this committee, 6690271 is able to actively monitor and provide oversight to Minnesota Power's construction manager.

Major permitting for the line in the United States is complete. Much of the right-of-way is cleared, and the foundations will be going in this winter subject to favourable weather conditions. The project is on schedule for a June 2020 in-service date. Although Manitoba Hydro has yet to receive its provincial and federal tor -- federal regulatory approvals, we remain confident that the Manitoba portion of the line can also achieve that in-service date. Thank you. That completes my direct. Back to Liz.

(BRIEF PAUSE)

MS. LOIS MORRISON: Thank you, Mr.

Cormie. So in April of 2016 the Corp -- under the corporate restructuring, the electricity export price forecast and the energy price out look were amal -- amalgamated under the finance and strategy organizational group and renamed the energy price forecast. The energy price forecast, Manitoba Hydro has purchased four (4) off this shelf independent forecasts from third-party vendors. These four (4) highly regarded vendors have been consistently used since NFAT.

Manitoba Hydro combines the four (4) energy price forecasts using a consensus approach, or a simple averaging of the forecasts and then adjusts for differentials in pricing from the US market to the Manitoba border for losses and congestion. As Mr. Peters discussed with Mr. Shepherd on -- on Monday of the hearing, Manitoba Hydro removed a premium adjustment applied by Manitoba Hydro to the forecast of long-term dependable prices. That is, the prices on potential future export sales made from surplus energy and generation capacity available even under the lowest flows on record.

The premium adjustment was previously included, based on the finding that historic firm contract prices for signed sales outperformed the market forecast for the same period. At the time, Manitoba Hydro had found that customers were willing to pay a premium over the current forecast market prices for price and volume certainty, and for carbon free hydroelectricity. With the influx of wind and solar generation in the MISO market Manitoba Hydro has significant competition in the renewals -- renewables market, and no longer has an evidentiary basis to support the inclusion of the premium adjustment.

The 2000 energy price forecast included capacity values provided by the four (4) third-party forecasters also included a consensus forecast for capacity. For several years the significant increase in -- in the value for generation capacity tied to the need for new resources had been forecast in the near term, which repeatedly failed to materialize.

For 2017 the forecast need for new resources had been pushed at least five (5) years into the future, and in light of declining load growth delays in coal plant closures under the Trump administration, and the continuing wind and now solar build out, the extent to which new capacity will be required and the value of that capacity, if any, appears uncertain. As a result, MH-16 uncommitted firm export sales were priced at opportunity prices with no associated capacity revenue to reflect that current low -- the current low capacity prices.

Manitoba Hydro will continue to monitor the trends in the value of capacity in the export market, and may opt to reintroduce the inclusion of the cap -- capacity component in the pricing for surplus capacity in a future forecast if there is greater certainty that this -- that this revenue source will materialize.

On the next slide, we see averaging at revenues from export sales. Slide 34 has been modified from PUB/MH-I-153(b)(ii) to remove a number of the price forecasts between 2008, which was roughly one (1) of the highest forecasts since Manitoba Hydro began providing this average unit revenue metric at the bequest of the PUB and the MH-16 update. On average MH-16 update averaging at revenues have dropped by 50 percent over the forecast period 2018 to '27 since the 2008 forecast, while domestic rates have only increased by 40 percent over the same period.

We have completed an update to the 2017 energy price forecast based on fall forecasts of prices supplied by the same four (4) third-party vendors. This forecast of energy prices will be incorporated into IFF-18 that will be submitted to the

Manitoba Hydro electric board in March of 2 -- 2018. On average prices in the fall update are about 7 percent lower than compared to the spring 2017 energy price forecast, which underpins the MH-16 updated with interim forecast.

From a revenue perspective, slide 35 compares the net extra-provincial revenues net of water rentals and fuel and power purchases for MH-14 to MH-16 update. Over the ten (10) year forecast period to 2027, MH-16 update forecast of extra-provincial revenue is down 580 million, 880 million, and 110 million compared to MH-14, 15 and 16, respectively.

Slide 36 shows the potential variability in export revenues from average under the highest and lowest water flow conditions on record. On Monday Mr. McCallum showed the Board the range in net export revenue for the fiscal year 2018/'19, resulting from the uncertainty of inflow conditions in that year. The slide similarly shows a potential variability in any one (1) year over the next ten (10) years.

For example, in 2023 net export revenues can be approximately 250 million higher than the average, or the IFF, or 600 million lower than the average. That's a range of $850 million, potentially in one (1) year. As Mr. McCallum also mentioned, the risk is asymmetric. The upside is constrained by operating limits and the capability of the system and the downside not only includes lost export sales, but also the thermal import costs necessary to support firm load.

Now, I'll pass it over to Ms. Bauerlein, who will discuss the operating and administrative and regulatory deferrals with the panel. Thank you.

MS. SANDY BAUERLEIN: Good morning, Mr. Chairman, Madam Vice Chair and Board members, Board advisors, and Intervenors. My name is Sandy Bauerlein. I am a chartered professional accountant, previously a certified general accountant, I've been with Manitoba Hydro for approximately thirty (30) years in a variety of financial and management roles.

I am currently the corporate controller at Manitoba Hydro, a position I've held since February 2014. In the corporate controllers area I am responsible for all financial and management accounting and reporting, including preparation of our annual and quarterly reports. In addition, I have responsibility for the accounting for our domestic revenues, as well as the accounting and depreciation of the Corporation assets, accounts payable, commodity and capital tax.

Under the new organization structure I also now have responsibility for both the export and natural gas middle and back office functions. I previously testified at the 2015 General Rate Application hearing, and have been involved in many rate applications prior to that in a support function.

I'll begin with my presentation. Slide 38. So operating and administrative costs comprised mainly of labour and benefits, materials, contracted services, and administrative costs that are necessary to operate and maintain the assets of the company and to provide services to customers. Greater than 75 percent of our operating administrative costs are attributable to labour and benefits.

For the years from 2014/'15 through to the end of the test years 2018/'19 Manitoba Hydro will achieve a five (5) year average annual decrease in our operating administrative costs of 1.8 percent. This compares to an average annual increase in Manitoba CPI of 1.7 percent.

The O and -- the operating and administrative forecast in the test year is 518 million for 2017/'18. This is a reduction of 17 1/2 million from the prior year. And in 2018/'19 the forecast is further reduced by another 17 million to 501 million. This reflects Manitoba Hydro's accelerated operating cost reduction plan.

Prior to 2014/'15, Manitoba Hydro had significant accounting changes that were implemented primarily to align our capitalization practices with other utilities, and to support our transition to international financial reporting standards in 2014/'15. These changes are not indicative of a change in the costs to operate the company, but rather they are a change in the accounting treatment of such costs, and must be factored into any year-over-year analysis.

When factoring these changes in, Manitoba Hydro has maintained an average annual growth in operating administrative costs over the previous five (5) year period from 2009/'10 to 2013/'14 equal to Manitoba CPI at 1.9 percent.

The accelerated cost reduction plan, slide 39, includes a significant reduction in Manitoba Hydro's workforce. We have removed four hundred and twenty-nine (429) operational positions over -- for the period from 2014/'15 through '16/'17. We have a goal of a nine hundred (900) headcount reduction by 2019/'20, of which we are estimating approximately seven hundred (700) will be of a operational nature, with the remainder from our capital construction.

The achievement of the nine hundred (900) headcount reduction begins with eight hundred and twenty-one (821) employees leaving through a voluntary departure program, with the majority to be gone by February 1, 2018. One (1) of the factors in establishing the target of nine hundred (900) was a consideration for the number of employees eligible to retire. In addition, we have seen a 30 percent reduction in executive and a 25 percent reduction in management.

Slide 40. Cost reductions also include the supply chain initiative, which has atri -- achieved approximately 8 million of savings since 2014/'15, and is expected to achieve 50 million in annual savings by '20/'21, with overall cumulative annual savings of 155 million. Approximately 30 percent of the savings will come from operating administrative expenditures.

Some of the supply chain initiatives include changes to our procurement practices through, for example, strategic sourcing methods; inventory optimization including reductions to excess inventory and implementation of auto replenishment; improved fleet management through repair, maintenance, and fuel supply networks; and optimization of our fleet levels.

Slide number 41. As discussed by Mr. Shepherd in his presentation on Monday, these issues cannot be addressed through further red -- the issues the Corporation faces cannot be addressed through further reductions to operating administrative costs. Reductions must be made without unduly impacting service levels and reliability. The reductions that are underway provide a balance between cost reductions and service and reliability.

In Manitoba Hydro's evidence, we provided an illustrated analysis of the rate impact of a further five hundred (500) person headcount reduction, or equivalent to 30 percent of the operational workforce. This results in a minimal rate differential rate increases of 7.41 percent per year over the six (6) year period, compared to the 7.9 percent requested in this application. Any staffing reductions less than the five hundred (500) would have a much lower impact.

Manitoba Hydro is concerned that further staffing reductions would place undue risk to service levels and reliability. As Mr. Shepherd said, if Manitoba Hydro felt we could reduce further we would.

Regulatory deferrals, slide 42. Regulatory deferrals represent timing differences between the recognition of costs or revenues for ratesetting purposes as established by the Regulator, compared to the recognition of these items for financial reporting purposes.

Typically, regulatory deferrals are costs, which under financial reporting standards would have to be expensed in the period they are incurred. However, there is a financial reporting standard which provides for the financial statements of the Corporation to capture differences in the timing of the recognition of these costs as determined by the Regulator for ratesetting purposes, usually based on the concepts an intergenerational equity, or as a means to avoid rate shock.

Under Manitoba's regulatory regime this direction is typically provided through Board findings. Regulatory deferrals include demand-side management expenditures, differences in our depreciation methodology, the Canadian generally accepted accounting principles of average service life method versus the international financial reporting standard equal life group method, overhead costs that are expense for financial reporting purposes and capitalize for ratesetting purposes, site restoration costs, and regulatory costs.

With respect to regulatory deferrals, Manitoba Hydro's requesting endorsement of the proposed deferral of cost with respect to the Conawapa generating station of approximately 380 million to be amortized over a thirty (30) year period, as well endorsement of the proposed amortization for the disposition of the regulatory deferrals associated with the differences in depreciation methodology, and capitalized overhead over a twenty (20) year period.

Slide 43. Similar to operating administrative costs, the issues the Corporation has are not resolved through accounting changes associated with the amortization of regulatory deferral accounts. Recommendations to extend the amortization periods well -- while they will result in higher net income, minimal impact on the requested rate increase. Incorporating the recommendations as suggested in Mr. Bowman's evidence results in rate increases of 7.64 percent over the six (6) year period To '23/'24, compared to the 7.9 percent over the same time frame.

The extension of amortization periods does result in a cumulative increase in net income of 166 million over the ten (10) year period as you have lower expense. However, you have a cumulative increase in net debt of 273 million over the same period. By using the extension of amortization periods to justify lower rate increases, you have less cash coming into the Corporation and as a result will have to fund -- will have to borrow more to fund ongoing operations and capital expenditures.

Slide 44. This slide provides further evidence as amortization of regulatory deferrals is a non-cash item. In other words, it's not an outflow or inflow of cash. If we compare two (2) scenarios where the rate increase is held constant, one (1) with the proposed amortization period of twenty (20) years and the second incorporating the extension of amortization periods, net income will improve.

However, there is not a corresponding improvement to the cash flow position of the Corporation. It results in actually a slight decrease in the cash flow position of the Corporation of approximately 7 million through to 2027. This emphasizes the point that cash is needed through higher rate increases in order to address the issues, not accounting changes through regulatory deferrals.

Thank you. I will now turn the presentation over to Mr. Wortley.

MR. JOEL WORTLEY: Good morning, Mr. Chairman, members of the Board, Intervenors, and others present. My name is Joel Wortley. I am the Director of strategic business integration in the finance and strategy corporate group at Manitoba Hydro. I'm a professional engineer and I hold an undergraduate degree in civil engineering from University of Manitoba, as well as a Masters degree in geotechnical engineering from the University of Alberta.

I've been with Manitoba Hydro for just over fifteen (15) years working in various technical and management roles, and this is my first appearance before the Public Utilities Board. With me to talk about asset management during these proceedings are Mr. Hal Turner, who is the director of generation asset management. Mr. Gerald Neufeld is the director of transmission planning and design, and Mr. Chuck Steele, who is the director of engineering and construction. These three (3) gentlemen are responsible for the generation, transmission, and distribution assets systems, respectively.

With that said, I will jump into my presentation, beginning on slide 46. So Manitoba Hydro at heart is a supply chain built to deliver energy to customers. There are three (3) primary links to this supply chain, being the generation, transmission, and distribution systems. Linking them are the stations at which the voltage is either stepped up or stepped down as required. Falling water and the energy of falling water is converted to electric energy by the generating station. It's handed to the transmission system to be -- travel over long distances, and then off to the distribution system where it fans out across the province and eventually delivered to customers.

Given that at Manitoba Hydro most of the generation is in the north, but most of the customers in the south, the high-voltage direct current system provides an efficient way of moving that energy over long distances. This is a very complex system with literally millions of assets required to deliver the energy. At the upstream end the assets are smaller in number but higher in cost. These are things like generators and valve groups whose value is measured in millions, lead times measured in years, and the cost or the impact to in-service failure is large.

At the other end of the spectrum, there are a high number of low-cost assets. These are things like the million plus wood poles on the system whose value is measured in thousands of dollars. They're typically in stock items, so there's no lead time, and the consequence to in-service failure is relatively small.

These assets span the province and come in all ages and vintages as in they were put into service dating back as early as the early 1900s, and is early or late as yesterday. As such, there's a tremendous range in terms of their technological advancement and thereby the asset management needs or the needs in terms of how to manage these assets.

Moving to slide 47. Asset management is about making asset decisions, but it's about the context in which they are made. So when we look at asset decisions they are the decisions made about how -- which assets to acquire, how to operate, how to maintain, and when to intervene with that asset. And an intervention could be life extension. It could be replacement. It could be refurbishment. To make those decisions you have to consider the context of the asset. What do you need that asset to do for you?

It's particular role is a function of the system in which it lives.

And so if it's part of the generation transmission or distribution system, it will have a different role and a different consequence to the system's operation, which ultimately, in total, is dealt around the objectives of Manitoba Hydro as a company which is about serving the customer. And so asset management is about coordinating the activities of an organization to -- to receive value from its assets. And as this ladder shows, those decisions need to be made with the customer in mind.

So when you think about what does the customer really expect on slide 48. We know from our mission statement that the customer is expecting the delivery of safe, reliable energy at a fair price. Ultimately, a balance between the cost, risk, and performance of that asset. We know that electricity is essential for public safety, and we know that our customers expect the lights to be on pretty much all the time, so that the energy needs to be available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days a year.

We also know that it's expected to be available everywhere and they expect the service to be enduring. And as such, it needs to be sustainable. So it's not just about in the moment. It's about over the long-term. We further know that there are trends in environmental safety and reliability regulations that are seeing a growing intolerance for risk, which pushes up the expectation of performance and, of course, has pressure on cost.

Moving to slide 49. If we look a little bit at an asset in particular, and think about the decisions that are made over its life cycle we see that there are decisions to be made about what is to be acquired, how it is to be operated and maintained, and eventually at end of life how to replace or refurbish or dispose of it. Also during its life the -- the components that asset that need to be replaced or refurbished, and these are interventions that occur in time.

So if we took, for example, your car. You may have be -- seen your mechanic this morning, and your mechanic may have told you that your tires are worn and need to be replaced. Why your tires are worn and need to be replaced is a function of past decisions. What tires you bought, how you drove the car, whether you maintained them, which is not relevant to your decision whether to replace them or not. The only question about whether to replace them or not is your personal balance of cost performance and risk, and whether you want to be able to use that car in all weather. If you do want to be able to use that car this winter, you would probably decide to change those tires.

Your mechanic may also give you a forecast of what future interventions are required to keep that car sustainable over the longer term. If you add up all these decisions, you will have a forecast of what kind of capital expenditures are going to be required to keep this asset performing as you need it to over the long term.

The same is true of Manitoba Hydro, where the assets that need refurbishment or intervention today are included in the test years, and the forecast of what future interventions are required are in the forecast in years beyond.

Moving to slide 50. Those capital expenditures are shown here over the ten (10) year period, and they occur in three (3) different -- three (3) different categories. The first is major new generation and transmission. These are investments that provide significant new generation and transmission capacity and are projects of substantial cost.

Next, we have business operations capital. These are requirements to sustain electricity service through the replacement of aging or obsolete assets, capacity enhancements, and expansion due to load growth. And thirdly, we have demand-side management, which are expenditures related to the pursuit of electric energy conservation activities.

All told in this time frame we've got $14.4 billion of investment forecasted. The major new gen and transmission is primarily Bipole III and Keeyask and will be dealt with by the capital panel. I will be speaking primarily about business operations capital, first in the test years, and then secondly the forecast for the years beyond the test years.

Moving to slide 51, and addressing the question of business operations capital in the test years. Using fiscal '19 as a typical year, this is the distribution of where that money goes. So approximately 33 percent of the fiscal '19 capital expenditure is in capacity and growth. And this is to pay for things like system load capacity and customer connections. So if you imagine your car, if you've got a new addition to the family, you may have to intervene and add some transportation capacity for that baby. You'd pay for a car seat.

On our case with True North Square wanting to built just down the street here, or with commercial development, say, in the Steinbach area, customers need energy. We need to respond to that. Customers are at the door. And so the capacity of the system needs to be enhanced or the system needs to grow to deliver that energy. There's really no cost -- or sorry, there's really no option here. If the customer need it, Manitoba Hydro delivers it.

Second, down here we've got business operation support at 12 percent. And this is the investment and reinvestment in the computers, the trucks, and the buildings needed to support the operation, but are not directly part of the supply chain.

And over here on the right we've got sustainment, which is 55 percent of the total and it's made up of things like system efficiency, so investment made to reduce cost somewhere else. Mandated compliance, so this would be things like drinking water standards or licensing requirements that are mandated.

Then we've got renewal, system renewal

investment. And there's two (2) categories here, the first being reactive investment. And this would be things where an asset has failed in service and needs to be replaced. There's really no choice. It would be like a headlight on your car. If the headlight's burned out you fix it, versus proactive system renewal, which are made -- are investments or interventions may before the asset fails.

So this would be like your mechanic telling you that your brakes are wearing, or that your tires or your engine needs work. And you don't want to suffer the consequence of that asset failing in service. This is the portion of the spending that has some flexibility and timing, albeit that flexibility comes at an increase in risk. It totals $168 million in this frame, which is fiscal '19, which is a third of the total for fiscal '19 in business operations capital, and only 6 percent of the total forecasted expense, or capital expenditure in fiscal '19.

Addressing the system renewal portion of the business operations capital in the test years, first off I'd like to point out that the asset condition is monitored, as is its performance. So there's a handle on whether it's -- how it's degrading and how it's performing, and whether there's a potential problem brewing there.

The risk associated with that condition of performance is assessed by experienced experts and professional engineers. The assets are degrading. They wear. As a result, it's not a question of if there should be intervention. It's only a question of when. And if it's deemed that the risk presented by that degrading or failed asset is unacceptable, then intervention is programmed.

That intervention is reviewed and approved by line management. And as a result, we've got a high level of confidence that this is the right work at the right time and that it is rooted or based on the actual condition of the asset or its performance. It's a risk assessment made by expensed operators and subject matter experts reviewed and approved by line management.

Moving to the business operations capital forecast on slide 53. This is the forecast of intervention requirements beyond the test years. It's not currently tied to a forecast of specific asset end-of-life. That's a future enhancement of our asset management capabilities. Today it's anchored in past intervention trends.

So it's a look backwards at the

decades, over the decades that the interventions that have been required to keep the system running extrapolated into the future, shaped by best available information. So whatever trends may be -- we may be aware of are used to shape the forecast. It's reviewed annually and adjusted if required, and currently shows a modest upward trend which I'll describe in just a second.

So coming back to our graph of capital expenditures on slide 54, we see the business operations capital, which is the red band at the bottom starting to grow in about 2024. And that reflects some upward pressures. First, that the system is growing. As the system grows assets are added and more sustaining capital is expected to be required. Just the -- the simple math of the demographics of the assets on the system.

For instance, sixteen thousand (16,000) wood poles a year were added between 1945 and 1960. They're going to need to be replaced in the next ten (10) or twenty (20) years. It's not a question of if, it's a question of when. We're only currently replacing about seven thousand (7,000) a year, and so that replacement rate is going to have to go up.

Modern designs are less robust than

designs from a hundred years ago. Modern computer-aided design technologies allowed for more efficient, thinner designs that degrade faster, which suggests an increasing pace or rate of reinvestment. And there's also a tremendous move towards digital equipment, and digital equipment is notoriously short-lived due to obsolescence.

However, at the same time we are looking to improve our asset management practices and tools and there's enough industry evidence around to suggest that that may have a modera -- moderating impact on our capital reinvestment requirements.

Further to asset management on slide 55, in the pursuit of improvement, Manitoba Hydro asked UMS Group, subject matter experts in asset management, to review our asset management maturity relative to best practice. And as expected, several gaps were found. It's not surprising in that North America is lagging in terms of its asset management maturity, and there is a lot of room for improvement.

They did note that Manitoba Hydro compares favourably to North American industry, with respect to asset management maturity, which is the more relevant metric. In making asset management enhancements, we are looking forward to having more confident and transparent planning for sustainability. But more importantly about being able to target a desired balance of performance cost and risk, as in being able to relate what level of investment will produce what level of performance, and how risk will be balanced.

We are proceeding purposely but cautiously. It's important to understand that it's not a given that moving all the way to best practice is going to be of value or is going to justify the cost of those enhancements. And so we want to be careful to understand very clearly what decisions need to be made, what analysis is needed to support those decisions, and what data is needed support that analysis before we invest in them.

THE CHAIRPERSON: Mr. Wortley, can I just ask you a brief question? There seems to be discrepancy between the slide and what you said.

MR. JOEL WORTLEY: Sorry. Go on.

THE CHAIRPERSON: The slide says "many gaps." Your testimony was "some gaps."

Is it some or many?

MR. JOEL WORTLEY: It is many gaps. Absolutely.

THE CHAIRPERSON: Thank you.

MR. JOEL WORTLEY: And those -- those gaps will be considered and, when justified, closed as needed to accomplish our objectives. Several improvements are already underway at Manitoba Hydro. We've got a corporate asset management initiative to centralize and standardize practices, a capital portfolio management program to deploy the tools and processes to allow optimization of executing portfolios and improve forecasting, and a corporate value framework to bring a common basis of valuation to capital expenditures.

I want to leave you with a few thoughts on that basis. First is that the test year interventions are required for the safe and reliable operation of the system, and thereby are reli -- are required for the customer. And that's essentially the decisions made around those wear items, your tires on your car, that they're needed to keep the system running today.

The proactive system renewal portion, then, is a subset of the total capital expenditure, and as such is a relatively small impact on this rate case. And it's the only portion of that budget that has some flexibility in timing, albeit that flexibility comes at an increase in risk.

The forecast of future expenditures will be tested in future General Rate Applications, as in those forecasts will be developed into the plans. Those plans will go into the test years, and you'll see them here in the future. And we are improving or enhancing our asset management practices with good progress and good results to date.

That's it, the end of my presentation. I'd be happy to take any questions, or to pass along to -- to Susan.

THE CHAIRPERSON: There don't seem to be any questions. I'm just wondering if this would be an appropriate time for a break. So why don't we take...

(BRIEF PAUSE)

BOARD MEMBER MCCUTCHEON: I'm taking this back just a little ways. What I heard was on slide 20. I think it's not going as far back as you. So on slide 20 what I was hearing was that it was 0.01 growth rate. But that chart actually says 0.1 percent.

Was I hearing it right, or what is the correct percentage there? And I believe that was Ms.

Morrison's slide.

MS. LOIS MORRISON: Having technical difficulties there for a moment. When you factor in the assumption of the 1.5 percent average annual energy savings to be as outlined under the Efficiency Manitoba Act (sic), the average growth rate over the twenty (20) year horizon does become 0.1 percent. If you're looking solely at the fall update with -- without any inclusion of DSM activity, then the growth rate is 1 percent over the twenty (20) years.

BOARD MEMBER MCCUTCHEON: Okay. So you correctly stated it then when you said zero, zero point --

MS. LOIS MORRISON: One (1) is before DSM, and one (1) is after DSM.

BOARD MEMBER MCCUTCHEON: Okay. Very good.

MS. LOIS MORRISON: So the before is 1 percent per year, and then after DSM assuming the Efficiency Manitoba targets, it's 0.1 percent per year.

BOARD MEMBER MCCUTCHEON: Thank you.

BOARD MEMBER GRANT: Can I pile on, just with one quick question? On -- on slide 54 on capital expenditures, and I understood each of your points. I was just curious, though, modern design -- modern designs being less robust, digital equipment short-lived. These are good things; right? This is technological change that's enhancing performance and stuff.

So are they actually drive -- increasing capital expenditures, or is it just that there is a sort of more churning that presumably if it's less robust it doesn't last as long, but the purchase prices isn't as great? Or is it that you're become more capital-intensive in a way that's, you know, improving overall efficiency?

MR. JOEL WORTLEY: Very good question. And so with respect to the robustness of the designs, it's a trade-off. So the initial costs will go down and that's very attractive. And that's a significant pressure in projects is to keep that initial cost to go down. But then the -- the renewal or the intervention costs may go up in the future, or the life of the asset may end up being a little bit shorter.

And with the digital equipment it's -- it's tremendous in that it does much more for you. So, for instance, it enables things like automation, which will drive down operating costs. But obsolescence is -- is a -- it's like a treadmill. It's continually forcing you to upgrade and -- and reinvest in those assets in a way you didn't have to in terms of old electromechanical controls that lasted decades.

THE CHAIRPERSON: Thank you. We will break until eleven o'clock. Thank you.

--- Upon recessing at 10:44 a.m.
--- Upon resuming at 11:02 a.m.

THE CHAIRPERSON: Ms. Ramage, you have the whip going?

MS. PATTI RAMAGE: That is exactly right. I've timed them in eighty-eight (88) minutes, that gives us thirty-two (32) and I think they're up to challenge.

THE CHAIRPERSON: Okay, that's great. Thank you.

MS. PATTI RAMAGE: Perhaps before they get started, just something -- housekeeping. We -- I neglected to have the presentation marked as Exhibit 68. I'll deal with Mr. Simonsen. And the page that was missing from the presentation I suggest it be 68-1 just to...

There was one (1) page that got cut from the --

MR. KURT SIMONSEN: So noted. We just need the digital file please.

MS. PATTI RAMAGE: We'll get that.

--- EXHIBIT NO. MH-68: Panel 2 presentation.

--- EXHIBIT NO. MH-68-1: Missing page to Panel 2 presentation.

THE CHAIRPERSON: Thank you, please.

MS. SUSAN STEPHEN: Good morning, Mr. Chairman, Ms. Vice-Chair, Board members and every -- everyone else present in the gallery today. I'm Susan Stephen and I am the treasurer at Manitoba Hydro.

THE CHAIRPERSON: I'm afraid you're going to get yelled at pretty soon by our court reporter. You have to speak a little closer to the mic.

MS. SUSAN STEPHEN: Sorry, this is the first time that I do this. So my major areas of responsibility at this General Rate Application will be covering the debt management strategy, finance expense and credit rating issues.

I have nearly twenty-five (25) years of experience at Manitoba Hydro and the majority of my career has been in the treasury division. My professional qualifications include Bachelor of Commerce Honours with an accounting major. I also have a chartered professional accounting designation and I have successfully completed level I of the Chartered Financial Analyst Institute.

It's a pleasure to be here today. I will start my presentation and we will start on my slide 59.

Sorry, slide 58. So Manitoba Hydro's debt management objective. Are fundamental -- fundamental debt management objective is to provide low-cost stable funding to meet the financial obligations and liquidity needs of the Corporation while maintaining risk at prudent levels, and reserving sufficient flexibility to adapt to changing circumstances.

In our new forecast the potential cash flow stemming from cost reductions and from increases allows for the opportunity to use this future cash to permanently retire debt. With the new forecast assumptions, there is an opportunity for Manitoba Hydro to consider shortening the term to maturity of new debt issuance. Creating debt retirement opportunities is a key factor in reducing finance expense. And in the recovery of Manitoba Hydro's financial metrics.

With the new terming strategy, we are deliberately layering in new debt issues into available debt maturity buckets that will have surplus cash available for debt repayment. So how did we do this? Well, we modelled various different scenarios with the goals of matching expected future cash surplus with debt maturities.

We also wanted to ensure that we kept interest rate risk within our policy and guideline limits and we were also looking for cost reductions.

So starting with our interest rate forecast. Our interest rate forecast as Ms. Carriere alluded to is based on a consensus view of several independent sources, including Canada's primary financial institutions and several other independent sources.

Historically, Manitoba Hydro's interest rate forecast for Canadian borrowing has been the average of the ten (10) year and the thirty (30) year Manitoba cost of borrowing, which we have called in the past the ten (10) year plus rate.

For forecasting purposes in the past we had assumed a twenty (20) year term to maturity for new debt issuance. Our new forecast models reduction of the weighted average term to maturity or as you'll see WATM as an acronym for new borrowing from twenty (20) to twelve (12) years. Using this assumption the forecast shifts approximately 30 percent of new debt issuance into the twenty-three (23) to twenty-seven (27) time frame. And, essentially, it's moving it out of the thirty (30) year plus bracket and putting it into the bracket that's under ten (10) years.

So we're going to see, according to our forecast, more debt forecast in the five-year term with some allocations also in the three (3) and seven (7) year terms. This shift will reposition about 3 billion into that period. But, there's also good news because our new forecast with the rate increases has an additional 3 billion of surplus cash flow available. Our intention here is to match that surplus cash available from the cost reductions in the rate increases to retire that -- that debt.

So with the new terming assumption, Manitoba Hydro can capture interest rate savings by borrowing more debt in the five-year term to maturity than in the thirty (30) year as five-year debt is typically less costly than thirty (30) year debt.

Based on the new debt issuance assumptions, the model forecast that we would save approximately 500 million in the next -- next decade out to 2027. Providing that all forecast assumptions hold, including rate increases, the level of interest rate risk would be kept at a manageable level.

Okay, so this table shows the total borrowing for the next decade under our forecast assumption of 7.9 percent rate increases in a twelve (12) year weighted average term to maturity versus IFF16 update with interim with IFF15 rate increases with the 12 year weighted average term to maturity.

In the '23 to '27 time frame, you can see under a 7.9 rate path, the higher cash flows will actually limit new borrowing required by approximately $1 billion and will also create surplus cash flow in that timeframe of -- of about $3.1 billion, and that 3.1 surplus cash can be used to pay down debt.

Should that 3.1 billion of surplus cash not materialize, as planned, the refinancing risk during that period would raise from 5.7 billion to the full 8.8 billion of borrowing that's occurring in that period.

The total borrowing for after debt

retirement with the 7.9 percent rate path is 19 billion versus 23 billion under the 3.95 percent rate path. The interest rate exposure will be lessened in our forecast with the 7.9 percent rate path as we will be removing 4 billion of debt from the balance sheet.

There is virtually no debt retirement under a 3.95 percent rate path in this timeframe and this would expose the Corporation to greater refinancing risk.

Should the underlying forecast assumptions not hold, Manitoba Hydro would have to re-evaluate and adjust its debt management strategy and the targeted terming of the new debt issuance as it deems necessary.

All else being equal, this would be expected to erode the savings potential that we calculated in our forecast.

Okay, this graph shows Manitoba Hydro's debt maturity schedule, as well as our new forecast borrowings. So our existing debt maturity schedule is shown in -- as the dark blue bars.

The light orange bars are actually refinancing of physical debt issues which currently have swaps attached to them.

And this graph shows the addition of

the forecasted new long-term debt as the bright green bars which is the majority in the earlier years.

So, you can see that Hydro's subject to a high degree of interest rate risk over the next four (4) years due, in part, to the existing maturity schedule, but it's mainly due to the new borrowings in our forecast.

So there are also some other bars on this graph. The light blue bars, that represents the potential terming of the debt that's we're going to be issuing in the 2018 to 2020 timeframe. So that represents our peak borrowings in our forecast years.

So this terming is going under the assumption that we will have, as I mentioned, more debt issued in the five-year sector, with some allocations in three (3) year and seven (7) years as well and there's also some ten (10) year debt that's rolling into there as well.

We only had about 20 percent of our forecasted debt in thirty (30) year and plus at this point.

One (1) thing that I -- we have not shown on here is if we were to assume, for forecasting purposes, that we were going to roll over the debt past 2020. So in 2021 there is still significant amount of borrowing in that year, 2.5 billion. If we were to roll over that debt to look at the effect of how much refinancing we would have in that period from '23 to '27, we would be refinancing 50 percent of Manitoba Hydro's debt portfolio in that time frame.

Without the expectation of cash flow to retire this debt, the strategy that allocates 80 percent of new borrowings to ten (10) years and under is just too risky.

So this graph on interest rate risk shows the forecast five-year borrowing cost for Manitoba Hydro in light green, and the actual borrowing cost in dark green. And similarly the light blue is the thirty (30) year forecast Manitoba Hydro borrowing cost, with our latest integrated financial forecast. And the dark blue represents the actual thirty-year indicative borrowing rates.

Our forecast had modelled a 1.6 percent difference between the five-year borrowing rate and the thirty (30) year borrowing rate. The differential between these two (2) rates is what provided for the approximate 500 million in savings that we had put forward for the new terming methodology.

What we have seen forecast in the spring, we have seen five-year rates rise quite a bit and above our forecast levels, and we've seen the thirty (30) year rate actually stay below our forecast level.

So the differential between the five-year and the thirty (30) year rate has diminished now to about .9 percent. What this does is this has the effect of reducing the savings available from changing our terming strategy.

THE VICE-CHAIRPERSON: Ms. Stephen, could I just ask you, does that make any difference then to your strategy, the -- the changes that you've seen as you've just described?

MS. SUSAN STEPHEN: It -- it does. It does, because we wouldn't realize the 500 million as we had forecast. It actually comes in somewhere, when we modelled it, just under 250 million in savings.

So obviously, if we're not going to be realizing savings of a certain nature, we're going to look at what risks do we pull back on. So definitely it has.

And that -- the yield curve itself -- what the yield curve is essentially the five-year debt is usually lower and an upward sloping yield curve and thirty (30) year debt is higher. So what's happened in this case is the five-year has gone up and thirty

(30) years come down a little bit actually. So, they call it a flattening of the yield curve.

When you have a situation like that, you actually are better off taking, and especially in historically low rates, better off taking the thirty (30) year borrowing. So that's what we've actually seen.

And Mr. McCallum spoke the other day to our debt issuance and it's probably my error. I haven't updated him on some of our recent issuances. We have done some thirty (30) year issuances this year and we have 2.5 billion in borrowings to date. Our last two (2) debt issues were thirty (30) year issues and our weighted average term to maturity is currently eighteen (18) years.

BOARD MEMBER GRANT: If I can -- if I can follow-up just so I clear on this, I'd be tempted to shorten the term if the yield curve was steep and I was forecasting -- I'd go short if I was forecasting interest rates were going to be falling. Right?

So, in other words, you were saying, we moved to a shorter term to take advantage of the yield curve despite the risk of the average yield and interest rates rising over the near future. Because you're going to have to refinance in five (5) years at potentially a higher rate?

MS. SUSAN STEPHEN: And this is why we have indicated that it is important that we have that cash flow available when those debt maturities retire so that we can retire the debt and have no interest rate risk.

BOARD MEMBER GRANT: So now you've got a flattened yield curve and I guess expectations of rising interest rates?

MS. SUSAN STEPHEN: Correct which is why we are locking in long rates at the moment.

And finally, what this graph represents, it's a historical graph going all the way back to 1995, and it's showing the Manitoba ten (10) year plus rate is the blue line going all the way back to 1995.

And we also have the three (3) month T-bill rates in red on that line -- on the graph. So you can see there's been a lot of volatility since 1995 through the recession into now. We are still at historically low levels for interest rates.

In the forecast portion you can see we have forecast -- there's -- we have our ten (10) year plus rate in there as well for forecasting, and we also have added our -- our twelve (12) year weighted average term to maturity forecast, which is in green.

Now, the blue shaded area surrounding the -- the blue ten (10) year plus rate is the -- the variability in the forecasters so they -- the highest one would have been the highest forecaster, the lowest one would have been the lowest forecaster. So our twelve (12) year weighted average term to maturity is coming in near the low end of that range.

So as I mentioned, we do have peak borrowings. Our peak borrowings are going to actually occur next year and the next three (3) years are quite heavy. So these are all forecast at historically low levels. Should interest rates move as they are apt to do, especially as we are in an upward moving interest rate environment currently, we could see additional interest rate costs in addition to our forecast levels.

So a twelve (12) year weighted average term to maturity terming strategy with no cash flow, as I mentioned, to pay down debt will leave almost the entirety of Hydro's new borrowings up for refinancing between now and 2027.

Each 1 percent move upward in interest rates, depending on timing, could cost Manitoba Hydro upwards of 200 million a year by 2027, if that were the case. So this would be an enormous risk to rate stability in the next ten (10) years. So we would recommend that with the 3.95 percent path, this would just be too much risk, and we would not -- we would not entertain this shorter strategy. Thank you.

THE CHAIRPERSON: Ms. Stephen, can I just ask a couple of questions. At the beginning of your presentation you referred to the -- your internal interest rate risk policy guidelines.

In this presentation, you have a number of steps you've taken, and I'm just wondering what -- if they reflect the policy -- if those are the policy guidelines, or they reflect the steps taken as a result of the policy guidelines?

MS. SUSAN STEPHEN: We didn't -- I -- the interest rate risk policy and guidelines are included in our debt management strategy. My indication in that part of the presentation was that we were modelling -- when we were modelling different scenarios, we wanted to ensure that we were not going to be preaching our policy guidelines -- our policy and guidelines.

So our -- just for your knowledge, our interest rate risk policy is to maintain the aggregate of floating-rate debt, a short-term debt, fixed-rate debt matu -- maturing within twelve (12) months to no more than 35 percent of our debt portfolio. And our guidelines which make up that policy are that we would normally include -- we would normally target to have a short-term and floating-rate debt to be within 15 to 25 percent of our debt portfolio. And that we would not allow fixed-rate debt maturing within the next twelve (12) months to be more than 15 percent of a total portfolio.

THE CHAIRPERSON: And how long have those guidelines been in place?

MS. SUSAN STEPHEN: Those formally, we revised our guidelines back in July 2014 but those have been -- I don't know if they've been formal guidelines and policies prior to that but we formalized them back in 2014.

THE CHAIRPERSON: Okay. So you haven't changed them since 2014?

MS. SUSAN STEPHEN: No.

THE CHAIRPERSON: Thank you.

MS. SUSAN STEPHEN: No. And just to add a finesse on to that -- and we have seen this over the course of the last few years. But where we know that we are going to have a lot of new borrowings or if we have a lot of refinancings coming up, we will scale back our floating-rate debt in our portfolio. So this -- we have done this over the course of the last few years, simply because of the magnitude of new borrowings that we're undertaking.

So we're currently sitting around 6 percent of floating-rate debt in our portfolio.

THE CHAIRPERSON: Thank you.

MS. LIZ CARRIERE: Thank you, Ms. Stephens. I have about eighteen (18) minutes left by my count, so we'll going.

You'll -- I'm going to talk about the previous plans that were mentioned in -- in the testimony over the last two (2) days. You'll recall from Monday Mr. Peters and Mr. Shepherd -- or asked Mr. Shepherd if the 3.95 percent rate plan was a promise.

Likewise, in the Coalition's interim submission, Mr. Williams remarked that Manitoba Hydro broke an implicit covenant from NFAT to not raise rates materially.

Mr. Hacault in yesterday's cross-examination was fixated on twenty (20 year -- twenty (20) year and fifty (50) year rate progressions in the previous proceedings.

And Mr. Orle was also -- also concerned

that Manitoba Hydro is deviating from the NFAT preferred development plan rate projections based on risks we knew existed at the time of the NFAT .

It's true my colleagues and I at NFAT did -- and the previous -- and the 2000 -- 2015 GRA did provide testimony in previous proceedings in support of rate proposals and plans that included 3.95 percent over the long term. And we did acknowledge that Manitoba Hydro's financial position would deteriorate during the period of investment.

Manitoba Hydro's financial -- or -- but legal counsel to the Board and Intervenors neglected to knowledge that cav -- the caveats that my colleagues and I placed on the 3.95 percent rate plans.

So the following slides provide snapshots of slides lifted directly from Manitoba Hydro's finance panel's direct evidence at the 2015 General Rate Application, along with corresponding transcript references. I'm not going to read through all of the contents of each of these slides, but I'll summarize my point of bringing these to the Board's attention.

To clarify the record from -- I believe it was yesterday on what the Corporation sought for approvals at NFAT, Manitoba Hydro's final argument at page 1 identified two (2) key components of the preferred development plan that required immediate commitment: 1. Start construction immediately on Keeyask and, 2, proceed with a 750 megawatt transmission interconnection.

The decision on Conawapa, also in the preferred development plan, was not required immediately but that conditions would continue to be monitored to determine if continued investment in the project was warranted.

With respect to the rate projections for each of the development plans, Manitoba Hydro was explicit in stating that the rate plans presented were developed for the purposes of comparing development plans. Due to the diverse characteristics of the plans being evaluated, for example, a hydro-generating station with an approximate seventy (70) to a hundred (100) year life compared to a gas turbine with a thirty (30) to thirty-five (35) year life.

The usefulness of the absolute rate increases was limited and the NFAT panel was advised to focus on the incremental differences between the plan.

Additionally, the rate increase

projection methodology necessary for the large volume of scenarios and development plans due to its strict adherents on certain parameters produce sometimes impractical results for some of the plans, such as prolonged significant financial losses under the all gas plan which, in practice, would be necessary to adjust.

Manitoba Hydro emphatically stated that minimum rate increases were necessary under all plans to cover the remaining costs of the $13 billion in asset -- of assets in service at the time of the NFAT, as well as the sustaining capital expenditures necessary to maintain those assets.

In other words, there was a base level of underlying rate assumption -- or rate increases necessary to cover the costs of the existing system and the differential between the development plans were incremental to that base level. The ability to separate these components in any meaningful way in an integrated predominantly Hydro-based system under cost of service regulation is extremely challenging.

Further, at NFAT transcript page 2769, Manitoba Hydro advised the panel that due to the uncertainty of forecasting, the rate increases are indicative and are showing general directional trends in -- in rates. Actual rate increases will vary from those, and will depend on many other factors and not just the choice of development plan but due to changing water flows, weather and costs to maintain the system and economic variables.

Importantly, Manitoba Hydro cautioned the NFAT panel that the rate projections set forth for each of the development plans were not applicable for rate-setting purposes.

On slide 68, as Mr. McCallum noted on Monday, Morrison Park advisors were of the view that Manitoba Hydro place far too much emphasis on its equity ratio and was blind to Hydro's evidence on what they considered that -- the most important type of metric, that is, cash flow metrics.

Manitoba Hydro has a considerable amount of evidence on this -- on the record for this proceeding on cash flow metrics. Additionally, the 2015 GRA had a considerable amount of testimony related to its cash flow far more than any previous proceeding.

On slide 68, Mr. Peters and Mr. Schultz, Manitoba Hydro's former treasurer, had -- had a fairly lengthy exchange about what it takes to get -- to get the interest coverage above 1.0. I'm not going to read through it and I'll -- I'll be paraphras -- paraphrasing here, but there are a couple of key points Mr. Schultz made.

Number 1, 1.0 is not a sufficient goal. You need a question for increases in costs or lower revenues.

2. A shortfall in cash needs to be financed, and that creates a circular problem; more debt, more finance, more cash needed, more debt, et cetera, et cetera.

As a result, Manitoba Hydro believed that 3.95 percent is -- was the minimum, because it takes the Corporation towards a fairly low equity level.

For a 15 percent equity ratio would be less comfortable -- uncomfortable, but would need rate increases of 5 to 6 percent, based on the forecast at that time.

On slide 69, Madam Vice-Chair Kapitany and I are discussing the comparison of sustaining capital expenditures to cash flows from operations. Even with the limitations of exclusion of some of the new major new generation and transmission projects from the comparison, the then current 3.95 rate plan produce insufficient cash flows and a shortage of $400 million cumu -- cumulatively to cover sustaining capital expenditures.

I noted, for the record, that Manitoba Hydro could've actually been asking for higher rate increases to cover that short -- shortage, rather than increasing borrowing. In interest -- in the interest of time, I'm just going to skip over slide 70 where Mr. Rainkie is lamenting about abysmal financial ratios and that he wouldn't be doing a happy dance.

On slide 71, we -- Manitoba Hydro con -- did consider other rate alternatives in Appendix 3.5, and in particular scenarios G, H and I examined rate increases of 5 to 6 percent for four (4) years from 2016 to 2019.

While these scenarios produced higher rate increases in the nearer term, the cumulative rates by 2024 were apar -- approximately the same as the 3.95 percent rate plan and managed the equity ratio to nearer 15 percent throughout the investment.

So to just wrap up, Manitoba Hydro was not complacent about the 3.95 percent rate plan and acknowledged at NFAT and the 2015 GRA that circumstances may change such that it might -- may require the Corporation to divert from the 3.95 percent rate plan.

The 2015 GRA contemplated that rate increases of 5 to 6 percent would generate cash flow that would reduce debt to a level that would provide a less uncomfortable 85/15 debt-to-equity ratio.

Well, circumstances have changed since NFAT and the 2015 GRA. You've heard Mr. Shepherd and Mr. McCallum say capital costs on the major projects have gone up and the associated carrying costs have increased approximately 550 million -- or sorry, and the carrying costs associated are going to be approximately 550 million.

The fall 2017 forecast of export prices has demonstrated that prices have continued to deteriorate. Earlier in this presentation, we noted that interest rates rose between the preparation of the MH16 and MH16 Update.

And Ms. Morrison indicated that the preliminary indications for the 2018 load forecasts are that load will be lower yet again. This means that there's a lower customer base over which to spread rising costs.

There is increasing pressure on costs and revenues. The $5 billion Bipole III project will be in service in nine (9) short months adding over 300 million in carrying costs to -- to the Corporation.

Mr. Wortley and his team are making great strides to putting greater rigour around capital investment decisions, but there is an increasing pressure to invest more in business operational -- operations capital to keep the lights on.

And as Mr. McCallum noted on Monday export revenues have deteriorated by $78 million for 2017/'18 and 2018/'19 since MH16 Update was prepared do -- due to lower precip -- precipitation levels. Manitoba Hydro had included a 3.95 percent rate plan for the four (4) previous forecasts, since 2012, and a 3 1/2 percent rate plan for the three (3) previous forecasts, to IFF12.

Since 2009, Manitoba Hydro firmly believes that these rate plans have run their course, and there is simply no additional capacity for the 3.95 percent rate plan to absorb any further increases in costs or deterioration in financial position.

The level of debt has grown out of proportion with our assets and the current level of revenues, with further deterioration in key forecast inputs. Since even MH16 update was prepared, cash flow deficiencies are expected to grow, and the elusive 25 percent target equity ratio would be pushed out even further under a 3.95 percent rate plan, into increasingly uncertain forecast periods. Deferring rate increases and delaying achievement of Manitoba Hydro's financial targets into periods of even greater uncertainty unnecessarily exposes customers to the very risks and higher rate increases the Corporation seeks to protect customers from.

The 7.9 percent rate plan in this forecast is required to manage Manitoba Hydro's level of debt and generate enough cash flow to offset the cash deficiencies in incremental borrowing requirements. Approving a nine -- 7.9 percent rate increase for 2018/'19 starts Manitoba Hydro on the right path, and doing so protects Manitoba Hydro -- from even -- Manitoba Hydro's customers from even higher future -- future rate increases. It returns customers to inflationary level of rate increases sooner than previous plans, and in the long term, results in lower rates to customers. Thank you.

THE CHAIRPERSON: Thank you. I'll ask the panel if they have any questions. Do you have any questions? No?

MS. PATTI RAMAGE: Mr. Chair, before -- before we --

THE CHAIRPERSON: Sure, sure. Yes.

MS. PATTI RAMAGE: -- turn over to

cross-examination, at the beginning, you asked if each of the panel members could identify their positions --

THE CHAIRPERSON: Yes.

MS. PATTI RAMAGE: -- at Manitoba Hydro and education. Mr. Wortley spoke on behalf of his asset management group, so I thought maybe for the record, we should just ask each one to introduce themselves and --

THE CHAIRPERSON: Thank you.

MS. PATTI RAMAGE: -- just very briefly, their education and their -- their current position at Manitoba Hydro, if that -- and Mr. Steele, if we could start with you?

MR. CHUCK STEELE: My name is Chuck Steele. I'm the director of engineering and construction in the marketing and customer service operating group. I'm a professional engineer. I'm also a chartered professional accountant, and I've worked at Manitoba Hydro for almost twenty (20) years now.

MR. HAL TURNER: Good morning, everyone. My name is Hal Turner. I am the director of generation asset management. I have a bachelor of science in mechanical engineering, and I've worked at Manitoba Hydro for twenty-one (21) years.

MR. GERALD NEUFELD: Good morning. My name is Gerald Neufeld. I've been with Manitoba Hydro for approximately thirty-two (32) years. I have a bachelor of science degree in electrical engineering, and most my positions have been in some level of responsibility in transmission.

MR. DAVID SWATEK: Good morning. My name is David Swatek. I'm the manager of the system planning department in transmission. I have a -- I have a bachelor of science degree in electrical engineering and a PhD in electrical engineering from the University of Manitoba. I'm a registered professional engineer in the Province of Manitoba, and I've worked for Manitoba Hydro for twenty-nine (29) years.

MS. PATTI RAMAGE: Thank you. And that concludes Manitoba Hydro's direct testimony. With the Chair's permission, as per my comments before we started, I -- and I've spoken to Mr. Peters. We're going to suggest that we allow Ms. Morrison, Mr. Wortley, Mr. Steele, Mr. Turner, Mr. Neufeld, and Mr. Swatek to depart for -- until Mr. Peters indicates that he requires them for his questions.

THE CHAIRPERSON: Okay. Mr. Peters...?

MR. BOB PETERS: Yes. Thank you. I agree that Ms. Ramage has indicated what we've discussed. I would also indicate that if there are some questions along the way that become a challenge for the witnesses here to answer, I am prepared to defer them, but in striving for the efficiencies, there's no need for some of the witnesses to sit here for an extra day or two (2) if they're not needed until the end of my questioning, so.

THE CHAIRPERSON: Did you want to begin, Mr. Peters?

MR. BOB PETERS: Yes, I think we'll allow a few min --

THE CHAIRPERSON: Well, I -- I guess we'll -- we'll have -- are -- are we going to have the big shift now? Okay.

(BRIEF PAUSE)

MS. PATTI RAMAGE: I'm going to take the liberty of using the microphone, and -- because I know the people in our room are watching, and their back rows --

THE CHAIRPERSON: Yeah. Thank you.

MS. PATTI RAMAGE: -- could come up

and sit in the back row, the people for the testimony, but we can get started, and you'll just see them file in, but they're --

THE CHAIRPERSON: Okay.

MS. PATTI RAMAGE: -- they'll hear this twenty (20) seconds from now, I understand.

THE CHAIRPERSON: Okay.

(BRIEF PAUSE)

THE CHAIRPERSON: Mr. Peters...?

CROSS-EXAMINATION BY MR. BOB PETERS:

MR. BOB PETERS: Thank you, Mr. Chair. I should indicate as well that I don't think I have immediate questions for Ms. Stephen, and I've informed her counsel of that, and so I will -- if -- if she takes her leave, I won't be upset or offended.

What I thought I could start with, Mr. Chairman, with the Board panel and with the witness panel is to provide the Board with the context in terms of the rate increases that of the been approved by this Public Utilities Board. And if we could start with the PUB Exhibit 42-1, which is the first volume of Board counsel's book of documents, page 81 is a page that I believe Mr. McCallum and I chatted about briefly, but it serves as a starting point, and we could even -- thank you. Just up size that a bit.

What we didn't mention, and I just asked for confirmation from the panel, is back in 2001-02, there appears a -- a minus 1.92 percent rate increase. Do you see that, Ms. Carriere?

MS. LIZ CARRIERE: Yes, Mr. Peters.

MR. BOB PETERS: Ms. Carriere, I'm not keeping track of how long people have been with the company, but are you aware that that was as a result of uniform rate legislation enacted by the Province of Manitoba?

MS. LIZ CARRIERE: I was here, and I am.

MR. BOB PETERS: You are aware that it was from uniform rates legislation?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And so for the panel's benefit, and in -- in perhaps simplistic terms, of the Province of Manitoba used to be divided into three (3) rate zones by Manitoba Hydro?

MS. LIZ CARRIERE: That's my recollection.

MR. BOB PETERS: And the highest rates

went to the zones that had the lowest population density?

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

MR. BOB PETERS: So put another way, the cheapest electricity rates that Manitoba Hydro charged residential customers was in the City of Winnipeg, and the most expensive would have been in rural Manitoba, including northern rural Manitoba?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And there was a middle ground in-between in the zone 2, and that was typically the -- what I'll call the large towns, or the small cities, maybe Steinbach, Morden, Winkler, Portage la Prairie, just to name a couple. That would be the zone 2 rates?

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

MR. BOB PETERS: And when the Province took those rates, the Province indicated that they -- the rates had to be uniform in Manitoba, and there are some legal questions that your counsel will be aware of, but the upshot of that was the customers in zone 2 and zone 3 had their rates reduced to be equivalent to the zone 1 rates?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And as a result of that, it was tantamount to a 1.9 percent rate reduction in Manitoba Hydro's average revenues?

MS. LIZ CARRIERE: One point nine-two (1.92), yes.

MR. BOB PETERS: The City of Winnipeg residents didn't get a rate reduction when that happened, did they?

MS. LIZ CARRIERE: No.

MR. BOB PETERS: And that's because they were already in zone 1, and that was the rate that was going to be used in the Province?

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

MR. BOB PETERS: Okay. Also on that sheet, we see in 2003/'04 that there is a minus 0.72 percent rate, and that was in, as I said, 2003/'04. Can you confirm that that was an adjustment made by the Public Utilities Board to the general service large customers?

(BRIEF PAUSE)

MS. LIZ CARRIERE: I was just confirming with Mr. Barnlund, but it was general service large and general service small.

MR. BOB PETERS: Thank you. And the do you recall -- and certainly, Mr. Barnlund would, because his number might be higher than some of the other ones we've heard here in terms of longevity with the company -- but that stemmed out of a cost of service study adjustment. Could you go that far with me, Ms. Carriere?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: All right. Let's leave that. We've already talked with Mr. McCallum and Mr. Shepherd about the requested 3 percent rate increase and the resulting 5 percent, plus 2.25, plus 2.25 percent rate increases, which came after Manitoba Hydro's drought in 2004, correct?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: Mr. Cormie, I was going to ask, was that the worst -- is that now the worst drought on record? I haven't flipped to your -- to your slide, but is that the one -- I guess maybe we could. If we could put Manitoba Hydro Exhibit 68 up and turn to slide 23.

(BRIEF PAUSE)

MR. BOB PETERS: And Manitoba 68 was the presentation from Manitoba Hydro this morning.

(BRIEF PAUSE)

MR. BOB PETERS: I suppose this slide will answer my question, Mr. Cormie, but you can help me that the drought in 2004 does not appear to be the lowest water level that the Corporation has sustained over its hundred and four (104) year history, here.

MR. DAVID CORMIE: No, it -- it -- water conditions have been worse than that in the past, but that's the worst drought that Manitoba Hydro as an organization has experienced.

MR. BOB PETERS: I -- I'm sorry. I didn't catch that last comment.

MR. DAVID CORMIE: It wasn't -- it -- wasn't -- it -- it was -- wasn't the lowest water year on record, but it is the worst drought that we've experienced as a Corporation.

MR. BOB PETERS: And when you say "the worst drought," you're meaning from a financial perspective?

MR. DAVID CORMIE: Yes. The difference between what we had forecast and the actual result in that year was a -- a spread of around $700 million.

MR. BOB PETERS: All right. Thank you for that, sir.

If we turn to the bottom of page 81, we'll see that the there was a 3.36 percent rate increase. And this is the third column from the left. We see at the bottom, it was requested for April 1st of 2016 and the rate that was approved was approved for August the 1st of 2016, correct?

MS. LIZ CARRIERE: The rate requested for April 1st was 3.95 percent, yes.

MR. BOB PETERS: And it was approved at 3.36 percent, effective August the 1st of 2016?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And you're telling, Ms. -- Ms. Carriere, the Board in this chart that the revenues from the rate increase were $36.6 million in the approximate eight (8) months of the fiscal year that were left after the interim rate increase was received?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And into the column

next to that, you're telling this panel that on an annual basis, that 3.36 percent equates to about $52.3 million?

MS. LIZ CARRIERE: Yes. That's correct.

MR. BOB PETERS: All right. Thank you. And we can go to the next line, Ms. Carriere. And the 7.9 perc -- percent rate increase requested for August 1st of '17 was approved at 3.36 percent effective August 1st of '17, correct?

MS. LIZ CARRIERE: Correct, on an interim basis.

MR. BOB PETERS: And that resulted in about $37.3 million in the eight (8) months that are in -- left -- that were left in the fiscal year from when the award was given?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And then on an annual basis, it's going to be approximately $52.4 million?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: Looking below that, at the last line item, what you're indicating is -- is that a 7.9 percent rate increase will -- will bring in annual revenues of $127 million on a full twelve (12) month fiscal year.

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

MR. BOB PETERS: If we turn to the page before, on page 80, please, of -- of Board counsel's book of documents, Exhibit PUB 42-1.

I just want you to help me, Ms. Carriere, would you -- would you agree that page 80 will demonstrate to the Board what is the impact of their rate increases over time?

MS. LIZ CARRIERE: Yes, over the prior fiscal periods.

MR. BOB PETERS: And what -- what you mean by that is, if we go to the top row back in 2004/'05 when the Board approved a 5 percent rate increase, and we follow that 5 percent rate increase across the chart, what started off as a full year of $45 million is today worth $52 million to the Corporation?

MS. LIZ CARRIERE: Yes, based on our current forecast of load.

MR. BOB PETERS: Yes, so what you're telling the -- the panel is that the last thee (3) columns of page 80 are -- are not actual yet, they're -- they're either forecast or are almost at the end of the current -- current year?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And likewise, when we look to the bottom of -- if we look to the -- on page 80 to the $507 million number, the impact of the rate increases by this Board since '04/'05 are contributing half a billion dollars to the revenues of Manitoba Hydro?

MS. LIZ CARRIERE: That's correct. Again, based on forecast load for 2018/'19.

MR. BOB PETERS: And that -- that $507 million number, Ms. Carriere, is for the rates that have been finalized or at least approved on an interim basis to date?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And it doesn't include your most recent seven point nine (7.9) request for Aug -- April 1st of 2018.

MS. LIZ CARRIERE: That's correct. That's further down in the chart.

MR. BOB PETERS: On page 82 of the materials, Manitoba Hydro answered a question and provided a chart to show their work, so to speak. And on this -- we'll -- we'll stay with page 82, if we could.

Even though we see what these rate increases bring in in terms of annualized revenue, these rate increases, over the long term, have a significant value to the Corporation.

Is that correct, Ms. Carriere?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And so the last interim rate approved by this Board, plus the 7.9 percent requested for April 1 of 2018, Manitoba Hydro is telling the Board that the net present value of those rate increases is approximately $2.9 billion?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And what does that -- what -- what can you tell the panel that -- what does that mean to the Corporation in terms of its financial planning? Are you including -- you're including the $2.9 billion over the life of your integrated financial forecast?

MS. LIZ CARRIERE: Yes, we are including $2.9 billion on a present value basis in our revenues, which is offsetting a corresponding debt and financing charges.

MR. BOB PETERS: And when we say net present value -- not to -- to help understand it -- to help understand it, ins -- would that be the -- the same amount that if the Board could get $2.9 million today in one (1) -- in one (1) lump sum, the

Corporation wouldn't need this 7.9 percent rate increase or the 3 -- 3.6 rate increase from last August?

MR. JAMES MCCALLUM: Perhaps I'll take that. No, it -- it wouldn't necessarily mean that. The calculation is using a weighted average cost of capital, something we discussed a little bit I believe with, Dr. Williams, yesterday. But were we to receive a -- a -- you know, a -- a windfall, we'll call it, of $2.9 billion, what we would do with that is we would pay down debt, or more accurately at these times, we would not take on new debt. And we would be able to save the interest costs associated with that -- that going forward.

And so the actual savings would be a function of the interest avoided which, you know, just to pick a number, would be more like 4 percent, or 4 and a half percent, plus the PGF, you know, going forward.

MR. BOB PETERS: Does that mean it would be worth more than the $2.9 billion?

MR. JAMES MCCALLUM: No, it would be worth less.

MR. BOB PETERS: And that's worth less because of how Manitoba Hydro chooses to spend it to retire debt?

MR. JAMES MCCALLUM: No, not due to that. It's worth less because the way the $2.9 billion is calculated, is a present value of rates paid out over -- earned over twenty (20) years, discounted at 6.5 percent, as opposed to the rate on our interest which is lower.

MR. BOB PETERS: All right. And -- and that was the 4 percent number that you were estimating in your calculation?

MR. JAMES MCCALLUM: Correct.

MR. BOB PETERS: Thank you, sir. On page 95, we have some additional information in a -- in a chart that Manitoba Hydro didn't prepare but was provided in the book of documents. So I'm going to see if you can help navigate through this, and if you have any questions you'll certainly let us know.

But this chart was designed to try to demonstrate to the Board what's been happening with respect to the Bipole III deferral account.

Is that your understanding, Ms. Carriere and Mr. McCallum?

MS. LIZ CARRIERE: I'm not really sure, as it wasn't prepared by -- by Manitoba Hydro.

MR. BOB PETERS: All right. Well,

then see if you can stay with me, and if you have issues or questions you'll let me know that.

In the columns that are shaded beige in colour, perhaps bordering on a light yellow, we've introduced that, starting in 2013/'14, the Board approved a 3.5 percent rate increase and directed that 1.5 percent of that rate increase be flowed into a Bipole III deferral account.

Can you accept that, Ms. Carriere?

MS. LIZ CARRIERE: Yeah.

MR. BOB PETERS: And in terms of the contribution in dollars, are you prepared to accept that there was $18.8 billion -- million?

MS. LIZ CARRIERE: Yeah. Yes.

MR. BOB PETERS: All right. And the same applies for the other rates that the Board has approved since 2014, where all or part of the Board award has flowed into the Bipole III deferral account?

MS. LIZ CARRIERE: Yes, the three hundred and ninety-nine (399) number at the bottom looks familiar to me.

MR. BOB PETERS: And -- the $399 million, it looks familiar because that's how much money Manitoba Hydro calculates it will have in the Bipole III deferral account after this fiscal year?

MS. LIZ CARRIERE: That's correct.

MR. JAMES MCCALLUM: I -- I might just correct -- if I'm -- and this is my first time seeing this chart, but I believe, just to correct Ms. Carriere or prepare to correct myself, I believe the $399 million number will be after next fiscal year, i.e. at March 31. Actually, I think that's the number where the day we turn Bipole on, in August of 2018, that's the amount that we will have accrued into the Bipole reserve account.

MR. BOB PETERS: Thank you for your -- for your qualifications on that, Mr. Mc -- Mr. McCallum.

And, correct, what you will see is that in the fiscal '18/'19 year, there's only $51 million flowing into the Bipole III fund as a contribution, and that reflects less than a full year to reflect that the Bipole is expected in service in that year?

MR. JAMES MCCALLUM: That's correct. It reflects I guess about four (4) months of -- of such revenues.

MR. BOB PETERS: Let's focus on the end of 2017/'18 number of $151 million. If we turn to page 179 of Board counsel's book of documents, and look at the integrated financial forecast that

Manitoba Hydro has provided, we'll see that $151 million shows up in the 2018 year under the Bipole III reserve account.

Are you with me on that, Ms. Carriere?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Yes, I see that.

MR. BOB PETERS: And -- and let's talk about this point, also with Mr. McCallum, because I want to make sure the panel understands it. What Manitoba Hydro is reflecting in this integrated financial forecast is that consumers are paying in 2018, $151 million in approved domestic rates, and that $151 million is embedded in the $1.578 billion number at the top of -- the top line.

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And then what you do show this panel is that now that you've put $151 million into the IFF integrated financial forecast, you then take it out by way of a separate line item to show it.

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And, Ms. Carriere, is it correct that as a consequence of Manitoba Hydro doing that, that $151 million didn't flow down and get added to the $93 million of net income that would otherwise have been forecast by the company?

MS. LIZ CARRIERE: That's right.

MR. BOB PETERS: And now, just to put a final point on it, I think, Mr. McCallum, yesterday, or perhaps even the day before or both, you've been telling the Board that that $93 million number is now expected to look more like $30 million; correct?

MR. JAMES MCCALLUM: Yes, that's correct. After we finished our second quarter report after September 30th, we reevaluated our outlook for the balance of the year, and our anticipation is that we will have net income for the electric segment of about $30 million.

MR. BOB PETERS: And then, Ms. Carriere, that $30 million that Mr. McCallum just spoke of doesn't include the $151 million that has been collected for the Bipole III deferral account, does it?

MS. LIZ CARRIERE: No, it's taken out.

MR. BOB PETERS: And now when we talk about the Bipole III deferral account, one (1) of the -- one (1) of the financial planning aspects that Manitoba Hydro has to do is decide how it's going to give back to ratepayers credit for what's been put in the Bipole III deferral account?

MS. LIZ CARRIERE: I wouldn't characterize it as giving back to customers. It's -- it's we've made assumptions about how we would recognize it in income.

MR. BOB PETERS: And -- and I'm not -- what you're telling the Board is you had different options as to how to recognize it in income. And this is the -- this is the way you've chosen to recognize it?

MS. LIZ CARRIERE: Yes. When -- when the Board decided to establish the Bipole III deferral account there was no additional instruction on how to dispose of that account once Bipole III was in service. And...

(BRIEF PAUSE)

MS. LIZ CARRIERE: That's all. Thank you.

(BRIEF PAUSE)

MR. BOB PETERS: Ms. Carriere, let's

keep going on that thought. You -- you did agree with me that the $399 million number is a number that Manitoba Hydro will have to determine how it gets reflected on its operating statement?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: But let's just tell -- let's just tell the Board, Mr. McCallum, have you spent that $399 million, or most of it?

MR. JAMES MCCALLUM: Well, again, $399 million will be the amount that's been accrued by, call it August or July of 2018, six (6) or eight (8) months from now. Have we spent it all? Regrettably, yes, we have. It -- it comes in the form of having not borrowed as much money. The cash came to us in the form of rates. It doesn't get recognized in our revenue per the accounting standard. But we do receive the cash and we've used that to abate the growth of our debt.

MR. BOB PETERS: All right. And so what I was just trying to make sure the Board understood is that Manitoba Hydro didn't go open up a new bank account and put this money into the bank waiting for the Bipole to come in service?

MR. JAMES MCCALLUM: That's correct.

MR. BOB PETERS: Ms. Carriere, let's

turn, please, to page 96 of the Exhibit 42-1, Board counsel's book of documents. And Manitoba Hydro is filing, on this page. Manitoba Hydro's current view of what to do with that $399 million.

Would you agree with that?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: So what you're showing on this chart at the bottom of the page in the yellow highlighting is, those are the monies that have been collected as a result of the Board orders on monies to go into the Bipole III deferral account; correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And then the green items highlighted in green on the page 96 are Manitoba Hydro's current proposal as to how to spend that money?

MS. LIZ CARRIERE: That's correct. For -- for this forecast we assumed a five (5) year amortization and recognition into net income evenly over those five (5)years.

MR. BOB PETERS: More accurately six (6) years, if you count the half-year that Mr. McCallum talked about?

MR. JAMES MCCALLUM: Yeah. It's --

it's a - it's a five (5) year period in total. It just doesn't line up with our year-end, so there's a part year in 2019 and a part year in 2024. I do want to just, for the record, clarify one (1) comment you made, Mr. Peters, that --

MR. BOB PETERS: I said spent?

MR. JAMES MCCALLUM: Spend. We're -- we're --

MR. BOB PETERS: Yeah --

MR. JAMES MCCALLUM: -- you can't -- you can't -- I haven't found the company where you can spend the same dollar twice, but I can assure you this one (1) isn't it either.

MR. BOB PETERS: All right. So thank you for correcting me, Mr. McCallum. And I think after I uttered it I -- I too had a little twinge.

But the -- certainly Ms. Carriere understood the gist of the question is that you've now got $399 million in this page, forecast to be received from consumers. You now have to provide some way to give it back to them on the accounting statements to show that they're getting credit for it.

Would you go that far? Ms. Bauerlein?

MS. SANDY BAUERLEIN: I -- I just wanted to clarify that for accounting purposes, we have to recognize the disposition of that account.

MR. BOB PETERS: And, Ms. Bauerlein, that's what is highlighted in green is -- is doing? It's showing the disposition of that?

MS. SANDY BAUERLEIN: Correct.

MR. BOB PETERS: And --

MS. SANDY BAUERLEIN: For financial statement purposes.

MR. BOB PETERS: It's showing the disposition for financial statement purposes and that's because, as Mr. McCallum has confessed, he's already spent that money? He spent the cash.

MS. SANDY BAUERLEIN: The cash has been used to defer, as Mr. McCallum suggested, or -- or stated, additional debt. From an accounting perspective, we've recorded that as a -- basically a contribution from customers, and then we need to find a time frame which -- over which to recognize that contribution.

MR. BOB PETERS: Ms. Bauerlein, do you recall that in previous integrated financial forecasts you have amortized or drawn it down over fewer years than five (5)?

MS. SANDY BAUERLEIN: I'm not sure I recall that.

MR. BOB PETERS: Well, perhaps we can go to page 119 of Board counsel's book of documents if we need to see it, or at least see if I've understood it correctly.

MS. LIZ CARRIERE: Mr. Peters, I'll confirm that we had previously amortized that or recognized the Bipole III deferral account over three (3) years.

MR. BOB PETERS: All right. Thank you, Ms. Carriere. I'll see if Ms. Ramage is listening, but should Manitoba Hydro be expecting this Public Utilities Board to provide some direction as to the use of those monies in the deferral account in terms of how it would impact the rates? I'll ask it to Ms. Bauer -- or to Ms. Carriere and Ms. Ramage may or may not jump in.

(BRIEF PAUSE)

MS. LIZ CARRIERE: We would expect it to be in the Board's findings, but not necessarily in the directives.

MR. BOB PETERS: All right. Thank you for that. If the Board chooses to provide a directive in respect of that, is that something that Manitoba

Hydro is prepared to consider in preparing its next integrated financial forecast?

MS. LIZ CARRIERE: That would depend on the timing of the -- the next -- of the order from this proceeding.

MR. BOB PETERS: What I'm hearing you say is that your president has indicated, and I think Mr. -- maybe Mr. McCallum indicated that your next integrated financial forecast would be -- would be complete in the first -- in -- in the early part of 2018, and it would depend on when you get this Board order?

MS. LIZ CARRIERE: That's correct, Mr. Peters.

MR. BOB PETERS: All right. So in terms of the options, Ms. Carriere, let's be brief with those f we can, and maybe we'll conclude before the lunch recess on these. But we recognize, as Mr. McCallum has said, that 100 percent of the cash has already been used to pay down interest or to reduce interest costs; correct?

MR. JAMES MCCALLUM: Basically, the cash -- the cash doesn't get separately earmarked or channeled on a cash basis, as I answered your question. We don't have a separate, you know, bank account for these funds. So they get used in the general corporate purpose, which is inclusive of all the expenditures we need to make day-to-day, inclusive of funding our capital and our interest and our operating costs.

MR. BOB PETERS: Well, that's perhaps an interesting point, Mr. McCallum. I want to make sure that the panel understands what you're telling them is Manitoba Hydro does not stream money to -- from a particular source to a particular expense? Have I confused you on that?

MR. JAMES MCCALLUM: Well, I was just exchanging mental notes with the Ms. Bauerlein, just to be sure she understood the question the same way I did. No, no, we don't. That's correct. We don't stream thing separately.

MR. BOB PETERS: Right. Manitoba Hydro, when it borrows money, Mr. McCallum, doesn't earmark that for, This is going to pay for the cement on Keeyask as opposed to the towers on Bipole III. That's not how Manitoba Hydro tracks its debt.

MR. JAMES MCCALLUM: That -- that's fairly said. As with all things, there is, around here anyway, a nuance with respect to the Keeyask project, which we do through our partnership with the four (4) Cree Nations, which Ms. Carriere is happy to expand on if it's interesting. But if the point is that we -- we don't kind of stream or segregate our cash flows I'd -- I'd confirm as a general matter, yes.

MR. BOB PETERS: All right. Let's go back to the $399 million of Bipole III deferral account. Ms. Carriere, is one (1) of the options the Corporation would consider is to reflect to the inclusion of that over fewer than six (6) years?

MS. LIZ CARRIERE: Yes, that could be one (1) of the options.

MR. BOB PETERS: And could it even be that the entire balance is included in one (1) year?

MS. LIZ CARRIERE: That could be, too.

MR. BOB PETERS: And does that then become a matter of optics to make sure that the Corporation is seen to be having a positive net income? Is that what it would amount to?

(BRIEF PAUSE)

MR. JAMES MCCALLUM: Yeah, I'll -- I'll maybe try and take this, not being an accountant and then the ones on either side of me can correct. I don't think we have a huge preference or point of view on the amortization period for this account. If you decided to take it all in one (1) period, we would have $400 million more income in that period. And consequently, I've lost track of the number, but in the order of $80 million a year less income every year going forward.

I think the really important thing to appreciate here is that this is a -- this is accounting rules dictating the recognition of revenue. The cash has already been paid. It's in the bank or it's been spent. Really, the way the form it takes is we haven't taken on as much debt, and so there is no cash benefit to Manitoba Hydro. There's no incremental cash benefit that comes from this $400 million balance which we amortize. This is -- this is a recognition item. It's an accounting policy item.

MR. BOB PETERS: All right. If we can go back to page 96, let's catch up to Mr. McCallum's answer. The chart at the bottom, Mr. McCallum, is what you've told the Board is based on the way Manitoba Hydro is presenting it on this Information Request, Manitoba Hydro is increasing its net income in the green years of highlighting by the amount shown.

Have I got that right?

MR. JAMES MCCALLUM: You know, that's -- that's the effect. I -- I think we just need to be careful about Manitoba Hydro is increasing its net income. You know, perhaps taken out of context, would suggest we're trying to -- to -- and I know you're not trying to suggest we're manipulating something. This is just a -- an assumption taken as to the amortization period.

As Ms. Carriere indicated we're -- we're happy to receive the Board's guidance on what they'd like to see here. At the end of the day, and we can go to this further if you wish, this -- this doesn't make any difference to our cash position. It doesn't make any difference to our equity position.

MR. BOB PETERS: All right. But it will --

MR. JAMES MCCALLUM: Equity ratio, pardon me.

MR. BOB PETERS: -- it will on your financial statements, prepared in according with accounting principles, show up as net income?

MR. JAMES MCCALLUM: It will be included in revenue, and therefore, on an incremental basis, yes. It will show up in net income.

MR. BOB PETERS: All right. Mr. Cormie, this one's gonna come a little bit out of left-field, but are pens down are shovels down on the Conawapa project?

MR. DAVID CORMIE: Yes, from my understanding. Yes.

MR. BOB PETERS: You're not out trying to sell Conawapa energy to anybody?

MR. DAVID CORMIE: No.

MR. BOB PETERS: All right. One (1) of the requests, Ms. Carriere, that you're making of the panel is you want this panel to provide you with guidance, and -- and more specifically, you want this panel to approve how Manitoba Hydro proposes to deal with its Conawapa cost to date; correct?

MS. LIZ CARRIERE: I'll let Ms. Bauerlein take that.

MR. BOB PETERS: Certainly.

MS. SANDY BAUERLEIN: I can confirm that Manitoba Hydro is requesting the disposition of the Conawapa cost.

MR. BOB PETERS: And, Ms. Bauerlein, thank you much, and we'll -- we'll come to that. It wasn't supposed to be here, but you're also telling this panel, that Manitoba Hydro has spent $380 million on Conawapa, and would like the Board to recognize a certain amount of that every year in the Corporation's revenue requirement?

MS. SANDY BAUERLEIN: That is correct.

MR. BOB PETERS: And Manitoba Hydro, If I recall, Ms. Bauerlein, had suggested to this Board that that $380 million could be included in the revenue requirement and recovered from your ratepayers over a thirty (30) year period.

MS. SANDY BAUERLEIN: That is that Manitoba Hydro has proposed, a thirty (30) year time frame.

MR. BOB PETERS: And just because Conawapa is 380 million, and the Bipole III account is $399 million, is there an opportunity for the Bipole III deferral account to offset entirely the Conawapa cost?

MS. SANDY BAUERLEIN: From an accounting perspective the disposition of either is really up to -- up to the Public Utilities Board to decide.

MR. BOB PETERS: From the Corporation's perspective, is that something that would -- would make sense from a financial statement perspective?

MS. SANDY BAUERLEIN: From a financial statement perspective, we are basically indifferent. As Mr. McCallum said, for both the Bipole and Conawapa the cash has already been -- in the case of the Bipole deferral the cash has been received. And in the case of Conawapa the cash has already been spent.

We, for accounting purposes, do require though there be a recognition through our financial statements of both those revenues that we have -- or those -- the cash that we've collected from the customers and the costs that we have spent on the Conawapa project.

MS. PATTI RAMAGE: Mr. Peters, not wishing to complicate things, but just to make sure that the record is clear, and I know I'm going down a path that I hope I'm not going down a path, but our application actually used the word "endorsement" of these as opposed to "approval," just in terms of what the Board approves.

And that goes back to your earlier comment on -- or Ms. Carriere's comment versus -- commentary on Board findings versus approvals, as we recognized those rates, but it in its findings can make those kind of findings.

MR. BOB PETERS: All right. We'll --

we'll await your closing submission on that, Ms. Ramage, and determine if we can agree with you on that.

I do think that maybe I can tidy up in three (3) minutes with you, Ms. Bauerlein, this Conawapa issue. Manitoba Hydro has options with Conawapa $380 million that it's spent to date, and it's chosen a method of amortization over thirty (30) years to recover it from ratepayers; correct?

MS. SANDY BAUERLEIN: Yes, that is -- that is the proposal we have in our application.

MR. BOB PETERS: And by stretching it out over thirty (30) years of an amortization, does that $380 million continue to accrue interest?

MS. SANDY BAUERLEIN: No, it does not. Once we stop capitalizing, so when we stopped the Conawapa project then interest no longer accrues to that project.

MR. BOB PETERS: And Manitoba Hydro has stop capitalizing interest on Conawapa for the last two (2) years?

MS. SANDY BAUERLEIN: We have stopped accruing interest since December 2016.

MR. BOB PETERS: And instead of capitalizing the interest since December of 2016, Manitoba Hydro has been paying that interest out of current revenues?

MR. JAMES MCCALLUM: Well, again, it's -- it's, yes, we've been recognizing the interest on -- I think we had this discussion, I believe, with Mr. Orle yesterday. But, yes, we've been recognizing on the income statement an interest expense that normally would be tied to the 380 million in Conawapa.

MR. BOB PETERS: The expenses isn't notional. The recognition is notional?

MR. JAMES MCCALLUM: We -- we would be paying the cash either way, yes.

MR. BOB PETERS: Ms. Bauerlein, is there an accounting requirement for Manitoba Hydro to perform an impairment review to determine how much of that $380 million spent on Conawapa is impaired or has no future value?

MS. SANDY BAUERLEIN: There is an impairment requirement. There is an accounting standard relating to looking at impairments of our assets. That is correct.

MR. BOB PETERS: Has that been done?

MS. SANDY BAUERLEIN: We have had discussions with our auditors on Conawapa, recognizing that with the proceeding that was coming up now that we would be disposing of that asset. And as a result, they are -- the asset is impaired and would require to be expensed. However, again, we are asking that rather than recognizing the write off of that asset in the current period, which we will do for financial reporting purposes, we are looking for from a rate setting perspective to amortize that over a longer period of time, rather than the current -- rather than in a single fiscal year.

MR. BOB PETERS: And that request you make of the Board is that the Board want -- you're asking the Board to include -- is it $17 million more each year on account of Conawapa being amortized for thirty (30) years in rates?

MR. JAMES MCCALLUM: It would be more like about twelve (12) or thirteen (13).

MR. BOB PETERS: Okay. I apologize if I've got my number wrong.

(BRIEF PAUSE)

MR. BOB PETERS: Ms. Bauerlein, is the Company, Manitoba Hydro, indifferent if the $380 million is, in the colloquial terms, written off in one (1) year as opposed to taken as a regulatory deferral account asset and amortized recovery over thirty (30) years?

MS. SANDY BAUERLEIN: I would not say we are indifferent. That would be a significant expense for a single fiscal year.

MR. BOB PETERS: And you can show the Board that, Ms. Bauerlein, on page 104 of the Board counsel book of documents. As I understand what you've provided here in response to PUB 2nd Round Information Request, page 104 of Exhibit 42-1 is we see in the 2020 year -- and -- and first of all, why is this waiting till 2020 outside the -- the two (2) test years that we're in right now?

MS. SANDY BAUERLEIN: At the time when we prepared this, we still had the costs of Conawapa sitting on our balance sheet, as we were -- with the understanding that there was going to be potentially some further direction with respect to carbon initiatives.

And as a result of that, perhaps there was still a business case for Conawapa. And so for forecasting assumptions, we have chosen to show the write off in 2020.

MR. BOB PETERS: Is --

MS. SANDY BAUERLEIN: However, it

would require, again, further discussions with our auditor at this upcoming year end.

MR. BOB PETERS: Is it on the balance sheet for 2018, the current -- the current year and the next test year, 2019?

MS. SANDY BAUERLEIN: It currently sits on our balance sheet, and from a forecast assumption we have included it on our balance sheet for, again, the 2018/'19 fiscal year.

MR. BOB PETERS: And in addition, so in the -- in the 2018 test year and the 2019 test year for which you're asking for final rates from this Board, there is an interest component that is in the revenue requirement related to the Conawapa expense?

MS. SANDY BAUERLEIN: There is interests in finance expense. Correct.

MR. BOB PETERS: And is that approximately 19 million a year, or am I making that number up?

MR. JAMES MCCALLUM: Yeah. I mean, it would -- again, I would be -- we can't exactly stream things to this and to that. But if our average interest rate, including the -- the debt guarantee fee is in the order of 5 percent, then on a $380 million expenditure we have $380 million of debt that's associated with having progressed Conawapa to that stage. And, therefore, it would be around 19 million, yes.

MR. BOB PETERS: So I was in the ballpark.

MR. JAMES MCCALLUM: I -- I would say you were even in the infield.

MR. BOB PETERS: On page 104 of Board counsel book of documents, Ms. Bauerlein and Ms. Carriere, does this integrated financial forecast show the Board what would happen if the $380 million of Conawapa costs were written off in the year 2020?

MS. LIZ CARRIERE: Yes, it does.

MR. BOB PETERS: And what you're telling the Board in this Information Request -- and first of all, if we look under the 2020 column we can go down to other expenses, and we see an item of $481 million. That $481 million includes the 380 of the Conawapa costs; correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And then when you flow it through down through to net income, there is $161 million negative net income for that year 2020; correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: So can the Board understand then that the impact of a decision to write off Conawapa costs in one (1) year would be reflected as a loss of $161 million in the Corporation's net income of 2020?

MS. LIZ CARRIERE: Well, it would be incremental to the -- the -- what -- what is forecast in the MH-16 update with interim.

MR. BOB PETERS: So you're saying the one hundred and sixty-one (161) number, don't get married to it because it's -- it's going to change?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: All right. But directionally, that's what we're looking at?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And if I look at the bottom right-hand corner and I see that 24 percent equity number, what it's telling the Board is that compared to what Manitoba Hydro has put forward in its integrated financial plan 16 updated with interim, if Conawapa costs were written off in one (1) year, it would delay the Corporation's achievement of a 25 percent equity target by approximately a year or maybe a half a year if we're going to split hairs on it.

(BRIEF PAUSE)

MR. BOB PETERS: Is that --

MS. LIZ CARRIERE: That's correct, yes.

MR. BOB PETERS: Okay. And -- and the last question I be -- the last certainly area for questions, I -- I promise, in looking at options for this Board I've understood the previous evidence to be that the interest for the 2018 and 2019 fiscal years on the Conawapa $380 million is included in the finance expense; correct?

MR. JAMES MCCALLUM: Yes, that's correct.

MR. BOB PETERS: And so is a third or a further option, I should say, taking the $19 million of interest for 2018 and the $19 million of interest for 2019 and including that in the regulatory asset and essentially adding it to the $380 million number and recovering it over a number of years?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Well, I think what Ms. Bauerlein was saying was that in discussions with our auditors that we'll be coming to some sort of conclusion as to when we will begin to write off this, the 397 million. So it's -- it'll and we expect that the auditors will want us to write that off for this fiscal year. So there is -- there is no delay in timing as -- in -- in terms of -- what I'm trying to get at is -- is the forecast is doing it in 2020, but the auditors on -- and on a practical basis, will require us to write this off for 2017/'18.

MR. BOB PETERS: Okay. So you're -- you're introducing -- the accounting reality is that even though Manitoba Hydro has proposed to start dealing with -- dealing with it in two (2) or three (3) years hence, your auditors are going to beat you to it, and they're going to do it for the current year we're in?

MS. LIZ CARRIERE: Well, as Ms. Bauerlein said, there was -- there was an assumption made at the time that the forecast was prepared and that has not come to fruition, so the auditors are going to recommend that we write it off for 2018 -- or '17/'18.

MS. SANDY BAUERLEIN: I could just add to that, as Ms. Carriere indicated this was a forecast assumption based on an understanding of what we thought what might happen. Things have changed. We will have to have discussions with our auditor this upcoming March 2018 to assess whether or not that this asset would be viewed as what we call a stranded asset, and would therefore have to be written off. Based on things that happened over the last several months, we believe that is a strong possibility.

(BRIEF PAUSE)

MR. BOB PETERS: Even though your auditors may tell you that Manitoba Hat Hydro has to for financial reporting write it off in the 2018 fiscal year. Manitoba Hydro still wants to put it in as a regulatory asset and recover it from ratepayers over proximally thirty (30) years.

MS. SANDY BAUERLEIN: Yes, we are seeking a disposition for ratesetting purposes, correct.

MR. BOB PETERS: And so the question that I maybe got this started on was, why not include the interest that consumers are being asked to pay this year and next year as part of that regulatory deferral account asset?

MS. SANDY BAUERLEIN: That would be up

to the discretion of the Board.

MR. BOB PETERS: All right.

MR. JAMES MCCALLUM: And -- and maybe just to let the non-accountant way in. I guess the question I would have is really what difference does it make? It moves some income around a little bit. It doesn't change cash at all, and we're going to be paying those interest costs in cash each year associated with the $380 million in debt, you know, kind of going forward.

MR. BOB PETERS: But if the 380 million is written off in one (1) year, Mr. McCallum, then you don't have to notionally pay any debt on that amount going forward?

MR. JAMES MCCALLUM: Well, we still unfortunately -- you can write off the asset, but you're left with the debt.

MR. BOB PETERS: All right. Thank you. Mr. Chairman, I would the thank you for your indulgence. I was hoping to end a few minutes earlier, but this would be an appropriate time for the lunch recess.

THE CHAIRPERSON: We -- we will break until 1:40. Thank you.

--- Upon recessing at 12:38 p.m.
--- Upon resuming 1:43 p.m.

THE CHAIRPERSON: Welcome back. Thank you, Mr. Peters.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Yes, thank you, Mr. Chair, Panel members, ladies and gentlemen.

Ms. Carriere, we heard from your president on the previous panel that one (1) of the requests of the Corporation is to finalize the interim rates that this Board approved effective August 1st if 2016, correct?

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

MR. BOB PETERS: And in PUB book of documents, Exhibit 42-1, starting on page 113 and 114, we show the panel what the integrated financial forecast looked like coming out of the NFAT; correct?

MS. LIZ CARRIERE: Yes. This is MH14.

MR. BOB PETERS: And that's -- allow we don't necessarily have the specific date it was prepared, that's at least to notionally indicate it's Manitoba Hydro's IFF or integrated financial forecast

14 pair -- sorry, prepared based on forecasts going forward from the 2014 fiscal year and starting at the 2015 fiscal year?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And Ms. Carriere, this was the integrated financial forecast prepared in Manitoba Hydro's first General Rate Application following the Needs For and Alternatives To review?

MS. LIZ CARRIERE: Correct, this was underpinning the 2015 GRA.

MR. BOB PETERS: And we see that referenced in the top of the page right near the page number 113 which was added to what Manitoba Hydro filed.

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: Ms. Carriere, I haven't done the math, but you were with the Corporation in approximately 2008; is that correct?

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

MR. BOB PETERS: And do you recall back in 2008 and I think we heard Mr. McCallum tell the panel yesterday that the company was preparing, essentially, ten (10) year forecasts back in 2008?

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

MR. BOB PETERS: And that was an area of your responsibility or you had involvement in that back then, do you believe?

MS. LIZ CARRIERE: I wasn't responsible for it but I did have -- no, I was not responsible for it. And actually, in 2008 I was in Indigenous Relations.

MR. BOB PETERS: All right. But you're aware that back in 2008, the integrated financial forecast was based on a -- the ten (10) year forecast?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And, Ms. Bauerlien, I'm looking to you, were you -- have some responsibility for integrated financial forecast back in 2008?

MS. SANDY BAUERLEIN: No, I did not. I was actually export power marketing at the time.

MR. BOB PETERS: I take it there's nobody on the panel that was involved with the integrated financial forecast back in 2008, other than Mr. Cormie's inputs into it?

Would that -- would that be your understanding, Ms. Carriere?

MS. LIZ CARRIERE: Yeah, that would be

true. Some of the other panel -- panel members would have also been responsible for some of the inputs into that forecast.

MR. BOB PETERS: All right. And -- and just help me understand, what is -- what is your understanding, and can you tell this panel, as to why Manitoba Hydro went from what was usually a ten (10) year integrated financial forecast to a twenty (20) year financial forecast in or about 2008?

(BRIEF PAUSE)

MS. LIZ CARRIERE: I believe the first financial forecast that was filed as a twenty (20) year plan was filed in January of 2009.

MR. BOB PETERS: And that would have been IFF08 for a twenty (20) year outlook?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: Okay. And -- and do you have an understanding as to the -- the reasons that the ten (10) year forecast was expanded to twenty (20) years.

MS. LIZ CARRIERE: Well, to clarify something, we had historically filed ten (10) year forecasts until that time, but for evaluation purposes

-- resource evaluation purposes and supporting the resource plan, we forecast thirty-five (35) year forecasts. They just were never approved beyond the ten (10) years, nor were they ever filed beyond the ten (10) years.

MR. BOB PETERS: I think that's helpful. Ms. Carriere, what you're telling the panel is for planning purposes, including installing new generation and major new assets, you would use the telescope to look out as far as thirty-five (35) years?

MS. LIZ CARRIERE: That's true. And actually, I just misspoke, at the Waskwatim CEC hearings, we filed rate plan -- or forecasts that extended out the thirty-five (35) years -- twenty (20) years.

MR. BOB PETERS: All right, I trust you're not mistaking me for Dr. Williams but I wasn't there, and the -- the information you're giving the panel is you had those available back in 2004, and you shared them in that forum with the Clean Environment Commission?

MS. LIZ CARRIERE: For the purposes of the -- the Clean Environment Commission, correct.

MR. BOB PETERS: All right. Let's go

back to the integrated financial forecasts. You said that you prepared them before 2008, you prepared them out as long as thirty-five (35) years, but you were only approved out to ten (10) years.

Have I stated your evidence correctly?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And when -- who -- what do you mean by, we were only -- Manitoba Hydro was only approved for the ten (10) year forecast?

MS. LIZ CARRIERE: The ten (10) year forecast was -- was approved by the Manitoba Hydro Electric Board.

MR. BOB PETERS: All right, so they didn't -- the Manitoba Hydro Electric Board did not review, or if they did review they never formally approved the longer term forecasts?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: All right, thank you for that. And then starting in 2008 and you -- your recollection I think is very good that in 2009 in early 2009 Manitoba Hydro provided a twenty (20) year integrated financial forecast, 2000 -- based on 2008?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: All right. What we see in front of the Board on page 113, before I went off on a tangent there, is this was the IFF you've told us that was used in the 2014/15 and 2015/16 GRA, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And that's the GRA previous to this one (1) in terms of sequence?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And in the one (1) that's in front of the Board, they will note with a flip over to page 114, that Manitoba Hydro was telling the Public Utilities Board that Manitoba Hydro expected to achieve a 25 percent equity in their capital structure in the year 2034 or some twenty (20) years hence, in the forecast?

MS. LIZ CARRIERE: In this forecast?

MR. BOB PETERS: In -- in the forecast, ma'am, on page 113 and 114 of Board counsel's book of documents.

MS. LIZ CARRIERE: I'm seeing, oh sorry. Yes, 2034.

MR. BOB PETERS: And in this first rate application by Manitoba Hydro after the Needs For and Alternatives To review, Manitoba Hydro was coming in seeking 3.95 percent rate increases all the way through to 2031, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And the last three (3) years of the integrated financial forecast mathematically Manitoba Hydro could reduce the equal annual rate increases down from 3.95 to 2 percent and still achieve the target 25 percent equity ratio?

MS. LIZ CARRIERE: Yeah, based on the assumptions of -- at that time.

MR. BOB PETERS: Yeah, these were based on Manitoba Hydro assumptions, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: All right. Now, the panel in looking at this is going to notice on page 113 that the net income line has a lot of numbers in brackets, a lot of years in which Manitoba Hydro is telling the Board, coming out of the NFAT, that Manitoba Hydro expects to lose money starting in 2019 and going forward for some six (6) or eight (8) years.

MS. LIZ CARRIERE: Yes, there is about $900 million of losses right around the time Keeyask is coming into service in this forecast.

MR. BOB PETERS: And without getting too fine of a point on it, Ms. Carriere, that is telling the Board that when Keeyask comes into service, according to this integrated financial forecast, there was going to be a lot of expenses that came with it on to the operating statement?

MS. LIZ CARRIERE: Yes, finance expense, carrying -- depreciation, operating, capital taxes.

MR. BOB PETERS: And that's -- that's in accordance with the accounting standards used by the Company that those expenses -- those expenses come to the income statement when the asset comes in service?

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

MR. BOB PETERS: And before the asset comes in service, I think we heard in the direct evidence, that the finance expense as example is a capitalized expanse or is just added to the project costs and it's not sought from ratepayers on the income statement?

MS. LIZ CARRIERE: That would be correct. There would be no capitalized interest or interest expense reflected in the net income until 2019/20.

MR. BOB PETERS: I'm sorry, I wasn't following your last comment. That -- that's the first year in which the Keeyask cost would come in --

MS. LIZ CARRIERE: -- Keeyask in service -- comes into service in 2019 and '20.

MR. BOB PETERS: And what you're telling the Board is that when you have these math -- massive generating stations, they don't come instantly into service all on the same day. Manitoba Hydro has the ability and the planning to bring in certain of the generators on certain times and schedule them in or phase them in if you could?

MS. LIZ CARRIERE: That's correct. There's seven (7) units for Keeyask. The first one was projected to come -- I believe it was around July of 2019. And the final one was -- I believe it was sometime around -- yeah, late 2020.

MR. BOB PETERS: And Ms. Carriere, just -- I want to leave this page, but on page 113 in the year that's marked as 2017, Manitoba Hydro is forecasting $59 million of net income in what we often call the 2016/17 fiscal year, but the year ends March 31 of 2017?

MS. LIZ CARRIERE: Yes, sir.

MR. BOB PETERS: All right, turning from that 59 million over to page 119 in the same book of documents, Ms. Carriere, this is the integrated financial forecast that Manitoba Hydro made available to the Public Utilities Board when Manitoba Hydro requested a 3.95 percent rate increase effective April 1st of 2016.

Can you confirm that?

MS. LIZ CARRIERE: I confirm that.

MR. BOB PETERS: And comparatively this IFF15 achieves the 25 percent equity target of Manitoba Hydro two (2) years earlier than what I just showed you in the integrated financial forecast number 14.

You can confirm that?

MS. LIZ CARRIERE: Yes, that achievements advanced from 2034 to 2032.

MR. BOB PETERS: And we see that on page 120 -- we'll just turned to that, we see that the first year in which 25 percent equity shows up is in 2032, as you indicated, correct?

MS. LIZ CARRIERE: Correct.

MR. BOB PETERS: And not only does the equity ratio target get hit two (2) years earlier, the 3.95 percent indicative rate increases also stop two (2) years earlier.

Can you confirm that?

MS. LIZ CARRIERE: That's right.

MR. BOB PETERS: Manitoba Hydro still

concludes getting to their 25 percent equity target with three (3) years of 2 percent indicative rate increases?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: So the panel should understand from seeing this, Ms. Carriere, that Manitoba Hydro's forecast in integrated financial forecast 15 shows the Corporation in a better financial position than it did in integrated financial forecast 14? Would you agree with that?

MS. LIZ CARRIERE: In some respects, yes. They are certain -- certain assumptions, certain factors that -- that went in -- in Manitoba Hydro's favour and that improvement was largely attributable to significant decrease in interest rates and lower finance expense.

MR. BOB PETERS: Right. I think we have the same memory. We can go back, please, to page 119, and show the panel that whereas the net income in integrated financial forecast had -- I think you told me eight (8) years of losses totaling 900 million, here, the panel will see brackets or negative net income in only three (3) of the years, and that would roughly total $58 million of losses compared to the $900 million of losses.

MS. LIZ CARRIERE: Yes, that's correct. But net income over that same period is basically breakeven, which means we're not making any contributions towards retained -- or retained earnings over that ten (10) year period.

MR. BOB PETERS: All right. Would you -- would you go so far as to agree with me that compared to integrated financial forecast 14, that you're making more contributions in IFF integrated financial forecast 15 than you were in the 14 version?

MS. LIZ CARRIERE: More, yes, but not nearly adequate.

MR. BOB PETERS: Okay. And -- and I think we talked with Mr. McCallum and Mr. Shepherd about the adequacy, but I don't want to lose track that the 3.95 percent number was Manitoba Hydro's request; correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: Well, and let's just talk about that. We heard from your president yesterday, or probably the day before, that -- that -- and these are my words don't take them as his necessarily, but he -- he felt constrained that Manitoba Hydro's requests of this Public Utilities Board were constrained by his Board of Directors to

keep rates at or below 4 percent.
Do you recall him saying words to that effect?
MS. LIZ CARRIERE: Yes I do.
MR. BOB PETERS: All right. You lived it as well. Was that the direction that was provided to Manitoba Hydro management and senior staff that come up with a rate increase scenario that gets us to a 25 percent equity level, but constrain the rates, no more than 4 percent.
MS. LIZ CARRIERE: Well, you'll recall that I mention this morning in appendix 3.5, we did run through a number of rate alternatives. I suppose the specific direction I received from my superior was that that was the rate increase that would be going forward into the -- into the final IFF.
But I'm -- I was not privy to any specific direction provided to Mr. Rainkie.
MR. BOB PETERS: And you're indicating Mr. Rainkie would have been your immediate supervisor at the time?
MS. LIZ CARRIERE: That's correct.
MR. BOB PETERS: So what you're telling the panel here is that -- and you showed us in your -- in your presentation today, and if you need

the slide we can get it, but you showed this Board that not only did you run scenarios at 3.95, you ran them at a higher rate increase numbers; correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And what we know is that your Board of Directors did not approve anything higher than 3.95.

MS. LIZ CARRIERE: Yes, that's what was approved in the end.

MR. BOB PETERS: All right. What you're not able to tell the Board, Ms. Carriere, is whether that was a management recommendation, or whether that was essentially a board edict, if I could frame it that way?

MS. LIZ CARRIERE: I wouldn't be aware of that.

MR. BOB PETERS: All right. Is anybody else on the panel aware of whether those were the management recommendations or was it coming from the Board and only the Board? All right, seeing none.

MS. LIZ CARRIERE: I couldn't -- I can't answer that, I don't know.

MR. BOB PETERS: All right and it appears nobody else can as well. So -- so let's -- let's move on to --

THE CHAIRPERSON: Sorry, Mr. Peters, can I just ask a question.

MR. BOB PETERS: Oh certainly.

THE CHAIRPERSON: Supplementary. In relation to the projections you were looking at for the 3.95, were any of them over ten (10) years, or were they all over twenty (20)?

MS. LIZ CARRIERE: They were all over twenty (20) years, and perhaps I should clarify that the -- what -- what the Manitoba Hydro Electric Board actually approved was only the 3.95s for the test year.

We don't -- the 3.95s over the longer term beyond the test years aren't necessarily -- they're approved as part of the document, but they're not approved individually, let's say, and, you know, those -- we always include a statement in the IFF that, going forward, those -- we'll -- every time we produce a forecast, we're going to look at the different changes in the environment, the different changes in the assumptions and reassess what -- what the indicative rates are going forward.

But they're not necessarily approved year -- you know, individually by year. Only the test years are. Those are specifically approved.

THE CHAIRPERSON: But do you know if the documents that went to the Board showed a twenty (20) year projection as well as a ten (10) year projection or just a twenty (20) year projection?

MS. LIZ CARRIERE: Well, the whole twenty (20) years would be in the document that -- that the Board saw.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: And, Ms. Carriere, your understanding as your Board would've seen integrated financial forecast runs for twenty (20) years that contained rate increases higher than 3.95?

MS. LIZ CARRIERE: I'd have to -- I'd have to double-check that.

MR. BOB PETERS: Would that be your expectation?

MS. LIZ CARRIERE: I honestly can't remember.

MR. BOB PETERS: No, and I -- I'm not asking for a memory test, but can I take it that it is most probable that your Board saw runs that were higher than 3.95. And if you don't -- if you find out subsequently that's not the case, you'll come back and tell us?

MS. LIZ CARRIERE: I'd rather check first.

MR. BOB PETERS: All right then we've now got our first undertaking, Ms. Carriere, and it's on you that you are going to undertake to check to determine whether at the time of filing the integrated financial forecasts 14, as well as 15, whether the Manitoba Hydro Electric Board would've been provided scenario runs at rate increases higher than the 3.95 that exists in both of them.

And, Ms. Carriere, since you opened the door, can I also layer on that, in answer to the -- in response to the Chairman's question a further undertaking that you will check to determine whether Manitoba Hydro provided runs in the integrated financial forecast process that reached a 75/25 debt equity ratio in a ten (10) year period for 2014 and 2015?

MS. LIZ CARRIERE: Okay. Yes.

--- UNDERTAKING NO. 1: Manitoba Hydro to check to determine whether at the time of filing the integrated financial forecasts 14, as well as

15, whether the Manitoba Hydro Electric Board would have been provided scenario runs at rate increases higher than the 3.95 that exists in both of them.

--- UNDERTAKING NO. 2: Manitoba Hydro to check to determine whether Manitoba Hydro provided runs in the integrated financial forecast process that reached a 75/25 debt equity ratio in a ten (10) year period for 2014 and 2015.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Thank you. And I never thought of this question until now, but in the preparation for filing your integrated financial forecast and getting approval, would I be correct in assuming that Manitoba Hydro does literally dozens if not hundreds of IFF runs checking out different variables, and assumptions?

MS. LIZ CARRIERE: You would be correct.

MR. BOB PETERS: And it's -- it's -- and it's no doubt a massive undertaking but what you're doing when you run those is you're updating assumptions that you make in the forecast looking forward, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: On page 129 of Board counsel's book of documents, we see an integrated financial forecast run that was included in the interim application that led up to the August the 1st, 2016 rates; is that correct, Ms. Carriere?

On page 129, ma'am, of Board counsel book of documents, Exhibit 42-1.

MS. LIZ CARRIERE: M-hm. Can you repeat the question?

MR. BOB PETERS: I was just -- in addition to the hundreds of IFF integrated financial forecast runs that you have to provide to the internal purposes, you're also saddled with running them for Intervenors and Board staff who request Manitoba Hydro run integrated financial forecasts with -- with other assumptions; correct?

MS. LIZ CARRIERE: That's correct, sorry.

MR. BOB PETERS: And the odd time some of those may line up with what you've already done, otherwise, you have to do them from start?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And here's one (1) that was filed and it's at page 129 of Board counsel's book of documents. And this was one (1) of the scenario runs that ended up in the August 1st, 2016 hearing?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And I'm hoping not to have to get into this in any detail with you, the Board had prescribed previously to this integrated financial forecast run, a certain way that the Corporation should deal with the depreciation methodology, as well as the capitalization of overheads; correct?

MS. LIZ CARRIERE: I would say, yes, there was directives coming out of that Order. But I would say that there were pieces of information missing for Manitoba Hydro that we were trying to figure out in order to be able to incorporate those into the forecast assumptions.

MR. BOB PETERS: That's certainly fair and what you're politely saying is the Board Order could have been more explicit or there could've been something done to perhaps get better clarification of those points that ended up being fuzzy in Manitoba Hydro's perspective?

MS. LIZ CARRIERE: That's correct.

MS. LIZ CARRIERE: All right, and this attachment was a re-statement of an integrated financial forecast Number 15 that -- that prescribed a certain way to treat depreciation expense and the capitalized overheads?

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

MR. BOB PETERS: And then in addition to that, this integrated financial forecast on page 129, that's up on the monitors, had equal annual rate increases over a trajectory that would get to 2034 and get to I think 25 percent equity by that point in time; is that correct?

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

MR. BOB PETERS: And when you run these and I certainly don't profess to have the capability or understanding how to do that, Ms.

Carriere, but what you do is you end up asking the computer to spit out and determine what is the equal annual rate increase number that will get you to a certain target date?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And this one just happens to come out of 3.36?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: Okay. And the 2034 year of achieving 25 percent equity target is you've told us in 2034, Ms. Carriere, and that's the same year as was seen in the 2015 and 2016 GRA based on the previous IFF -- the previous integrated financial forecast?

MS. LIZ CARRIERE: That's correct. It was consistent with the MH14 forecast.

MR. BOB PETERS: Thank you. And turning to page 127 of Board counsel's book of documents, what the panel will note here is that for the year that's shown as 2017 and, again, that's the fiscal year in which the August 1st, 2016 rate increase would appear; correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: All right, I want to make sure we have our years right. And you're telling the panel that in this forecast Manitoba Hydro was expecting $72 million of net income in that particular year?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And we see that on the net income line under the 2017 column, but we also see that Manitoba Hydro was forecasting up at the top that 52 of that 72 million was going to come by way of additional rate increases that the Board granted, and that would have been from the interim award, correct?

MS. LIZ CARRIERE: Yes, that would be correct.

MR. BOB PETERS: And the way it's depicted here for purposes of the integrated financial forecast, you're telling the panel that Manitoba Hydro assumed that 100 percent of that interim rate increase would go into the general revenues and would not be diverted into a Bipole III deferral account?

(BRIEF PAUSE)

MS. LIZ CARRIERE: I'm just trying to recall the timing of this. Yes, I believe it is.

MR. BOB PETERS: All right. And as we look at page 127, can you tell the panel that if 100 percent of the -- of the rate increase that they approved on April -- sorry, on August the 1st of 2016, if that rate increase went into the Bipole III deferral account, then that $52 million number wouldn't appear there and, in fact, that net income number 72 million would be reduced down to 20 million?

MS. LIZ CARRIERE: Roughly, yes.

MR. BOB PETERS: So let's check and I feel more comfortable talking to a non accountant so you're fencing with an unarmed man here so be careful.

The -- what I've done is I've said to you, Ms. Carriere, that you told the Board that you expected $72 million of net income or, in my words, profit for the year, and that was assuming that the Bipole III deferral account wouldn't get any more money, but because it did you're agreeing that the -- the restated number would be closer to $20 million?

MS. LIZ CARRIERE: Yep.

MR. BOB PETERS: And so if we turn to page 151 of Board counsel's book of documents, we can see -- we can see that in that year Manitoba Hydro states that it actually made $52.889 million.

Have I read that correctly?

MS. LIZ CARRIERE: Yes, there's $53 million included in there --

MR. BOB PETERS: But...?

MS. LIZ CARRIERE: But there's also $20 million of the non-- nonrecurring gain.

MR. BOB PETERS: Thank you.

MS. LIZ CARRIERE: And we have very -- much more favourable water flows in -- in this forecast.

MR. BOB PETERS: Correct. All right. So what you're telling the Board is -- I'm sorry?

MS. LIZ CARRIERE: On an actual basis.

MR. BOB PETERS: And -- and what we see on page 151 are your actual numbers for the year. These aren't forecast anymore?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: We talked about what you were forecasting, and now we're looking to see what you actually received, and you're telling the Board that you actually earned a $52 million net income, but don't get misled by that, because $20 million came from a one (1) time sale of real estate?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: So if we take that $20 million out, Ms. Carriere, your -- your net income from the year would be closer to fit -- to $33 million?

MS. LIZ CARRIERE: That's right.

MR. BOB PETERS: And if we take that $33 million and we add to it what the Board awarded you on account of the 3.36 percent rate increase, that would be an additional approximately $35 million?

MS. LIZ CARRIERE: Yeah, I think it's around that number.

MR. BOB PETERS: So if we -- if we take your 53 million, we subtract the 20 million from the land sale, and we -- we're sitting with 33 million, and then we add in what the Board granted in terms of additional revenues of 35 million, would you agree that, restated, the net income would approximate $68 million based on a 3.36 interim award?

MS. LIZ CARRIERE: Yeah. The math seems to be correct.

MR. BOB PETERS: All right. And then the last point I have on this, Ms. Carriere, is if I compare that 68 million to where we started, the starting forecast in Manitoba Hydro's integrated financial forecast 15, attachment 46, was $72 million. Do you recall that far back today?

MS. LIZ CARRIERE: Five (5) minutes ago. Actually, no.

MR. BOB PETERS: Well, it -- it -- I

don't take that as a comment on -- on you. It's probably the way the questions were asked, Ms. Carriere.

But -- but you'll -- you'll agree that on page 127 of the book of documents, we started this off by saying, Manitoba Hydro was forecasting $72 million of net income for the -- for the year, and you've just now walked the panel through to a $68 million equivalent net income for that year?

MS. LIZ CARRIERE: Yes. I suppose after you -- you add back the -- the approximately $30 million in -- in ELG/ASL depreciation difference and ineligible overhead, yes.

MR. BOB PETERS: And those are the adjustments that --

MS. LIZ CARRIERE: Sorry.

MR. BOB PETERS: -- those were the adjustments that were made in the IFF -- integrated financial forecast -- that we -- that we started with on page 127?

MS. LIZ CARRIERE: That's right. And sorry, to clarify, the total of those two (2) is 50 million.

MR. BOB PETERS: I'm sorry?

MS. LIZ CARRIERE: The total of the --

the depreciation methodology difference and the ineligible overhead is $50 million.

(BRIEF PAUSE)

MR. BOB PETERS: We raised the subject on page 151, Ms. Carriere. I'm not sure where to do this, but maybe we'll do it now. You talked to the panel about a nonrecurring gain of $20 million in 2016/'17 related to a land sale that was taken into net income? Do you --

MS. LIZ CARRIERE: Well, that's what I see here, but I'm not really involved with the accounting for that.

MR. BOB PETERS: All right. It -- should I be looking to Ms. Bauerlein?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: All right. Ms. Bauerlein, did Manitoba Hydro treat the nonrecurring gain on the land the same way that Manitoba Hydro proposes for retirement of assets where there are losses?

MS. SANDY BAUERLEIN: No, it does not treat gains and losses on retirements of assets the same as land, as land is a non-depreciable asset. So as a result, there are different accounting treatments for it.

MR. BOB PETERS: So if we turn to page 152, Ms. Bauerlein, let's help the Board understand your last answer. Highlighted on this page is Manitoba Hydro's financial statements that were included in the annual report of the Corporation?

MS. SANDY BAUERLEIN: That is correct.

MR. BOB PETERS: And what you're telling the Board is that what the Board will see on page 152 is that Manitoba Hydro is amortizing losses and gains over more than just the one (1) year?

MS. SANDY BAUERLEIN: That is correct, and we were doing that to be consistent with Board order 73/'15, which requested that Manitoba Hydro continue with its existing depreciation methodology.

At -- previous existing at the time of Board Order 73/'15 was that gains and losses on -- on disposition, retirement of assets, is charged against accumulated depreciation. So as a result of that, we are continuing that to be consistent with the Board order in treating those gains and losses as a regulatory deferral.

MR. BOB PETERS: Was it an option, Ms. Bauerlein, for Manitoba Hydro to amortize that $20 million land sale gain over a number of years, say, twenty (20) years? Was that a finan -- an -- an accounting option?

MS. SANDY BAUERLEIN: No, it was not.

MR. BOB PETERS: And at the bottom of your page 152, there is a note that the amortization period for certain accounts will be determined by the Board as part of a future regulatory proceeding. Is that bringing to this Board's attention that this is the regulatory proceeding to deal with that issue?

MS. SANDY BAUERLEIN: That is correct. It is looking at the -- we will treat the disposition of the depreciation difference on ASL and ELG. The disposition of that is the same way we will treat the loss on the -- the gains or losses on disposal of -- of assets, as they are interrelated.

MR. BOB PETERS: All right. So the Board decision on the -- on the depreciation methodology will impact how this -- how the gains and losses are reflected on the financial statement?

MS. SANDY BAUERLEIN: That is correct.

MR. BOB PETERS: Thank you for that, ma'am.

(BRIEF PAUSE)

MR. BOB PETERS: Just before I leave the interim rates for August 1st, 2016, and we just compared the -- the net income numbers, Ms. Carriere, if we compare the financial ratios and metrics on page 127, we see the equity ratio for the 2017 year is about 14 -- is 14 percent, correct?

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

MR. BOB PETERS: And then if the Board looks to see what actually happened because -- page 127 is a forecast, correct?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And then if we turn to page 179 of the book of documents, the Board will see under the 2017 year, a column that the equity was -- was -- came in, actually, at 16 percent, correct?

MS. LIZ CARRIERE: Yes, it is.

MR. BOB PETERS: And if we compare the other financial ratios from the pages, Manitoba Hydro doesn't show an interest coverage ratio prepared on the same basis in these two (2) different integrated financial forecasts, does it?

(BRIEF PAUSE)

MS. LIZ CARRIERE: The statements on page 179 do not have the old EBIT interest calculation.

MR. BOB PETERS: However, when we compare the new word that Mr. McCallum taught us, the EBITDA numbers, we see on page 127 that the EBITDA interest coverage is 153 -- 1.53, I should say. And then running over to page 179, to try to speed this along, its relatively the same at 1.51?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And then lastly, the capital coverage ratio on page 127, was 0.97, and it was stronger in actual terms on page 179 of 1.53, correct?

MS. LIZ CARRIERE: Yes.

MR. JAMES MCCALLUM: If I -- if I may, Mr. Peters, I think it's -- I -- I -- maybe for the -- the Board's clarity, I -- and hopefully this is -- this is helpful, but I think it's important to note that you're really -- the forecast back on page 127 to the actual results you're looking at on page 179 are different in two (2) pretty material respects.

And so conclusions made on -- on ratios and net income, I think it's just important to have the benefit of -- of knowing those differences.

And the first one that -- that Ms. Carriere spoke to was changes in -- in -- these financial statements are really prepared on two (2) different kind of accounting bases, if I'm under -- am I understanding that correctly? So put another way, the -- all else being equal, the accounting basis for the -- the actual results is about $50 million higher than it would be under what you see on page 127.

And I think more importantly, we talked about this yesterday, page 127 would have assumed normal precipitation and normal water conditions. What, in fact, occurred, and it's great, because it's helpful when it does is we enjoyed very good water in that fiscal year, which contributed, and we -- we had this in our interim materials and throughout, contributed about $90 million of -- of additional net income that wouldn't have been included in the plan in the forecast when we reviewed on January the 13th, 2016. So I think it's just important to note that on -- on a like-for-like basis, you need to make some pretty material adjustments.

MR. BOB PETERS: Thank you, Mr. McCallum. Would -- would one (1) of those other material adjustments that should be considered, if you're trying to -- to make like-on-like comparisons, the impacts of weather?

MR. JAMES MCCALLUM: Yes.

MR. BOB PETERS: And do you remember that that particular year was -- was it warmer than normal?

MR. JAMES MCCALLUM: I believe, subject to check, that 2000 -- the fiscal 2017 was -- was warmer, and that would be --

MR. BOB PETERS: So that would have reduced the rev -- I apologize, Mr. McCallum. I interrupted and I shouldn't have.

MR. JAMES MCCALLUM: I was going to say, that would be an appropriate adjustment going the other way. You're absolutely correct.

MR. BOB PETERS: All right. And you don't know how much it is going the other way off -- off the top?

MS. SANDY BAUERLEIN: I'd have to double check.

MR. BOB PETERS: That's fine. It's -- it's a matter of the record --

MR. JAMES MCCALLUM: It's -- it's for --

MR. BOB PETERS: -- but we have Mr. McCallum's point, and his supplementary point.

MR. JAMES MCCALLUM: Yeah. And -- and for order of magnitude, we -- we track the weather very closely. We track the weather a 10 per -- we -- we use heating degree days and cooling degree days. A 10 percent sort of deviation turns into a $20 million revenue loss for us.

So insofar as -- as the winter of 2017, January, February, March was 10 percent warmer than normal, then we would have about $20 million of income that we didn't earn because, you know, we didn't have as much heating load. But we will check to -- to tell you exactly how much warmer it was.

MR. BOB PETERS: Yeah. I think it's a matter of the -- the record has it, I believe, although I wouldn't be able to put my finger on it very quickly. So I don't need that as an undertaking, Mr. McCallum, but you're free to do it.

Did -- did I -- am I understanding your last two (2) answers to the effect that for each heating degree day difference from normal, it amounts to $20 million net income?

MS. LOIS MORRISON: No, and -- and Ms. Bauerlein may want to jump in. I believe the heating degree days are in the order of twenty thousand (20,000) a year. So each 10 per -- I -- I spoke to a

10 percent reduction. So using that metric, a 10 percent warmer winter would -- would cost us $20 million in revenue, ballpark.

MR. BOB PETERS: Is that -- and maybe Ms. Bauerlein can check, but -- and I misspoke in my question to -- to Mr. McCallum, but does that mean that every degree day difference translates through to fifty-five thousand dollars ($55,000) of net income?

MS. SANDY BAUERLEIN: One (1) degree day difference plus or minus is approximately sixty thousand dollars ($60,000).

MR. BOB PETERS: Sixty (60) thou -- okay. Thank you for that, ma'am.

MS. SANDY BAUERLEIN: Mr. Peters, I'd also like to make a comment on the record. I do realize that a number of scenarios were run as part of this application, and I did want to duly note that this particular scenario is not compliant with financial reporting standards.

There is a specific accounting standard which allows us to deal with regulatory deferrals. This particular one is not compliant with that, so we would actually never have a presentation in this format.

MR. BOB PETERS: You're telling the

Board on that, Ms. Bauerlein, is that the -- the change or the effect was to remove the impact of the change in accounting treatment for depreciation on net income?

MS. SANDY BAUERLEIN: Correct, and it was putting it in other comprehensive income, which would, in essence, not be compliant with the standard, which does support regulatory deferral differences. You have to put those differences -- in these cases, depreciation differences, overhead differences are recognized on your statement of income. So therefore, when you're recognizing them through disposition of that deferral, it also has to flow through your statement of income.

MR. BOB PETERS: And so that's why Manitoba Hydro has included that depreciation adjustment in the regulatory deferral account treatment that it's seeking in -- in this application?

MS. SANDY BAUERLEIN: Correct, which means it would flow through a net movement line.

MR. BOB PETERS: And that's -- that's a new line on the integrated financial forecast to give effect to how you would treat some of the items that would have to be dealt with otherwise under -- under international financial reporting standards?

MS. SANDY BAUERLEIN: Correct. We expense those items. So for example, we would expense the overhead capitalized in over -- in operating and administrative costs, but through net movement, we would actually remove that if -- for the regulator's purposes. In this case, there's $20 million worth of overhead that is not to be expensed.

MR. BOB PETERS: Thank you. We have your point. I want to turn to a new issue, and that is the finalization of the August 1st, 2017, interim rate increase.

And, Mr. McCallum, we talked about this, I believe, on Monday. And the essence of the what you and your president were telling this panel was even though you asked for 7.9 percent, you're only asking to finalize the awarded 3.36 percent, effective August 1st of 2017?

MR. JAMES MCCALLUM: Well, I -- subject to checking the transcript, of course, I think what Mr. Shepherd said was that, you know, for practical matters -- practical purposes, that ends up sort of being the -- the end result. We have kind of gone forward and prepared, at the Board's direction, you know, all -- all of our evidence from the interim order forward, inclusive of the impact of that 3.36

percent.

And so, you know, is we look to -- to numbers in forecasts and scenarios and the rest of it they're all based on that. But we -- we certainly acknowledge that our initial application was for 7.9 percent, and that the -- you know, perhaps differently, we -- in -- in our initial application, we asked for a confirmation of the 3.36 percent from 2016, and our -- our application was for 7.9 percent as of 2017, and recognize that the Board has the power to adjust either or both as they -- as they see fit.

MR. BOB PETERS: So recognizing that the Board has the authority to change the number, Manitoba Hydro is not expressly requesting it be changed?

MR. JAMES MCCALLUM: We're -- we're not expressly requesting that it be changed. Although, I think that we've -- we've shown some -- some evidence. We spoke about this in our presentation, our direct on Monday, that there is a -- a considerable significance to the level of rate increases in the initial few years of our forecast.

I think I -- I am not sure, sort of, practically speaking, with a -- a process, a hearing here that's going to conclude in mid-February, I'm not sure that Manitoba Hydro would -- would advocate, you know, adding an additional rate increase to the April 1st rate. I think that might be, you know, an unnecessary level of challenge to our customer to, sort of, true up for the rate increase not passed on in -- in 2017.

But, you know, the -- the -- I kind defer to the Board's wisdom on this.

MR. BOB PETERS: But that's -- that's Manitoba Hydro's reason -- reasons for not asking that it be changed?

MR. JAMES MCCALLUM: I think the operative assumption is that it wont be changed.

MR. BOB PETERS: Thank you. When we look at this August 1st, 2016 rate that was awarded on an interim basis, the original application came by way of Integrated Financial Forecast 16, found on page 159 of the book of documents. It's PUB Exhibit 42-1.

Have I got that correct?

MR. JAMES MCCALLUM: I -- I can confirm this was -- this appears to be the integrated financial forecast that accompanied our application in May, yes.

MR. BOB PETERS: And your integrated financial forecast that accompanied the interim 7.9

percent rate increase request shows a net income of $111 million for the 2018 year in which the request was made?

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

MR. BOB PETERS: And of that $111 million, $88 million is shown to be coming -- at the top of the page, that $88 million would be coming by way of additional rates, and that additional rate revenue is the 7.9 percent interim number.

Have I got that right, Ms. Carriere?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And is this integrated financial forecast, Ms. Bauerlein, prepared in accordance with the past PUB directives on -- including certain capitalized overheads as well as the depreciation expense?

(BRIEF PAUSE)

MS. SANDY BAUERLEIN: This forecast included in the amortization of those deferrals. So in the update we actually remove them to be more cons- - to be consistent with the directives of Board Order 73/'15.

MR. BOB PETERS: Okay. I am going to have to think about that, Ms. Bauerlein.

But I'm looking at page 159. And would this panel be correct in understanding that the previous Board directions on capitalized overheads and depreciation expense has been that -- their previous direction has been incorporated in this document?

MS. SANDY BAUERLEIN: It was incorporated. However, there was an assumption made in this forecast, in terms of the disposition of that deferral. Which we then, in the subsequent update, removed that assumption, pending the Board's decision.

MR. BOB PETERS: Let me come back to that, Ms. Bauerlein, because is -- is -- if I draw your attention on the screen, on the monitor, to the years 2023 and 2024, down by the net movement in regulatory deferrals, there's a -- something happening here because it goes from $40 million positive to $49 million negative, if I can interpret that correctly.

Is that correct?

MS. SANDY BAUERLEIN: Yes, I see that.

MR. BOB PETERS: And does that reflect when Manitoba Hydro no longer used the Board's directed methodology on depreciation and on capitalizing overheads?

MS. SANDY BAUERLEIN: In those years, Manitoba Hydro had made an assumption that the deferral would be discontinued. Again, it was an assumption in the forecast. But as you can see by the numbers it was not material.

MR. BOB PETERS: Okay, I understand the point that you make. So the entire page 159 isn't in compliance with what the Board had previously suggested, but the part before 2023 is?

MS. SANDY BAUERLEIN: It had assumed a disposition of the deferral, which in a subsequent -- the MH-16 update with interim, we took the assumption of the disposition out.

MR. BOB PETERS: Remind me, what was the assumption on disposition of the deferral of -- is it of -- of what -- what expense?

MS. SANDY BAUERLEIN: Of the depreciation difference and the overhead capitalized.

(BRIEF PAUSE)

MR. BOB PETERS: When we look at the difference between 2023 and 2024, Ms. Bauerlein, there is a shift of $89 million in -- in what's happened in the net movement in regulatory deferral accounts.

MS. SANDY BAUERLEIN: Yes. Yes, I see that.

MR. BOB PETERS: And I -- I'm not understanding your -- your third previous answer to me is --

MS. SANDY BAUERLEIN: I guess, I'm -- I'm trying to understand. Are you focusing on the 2018 year or the '23/'24 year?

MR. BOB PETERS: I apologize. I'm focusing on the 2023/2024 year. And we see an $89 million total shift from $40 million positive to $49 million negative.

MS. SANDY BAUERLEIN: So, in those years, in this initial forecast that was submitted, Manitoba Hydro had assumed -- had taken the assumption that those deferrals would discontinue following the in-service of Keeyask.

MR. BOB PETERS: Right. And I --

MS. SANDY BAUERLEIN: IN the subsequent update, we removed that assumption.

MR. BOB PETERS: And when you removed the assumption, you continued the deferral straight through to the end of the integrated financial forecast?

MS. SANDY BAUERLEIN: Yes, I believe

so.

MR. BOB PETERS: All right. And you said -- and I maybe didn't understand your answer. But you indicated that in 2023 going to 2024, when the assumptions on the amortization was changed, it was because it was an immaterial change.

Did I phrase your evidence correctly?

MS. SANDY BAUERLEIN: No, what I'm trying to say is that the amounts themselves, overall, to the overall, you know, cashflow and debt situation, amount to about $19/$20 million a year in this of additional expense.

So in trying to address the issue, it would again make very minimal change to the rate differential, as, again, amortization is a non-cash expense. So when I'm trying to say it's immaterial, it's immaterial to the rate request.

MR. BOB PETERS: Okay. The dollar amounts not immaterial, but it doesn't move the needle on the rate request?

MS. SANDY BAUERLEIN: Correct.

MR. BOB PETERS: Alright. Let's move to page 165. And here's the Manitoba Hydro Integrated Financial Forecast 16 updated.

And in terms of timeline-wise, this was

provided to the Public Utilities Board before the Board agreed to an interim process?

MR. JAMES MCCALLUM: I believe, subject to check, that the Board had already laid out a schedule that -- that included an interim process. However, we provided this forecast, roughly a week before the interim hearing in mid-July.

MR. BOB PETERS: It was before the interim submissions. And sorry, I just wanted to give Ms. Bauerlein a chance. She's just verifying something and I didn't want to speak over her. Just make sure that --

MS. SANDY BAUERLEIN: Sorry, I'm just trying to validate what information was in -- there was so many scenarios. So I was trying to validate what was in each one.

MR. BOB PETERS: I'm -- I'm with you, Ms. Bauerlein. I'm with you on that.

So -- but -- but -- let's take Mr. McCallum's answer, that this information was provided to the parties before interim submissions were made to the Public Utilities Board.

Can we start from that premise?

MR. JAMES MCCALLUM: I'd -- I'd have to check the calendar of when -- for example, the

Intervenors provided their submissions. I believe that we submitted this on July the 11th.

MR. BOB PETERS: And in the -- in what's on the screen on page 165, we see again a 7.90 scenario expecting to raise $88 million of additional revenue in that test year from -- from the August 1st, 2017 implementation of the rate of 7.90, correct?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And whereas we'd looked just a few minutes ago -- and we can turn back if you -- if you need it, Ms. Carrier. But the net income previously in IFF, Integrated Financial Forecast 16, was 111 million. Now, we see the net income is increased to 175 million in the update, correct?

MS. LIZ CARRIERE: Yes, I see that.

MR. BOB PETERS: And what we note, if we go to page 155 of the Board counsel book of documents -- and this table, Mr. McCallum and Ms. Carrier, where -- it's not a Hydro table, but it was prepared to try to sort out the -- the differences in the impacts. And it appears -- and you're telling the Board that net income moved up from 111 million to 175 million, but almost all of that related to additional waters; higher water levels in forecast?

MS. LIZ CARRIERE: Well, I'm not seeing that in this particular table, but...

(BRIEF PAUSE)

MR. BOB PETERS: Let me go at it from this direction then. In -- In Manitoba Hydro's -- and if you look at the page 155 in the bottom half of the chart, the net export revenues went up from 195 million, to a hund -- to 260 million. It went up $65 million.

Would you agree with that?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And, my suggestion -- and I --I apologize if I leapfrogged a step here -- that increase -- $65 million increase in additional revenues, sixty-four (64) of that 65 million came as a result of enhanced water conditions?

MR. JAMES MCCALLUM: There -- there would be some potentially other puts and takes. But as you can see -- because between MH-16, as submitted in May I guess, and -- and the update submitted in July, we also updated our export price forecast, interest rate forecast, load forecast, so there'd be some puts and takes.

But clearly, I think, to get -- get to your point, the update included $260 million of net export revenue, as opposed to $195 million under the original MH-16, as submitted in May, a $65 million increase, and that accounts, you know, for essentially all of the change between $111 million of net income under the original submission and -- and 175 million as shown in MH-16 update.

MR. BOB PETERS: All right. Thank you. If we turn to page 171, this is a scenario analysis -- again, Ms. Carrier, one (1) of the -- I think we're now -- we're agreeing on hundreds that Manitoba Hydro has run.

This was what was going to happen at existing under the Manitoba Hydro Integrated Financial Forecast 16 rate plan, correct?

MS. LIZ CARRIERE: Yes. Well, with -- with the exception that the first year there's a zero percent rate increase.

MR. BOB PETERS: The -- the parameters of the test asked Manitoba Hydro to assume a zero percent interim rate increase?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: Does -- does that help?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: Yeah. All right. So if the Board had awarded a zero percent interim rate increase, Manitoba Hydro's telling the Board that they would've expected $92 million of net income?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And if we go to page 173, if the Board was to awarded a 1.6 percent rate increase, Manitoba Hydro's net income would have been $109 million?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And then we can go up to page 175, and we can see that if we continue at 3.36 percent, Manitoba Hydro was expecting $128 million of net income?

MR. JAMES MCCALLUM: Yes, noting that -- that, in all these cases, the assumption would be that the incremental revenue flow -- incremental rate flowed to revenue and was recognized in net income that year.

MR. BOB PETERS: All right. Thank you. You're -- you're pointing out to the panel, Mr. McCallum, that the $37 million shown under the two hundred (200) -- or is it 2018 column, that $37 million from the 3.36 percent rate increase is assumed here to flow into general consumers' revenue and not flow into the Bipole III deferral account?

MR. JAMES MCCALLUM: That -- that's correct, yes.

MR. BOB PETERS: Put another way, Mr. McCallum, you're telling the Board that that $128 million of net income that's highlighted on page 175 would be overstated by $37 million if the Board's award went into the Bipole III deferral account?

MR. JAMES MCCALLUM: Not sure I like using the word 'overstated' out of context too often on the record. But it's a different treatment of the revenue, so -- so one leads to $37 million of revenue recognition and thus income, and -- and with the -- any rate award that's deferred is -- is not recognized in that year.

MR. BOB PETERS: All right. So let's -- let's conclude by looking at page 177.

And we see that if the Board had awarded a 3.95 percent interim award, Manitoba Hydro's net income would have been 134 million, provided that the entire rate increase was not put into the Bipole III deferral account, Mr. McCallum.

MR. JAMES MCCALLUM: That's correct. Yes.

MR. BOB PETERS: Now, on page 179 -- this is a document we've seen a few times; it's Manitoba Hydro's Integrated Financial Forecast 16, updated between the May and July that Mr. McCallum told us about. But now this one layers on the impact of the Board's interim decision.

Have I got that right, Ms. Carriere?

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

MR. BOB PETERS: And this is the actual integrated financial forecast that is underpinning Manitoba Hydro's rate plan?

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

MR. BOB PETERS: And, Ms. Carriere, I -- you're correct in advising the Board earlier. But if we look down to the rate increase line, the three three six (3.36) that's shown is highlighted, and next to it the seven point nine zero (7.90), those are the only two (2) rate increases that are now subject to Manitoba Hydro's rate request before this Board, in addition to the 2016 interim rate?

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

MR. BOB PETERS: And what you're telling the Board earlier, and I -- I should've glossed over it if I did, is that in future years the 7.9 percent for the -- for the five (5) years following 2019, plus the four point five four (4.54) rate and the 2 percent rates, those are what we've grown accustomed to calling indicative rates?

MS. LIZ CARRIERE: I would agree with that, yes.

MR. BOB PETERS: And the indicative rates haven't yet received approval from the Manitoba Hydro management or Manitoba Hydro Board.

Would that also be fair?

MS. LIZ CARRIERE: I would say that they haven't been approved as -- to take forward as a -- a -- an application to the Public Utility Board for approval.

MR. BOB PETERS: But those are the numbers as part of the current plan?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And so your purpose of including them is so that there's no surprise as to where Manitoba Hydro sees the rate trajectory going?

MS. LIZ CARRIERE: Yes, that's why we call it indicative.

MR. BOB PETERS: All right. Mr. McCallum, you weighed in on this earlier, so I'll come back to you on this, Sir.

The -- on page 179 of the book of documents, if we look at the financial ratios at the bottom of the page, and we look specifically for the 2018 year, and it's not highlighted, but the equity stays at or above the 14 percent mark throughout the -- throughout the rate plan, including in the 2018 year in which the interim award was granted?

MR. JAMES MCCALLUM: That is what this forecast indicates, yes.

MR. BOB PETERS: And then as have I given you credit already for the -- teaching me a new word, but the EBITDA stays above one point zero (1.0)?

MR. JAMES MCCALLUM: It stays above one point zero (1.0), although I will point out that Manitoba Hydro's target is one point eight (1.8) for that ratio.

MR. BOB PETERS: And in fact, if we want to be that particular, Mr. McCallum, it stays above one point (1.) -- one point five (1.5)?

MR. JAMES MCCALLUM: In this forecast, yes.

MR. BOB PETERS: All right. Thank you. And the capital coverage ratio stays above one (1). Although, I think your target has a 20 percent cushion built into it, and it's one point two (1.2).

Have I got that right?

MR. JAMES MCCALLUM: The target for the capital coverage ratio is one point two (1.2), yes.

(BRIEF PAUSE)

MR. BOB PETERS: I want to keep on this particular year, and turn to page 187 with the panel.

THE CHAIRPERSON: Mr. Peters, I -- I'm just wondering at what point you want to take the mid-afternoon break? I -- I don't -- we can --

MR. BOB PETERS: We're sitting -- we're sitting till 4:30, so this would be an appropriate time, sir.

THE CHAIRPERSON: Okay. So we'll take 10 minutes now. Thank you.

--- Upon recessing at 3:00 p.m.

--- Upon resuming at 3:23 p.m.

THE CHAIRPERSON: Mr. Peters...?

CONTINUED BY MR. BOB PETERS

MR. BOB PETERS: Yes, thank you, sir.

I want to go back if I could with Ms. Bauerlien on some of her evidence before the afternoon recess and it was specifically -- it deals with this net movement and regularly deferral accounts, Ms. Bauerlien, particularly with the changes in depreciation methodology.

And I'm going to ask that we jump forward to Exhibit PUB 42-4 and go to page 439, and to a lot of people that's wishful thinking, but we're going to just jump ahead and we're going to take a few minutes, if we could, Ms. Bauerlien, and understand the change that you spoke to the panel about shortly before the afternoon recess.

So on the -- on the screen in front of us is -- is an Information Request asked by -- on behalf of the Manitoba Industrial Power Users Group of Manitoba Hydro, the first round number 6, letter B.

And the first thing I want to do is go to -- at the top of the page you see --

THE CHAIRPERSON: Sorry, Mr. Peters, I think we're looking at different pages from the book and the screen. Oh, Volume 4.

MR. BOB PETERS: Yeah, I slipped that

one in as wishful thinking, Mr. Chairman, I apologize. It's located, Mr. Chair and panel members, at tab 85. And it's page 439 of the fourth book of --

THE CHAIRPERSON: Right.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: -- Board counsel's book of documents and in introducing it, you should be able to locate a Information Request that was asked on behalf of the Manitoba Industrial Power Users Group in their first round of Manitoba Hydro question 6B.

Ms. Bauerlien, not to get too detailed in the accounting but the top half of this page is showing the Board the additions that have been put into this regulatory deferral account that Manitoba Hydro has set up correct?

MS. SANDY BAUERLIEN: That is correct.

MR. BOB PETERS: And then on the bottom of it, you're telling the Board how Manitoba Hydro proposes to recover those monies from rates or how much they are going to amortize and include in the revenue requirement in a particular year?

MS. SANDY BAUERLIEN: That is correct.

MR. BOB PETERS: All right. Let's go on the top in terms of additions and we'll go to the line item called Change In Depreciation Method and we'll follow that all the way across the page until the year 2023/24.

Are you with me?

MS. SANDY BAUERLIEN: Yes, I am.

MR. BOB PETERS: What the Board will see is that what Manitoba Hydro had been doing before fiscal '24, they stopped doing in fiscal '24, correct?

MS. SANDY BAUERLIEN: That is correct. They made an assumption that once Keeyask was in service the deferrals for the change in depreciation would stop.

MR. BOB PETERS: And so that's what you've showed the Board is that the difference between what the Board has previously asked Manitoba Hydro to do with depreciation and what Manitoba Hydro wants to do with depreciation amounts in 2023 to $56 million of expense?

MS. SANDY BAUERLIEN: In 2023, correct, 56 million.

MR. BOB PETERS: I'm sorry. Put another way, Manitoba Hydro's depreciation methodology would raise the Company's revenue requirement by $56 million in that year compared to the depreciation methodology the Board approved?

MS. SANDY BAUERLIEN: Correct, it would. However, as discussed in -- in my evidence this morning, changes in -- in this will not have a material impact on the actual rate request. For example, I gave the example this morning of having five hundred (500) people leave the -- an additional five hundred (500) people leave the Corporation in 2018/19, which would be about $15 million a year.

And over that whole time frame you saw the rate differential go from 7.41 to 7.9 percent. So even if Manitoba Hydro were to make an assumption that we would discontinue this once Keeyask would come in service, there would be no significant change to the rate request.

MR. BOB PETERS: Ms. Bauerlien, what's the magic of Keeyask coming into service for the Manitoba Hydro to change its assumption? And I -- I don't mean pejoratively but what's the -- what's the trigger or what happens when Keeyask jumps in?

MS. SANDY BAUERLIEN: That we would start seeing revenues as a result of the generating station come in service.

MR. BOB PETERS: So you're saying that as a result of Keeyask coming into service, Manitoba Hydro's revenue numbers take a -- a material increase, and that will dwarf the impact of this change?

MS. SANDY BAUERLIEN: Over time they will start to see a material increase as a result of Keeyask.

MR. BOB PETERS: Right. And that's -- and that's the -- that's the Company's rationale for changing the methodology?

MS. SANDY BAUERLIEN: That was the rationale behind the assumption.

MR. BOB PETERS: All right. And a part I'm still not quite catching on, and I apologize if I'm being thick on this point, but when I look at $56 million of additional costs to go to ratepayers, I'm estimating that that's -- that's approximately a 4 percent consumer rate increase.

Am I thinking of it the same way you do?

MS. SANDY BAUERLIEN: No because of the approach that we take under a cost-of-service methodology we would not see an immediate 4 percent. Because again --

MR. BOB PETERS: What you're saying is, you would -- you would smooth it in, is that the right words?

MR. JAMES MCCALLUM: Well, I was just

going to add that -- that the -- I think you're using for convenience this idea that one -- a 1 percent rate increase is worth about $16 million; that math starts to kind of deteriorate as the rate base increases over time.

And -- and again, I -- I just want to make sure we're all clear that when we're talking -- these sort of figures we're talking about one (1) time as opposed to, you know, overall abating a rate increase by 4 percent per year.

MR. BOB PETERS: And Mr. McCallum, I accept your correction that we could look to your integrated financial forecast and figure out what 1 percent of your consumers revenue is to get that number. So, maybe it's closer to $20 million per point, at this point in time.

But the point that I want Ms. Bauerlien then to explain to the panel is that even though there is a $56 million difference in fiscal 2023, that $56 million, which represents a -- somewhere between a 3 and 4 percent rate increase, let's guesstimate. Manitoba Hydro would not be bringing that entire rate increase in in one (1) fiscal year?

MS. SANDY BAUERLIEN: Manitoba's -- if you look at our forecast, the 7.9 percent already includes that assumption.

MR. BOB PETERS: Okay, that's another way to look at it is that Manitoba Hydro's current forecast doesn't change just because Manitoba Hydro has changed how they treat depreciation expense?

MS. SANDY BAUERLIEN: That is correct.

MR. BOB PETERS: All right. While I'm still on this page, Ms. Bauerlien, with you, I want to turn to the bottom half of the page and go down to "change in depreciation methodology." And we look for the 2017/18 test year that we're in, plus the 2018/19 test year for next year where the Corporation is seeking a rate increase.

The Board will see that Manitoba Hydro in its integrated financial forecast 16 includes amortization of some of the difference between the two (2) depreciation methods at issue?

MS. SANDY BAUERLIEN: Yes, in the initial forecasts we had begun the amortization in '17/'18. In our update we corrected that to remove the amortization outside the test years, pending the decision from the -- the Board on the recommended disposition of that deferral.

MR. BOB PETERS: And -- and thank you, Ms. Bauerlien. I want you to show the Board that when we turn to page 441 of Exhibit PUB-42-4, the fourth book of documents, and we're still in the same Information Request, but if we look at the top, we see that this is the Manitoba Hydro's 16 Update with interim, correct?

MS. SANDY BAUERLIEN: Yes, it is.

MR. BOB PETERS: And -- and I don't take issue with your statement that you've made this correction in the MH16 Update as well, but we see it clearly here in the MH16 Update with interim; correct?

MS. SANDY BAUERLIEN: That is correct.

MR. BOB PETERS: So again, at the top of the page when we look at "additions" and we follow the change in depreciation method across, we see that, again, Manitoba Hydro has made an assumption that in fiscal '24 Manitoba Hydro is no longer going to try to recover through the regulatory deferral accounts the difference in the depreciation methodologies?

MS. SANDY BAUERLIEN: In the test years, that is correct.

MR. BOB PETERS: Okay. Well, looking at the top half of the page, though, Ms. Bauerlien, in 2024, fiscal 24, Manitoba Hydro has just like they did in the original Manitoba Hydro integrated financial forecast 16, they have stopped using the difference between the two (2) depreciation methodologies as an addition into the regulatory deferral accounts?

MS. SANDY BAUERLIEN: That is correct.

MR. BOB PETERS: And the difference that you talked to the Board about before the break, and I apologize if I lead to some confusion, but we look at the bottom part of this page and we see that there's been a change in depreciation method line. And if we follow it over to the 2017/18 test year, and also the 2018/19 test year, whereas before we had cumulatively about $9 million, here we have zero dollars, correct?

MS. SANDY BAUERLIEN: That is correct.

MR. BOB PETERS: So the assumption that we're talking about is for these updates Manitoba Hydro removed the recovery of the difference in depreciation methodology from the integrated financial forecast, but only for the two (2) test years?

MS. SANDY BAUERLIEN: That is correct.

MR. BOB PETERS: After the test years and if I'm understanding that the Corporation may seek another rate increase for 2019/20, that's where the Board will see that Manitoba Hydro has put back in a change in depreciation method, consistent with whatever advice they get from the Board in this GRA?

MS. SANDY BAUERLIEN: That is correct. This one assumes a twenty (20) year but pending the Board's direction on that, the subsequent IFFs would reflect the amortization as established by the Board.

MR. BOB PETERS: I have no further questions on that net movement in regulatory deferral, but I did want to go back and try to get Mr. Cormie on the record this afternoon by turning to page 193 of volume 1.

And in volume 1 on page 193, Mr. Cormie, and I appreciate you're not the author of this letter, but the author hasn't sworn an oath so I won't be able to cross-examine her today, but I would like you to answer some questions, if you could help the Board.

You've seen the letter before, Mr. Cormie?

MR. DAVID CORMIE: No, I haven't, Mr. Peters.

MR. BOB PETERS: All right, perfect.

MR. DAVID CORMIE: Thank you.

MR. JAMES MCCALLUM: I may be able to be helpful. I -- I know who the author of the letter is.

MR. BOB PETERS: Oh, I think we all know, but I'm sure Mr. Cormie is going to be fine here but, Mr. McCallum, the essence of this cover letter -- this was a cover letter that forwarded Manitoba Hydro's second quarter financial results to the Board.

Would you agree with that?

MR. JAMES MCCALLUM: That's correct, yes.

MR. BOB PETERS: And we've referred to it previously but we talked whereas initially Manitoba Hydro was forecasting a $93 million net income, this letter brings home that the forecast is now, after a half a year, closer to $30 million?

MR. JAMES MCCALLUM: That's correct, yes.

MR. BOB PETERS: All right. Included in this letter is an indication that the export revenues have declined with some significance; is that correct, Mr. McCallum?

MR. JAMES MCCALLUM: That is correct, yes.

MR. BOB PETERS: And if we look at the specifics in the letter at the bottom on page 193, we see a suggestion that there's been a $58 million deterioration in the export revenues; correct?

MR. JAMES MCCALLUM: That's correct.

MR. BOB PETERS: Now, in support of that, when we try to look at the numbers and take Manitoba Hydro back to page 155 of the book of documents. This, again -- and Mr. Cormie feel free to jump in if you have -- have some information you can assist the Board with, if we compare the bottom chart and the column that's Forecast Manitoba Hydro Update, and then we compare that to the November forecast.

Do you see those two (2) columns, Mr. Cormie?

MR. DAVID CORMIE: Yes, I do.

MR. BOB PETERS: Just from the math it appears that the difference attributable to the net export revenues is 50 million, not 58 million.

Would you agree with that?

MR. DAVID CORMIE: Yes, the November forecast looks like it's 50 million difference than the update forecast.

MR. BOB PETERS: All right. And then when we follow that through back on page 194 of the cover letter, the author of the letter indicates that the system inflows were considerably below historical average.

Do you see that line at the top of page 194?

MR. DAVID CORMIE: Yes I do. And if you remember my direct this morning, I indicated the lack of precipitation over the summer season. It was well below average, and only recovered in September.

MR. BOB PETERS: Mr. Cormie, while you agreed with the math that you saw on page 155, would the Board of a better understanding that on page 193 of the book of documents in the letter, where Manitoba Hydro says that the -- the export revenues have deteriorated some $58 million, that that number should actually be closer to $50 million?

MR. DAVID CORMIE: Well, I think as Mr. McCallum said, that there are other factors including export prices that were different in the November number than there was in the update number it. So, the revenues are -- are a combination of both but I'll leave that to Mr. McCallum to speak to.

MR. JAMES MCCALLUM: Yeah, if I may. And at risk of having my -- my letter writing privileges revoked, I made an error. I was using an internal report that comes from Mr. Cormie's group in coming up with that $210 million number and found out subsequently that, in fact, as you get to the numbers that end up in the net export calculation on our financial statements, there are a number of charges principally but puts and takes that do not go into Mr. Cormie's report, but that do go into the -- but do go into our reporting on the net export business, summing to $8 million.

So the $58 million decline is the correct number.

MR. BOB PETERS: And 50 million of that is attributable to Mr. Cormie's net export revenue numbers?

MR. JAMES MCCALLUM: Well, it -- it -- do you want...

MS. SANDY BAUERLIEN: So the difference really just represents differences in what we capture for accounting purposes. So, for example, there's item such as some diesel fuel costs, transmission credits that total up for this $8 million differential.

So it's really looking at things from the overall water-flow perspective versus what we include in export revenues in the financial statements -- or net export revenues.

MR. JAMES MCCALLUM: Sorry, and if we had done that -- if I had done that, the number would in this letter would say 202 million instead of 210 million and that 202 million would be consistent with the reporting you see in our financial statements.

MR. BOB PETERS: That's fine. I -- thank you for the clarification and --

MR. JAMES MCCALLUM: And I apologize for confusing --

MR. BOB PETERS: -- on behalf of Ms. Ramage, I thank you for not throwing her under the bus.

MR. JAMES MCCALLUM: She spends enough time there.

MR. BOB PETERS: And, Mr. Cormie, I don't want to lose track of the point you were making to the Board and in the book of documents on page 189 is last month's edition of a document and -- and I'll ask Ms. Schubert not to -- not to get too fussed about this one because on Manitoba Hydro's presentation of this morning, which was Manitoba Hydro Exhibit 68, you showed this Board on page 35 -- sorry on slide 25, if we could have that on the screen, Manitoba Hydro's presentation of today, and particularly slide 25.

You've given the Board the most current information that you can provide at this time, correct?

MR. DAVID CORMIE: Yes -- yes, that is correct.

MR. BOB PETERS: All right, and at the time -- when it says in the -- in the letter that the Board received -- that system inflows since April were considerably below historic average; that doesn't appear to be quite correct when it goes against your page 25, does it?

(BRIEF PAUSE)

MR. DAVID CORMIE: Yeah, I think I'll let Mr. McCallum speak to that letter.

MR. BOB PETERS: I don't know that there's a big point here, but --

MR. JAMES MCCALLUM: No, this -- this is a -- a poor use of syntax on my part. It -- the work should have said "precipitation" instead of "inflows."

MR. BOB PETERS: All right. So -- and, Mr. Cormie, in -- since April inflows we can see on the screen on the monitor in front of us, from page 25 of Manitoba Hydro's Exhibit 68 that, in fact, on the redline tracking the inflows of this year the water level inflows were -- since April were still above the average. And they really got down towards the average in August and there you can see that they've flirted with the average line since then.

MR. DAVID CORMIE: Yes and -- and as I mentioned earlier that because the snowmelt runoff occurs in the north in May, a lot of that above-average flow conditions that you're seeing in May are -- are a result of the accumulated winter precipitation and that -- and that resulted in massive northern flooding this spring.

But subsequent to that, there was very little rainfall and so you are seeing the recession of inflows as -- as the -- as the land drains over time, over the spring and the summer going from very high flows to by the middle of September well below -- well below average.

MR. BOB PETERS: All right. Thank you for that clarification, Mr. Cormie. Back to the letter from the Corporation. At page 194 there is a suggestion also in that top sentence that's highlighted which has dramatically reduced reservoir letters -- I'll try again,

"...which has dramatically reduced reservoir levels from near record highs to just above mean."

Do you see that Mr. Cormie?

MR. DAVID CORMIE: Yes, I do.

MR. BOB PETERS: And if we turn to page 195 of Board counsel's book of documents, and Mr. Cormie, is the -- is the chart on page 195 the most current chart that's been provided by the Company.

MR. DAVID CORMIE: I provided an update this morning in my direct testimony, Mr. Peters.

MR. BOB PETERS: Well, in your update, if we're looking at -- are we still looking at page 25 where you talked about 2 terawatts above --

MR. DAVID CORMIE: Yes, that's the correct chart.

MR. BOB PETERS: All right then I -- we'll turn to page 26 of Manitoba Hydro's Exhibit 68.

And this chart, Mr. Cormie, will show the Board that the reservoir levels started off at -- in the -- in early in the year to be probably the record starting point for energy and storage?

MR. DAVID CORMIE: Yes, they're about 9 terawatt hours above the average for the last -- since 1977.

MR. BOB PETERS: So what is 9 terawatts translate to? How -- how should the panel consider what that means?

MR. DAVID CORMIE: Nine million megawatt hours, that's around a third of the domestic load in Manitoba. So if we were able to generate that power we could -- without any additional rainfall, we could supply the load in Manitoba for a third of a year without any inflows; if all that water in reservoir storage could be used for generation.

MR. BOB PETERS: And that's -- that's 9 terawatts hours above the average. So you'd still have some more on the chart as we look at it that there is maybe even additional revenue there that -- or electricity that you could use to get revenue if you had no further inflows?

MR. DAVID CORMIE: Right. Unfortunately, under high flow years like we experienced this year, a lot of that water that's in reservoir storage has to be flushed through the system in order to bring Lake Winnipeg levels back down into the range for power.

So approximately 5 or 6 million megawatt hours was flushed through the system with no benefit to us. And as -- and as Mr. McCallum said, we don't have enough storage in our system to adequately -- efficiently manage the -- the -- the Hydro system because -- because our storage -- our licenses are very restrictive.

MR. BOB PETERS: Okay, I -- I don't want to go too far afield on that. But I think you've introduced something to the panel that we should just flesh out a little bit, Mr. Cormie.

Manitoba Hydro has legal permission to operate the levels of Lake Winnipeg between an upper and lower parameter; would that be true?

MR. COREY SHEFMAN: We have permission to regulate for power between an upper and lower, but the water levels do go above the upper when there's nothing more that we can do. We can open the dams as wide as possible and the levels will still go above the -- the upper level.

MR. BOB PETERS: So your clarification is that even though Manitoba Hydro can regulate Lake Winnipeg between certain levels for power generation, if mother nature provides water that takes the levels in Lake Winnipeg above the maximum, Manitoba Hydro has no choice but to open its gates and let as much water out as physically can get out of the gates?

MR. DAVID CORMIE: That's correct, Mr. Peters.

MR. BOB PETERS: And when the water

gets out of the gates and starts flowing down your rivers, the water levels may be so high that all of that water doesn't go through a generator.

MR. DAVID CORMIE: Yes, it exceeds the flow capacity of the generators, and we have to open the spillways and -- and, in a sense, waste the water.

MR. BOB PETERS: And so when the water goes over the spillway, you generate zero dollars for it?

MR. DAVID CORMIE: That's correct.

MR. BOB PETERS: And you pay zero dollars to the province for it?

MR. DAVID CORMIE: That's correct, yes.

MR. BOB PETERS: And did I understand your evidence to be that you've spilled 5 to 6 terawatts hours this year?

MR. DAVID CORMIE: Yes, easily that. And -- and this is the interesting situation you get in your -- you go into the spring with lots water in reservoir storage and then flow conditions can change six (6) months later and now you're having to buy power, and you'd say, well, you're in an above average year, why are you buying power when you had such length in -- in -- in water earlier in the year and it's just because our reservoir storage is small relative to the variability that we see in inflows.

MR. BOB PETERS: And, Mr. Cormie, not to flog the author of the letter too much longer, on page 194 there is an indication that export volumes were -- were down a certain percentage; if I recall the letter. Yes, also highlighted in the top paragraph on page 194.

"11 percent decline in export volumes."

Do you see that?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Would it still be correct that export revenues are still higher than what Manitoba Hydro had forecast in its integrated financial forecast 16?

MR. DAVID CORMIE: Do you have a reference for that, Mr. Peters?

MR. BOB PETERS: I do. I'm not sure you're going to like it but it's page 155. It's Board -- this isn't prepared by Manitoba Hydro, but it base -- it's based on Hydro's updated information. And if you have concerns with the numbers we can take it subject to check, but I -- I --

MR. DAVID CORMIE: Subject to check, I

accept that the 94/23 (sic) November forecast is higher than the initial MH16 forecast.

MR. BOB PETERS: All right. And then, while I'm -- I have my pen out, the $210 million net export revenue number that's shown there, I'm understanding Mr. McCallum to be telling me that, on reflection, that could have been -- should have been $202 million.

MR. JAMES MCCALLUM: That -- that's correct.

MR. BOB PETERS: Thank you, sir. And when the -- when the letter on page 194 talks about on-peak prices being down some 22 percent and off-peak 6 percent, those are from Manitoba Hydro's target, not in and of themselves what's happened in the market.

Would that be true?

MR. DAVID CORMIE: Yes, that's just a deviation from the forecasted values.

MR. BOB PETERS: I appreciate those clarifications.

Mr. McCallum, while the letter on page 194 provided the Board with some updates related to some of the revenue requirement items, like the export revenues or some of the interim -- greater financial forecast items, as I understand it, there is no additional detail on operating expenses as of Q2 report?

MR. JAMES MCCALLUM: Your question is on a forecast basis?

MR. BOB PETERS: Well, I was going to come to this with -- tomorrow on the OM&A discussions, but you've been able to provide some updates here in this letter related to some of the impacts of the weather and the export prices.

Do we have any firm information to change what's been filed relative to the operating expenses of the Company?

Do we have any firm information to change what's been filed relative to the operating expenses of the company?

MS. SANDY BAUERLEIN: We are on target to achieve the operating expense forecast that was provided in -- in MH16, which is the same forecast number that's in MH16 update.

MR. BOB PETERS: All right. And you said it this morning. Was it $518 million of OM&A expense?

MS. SANDY BAUERLEIN: That is correct.

MR. BOB PETERS: All right. I've got your -- your point, and I thank you for it.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. McCallum, we've gone through some heavy numbers this afternoon, and we've looked at the IFF impacts. And one (1) of the messages you've provided is that the second-quarter report for Manitoba Hydro takes the $93 million of forecast net income down closer to $30 million, correct?

MR. JAMES MCCALLUM: Just to be clear, the second-quarter report in terms of being the -- the Manitoba Hydro Electric Board's publicly released report, only refers on a forecast basis to consolidated net income and our forecast for the year being $40 million now, on a consolidated basis, which is one (1) of the reasons we -- we provided this letter to the Board to just specify the exact impacts as to the electric segment.

MR. BOB PETERS: Okay. A -- a point that you're -- you're wanting the panel to understand is that when Manitoba Hydro reports publicly, it's quarterly numbers, and in, I suppose, even in its annual report, Manitoba Hydro consolidates all of its enterprises into one (1) report?

MR. JAMES MCCALLUM: No. Well, it --

yes. I mean, our -- our audited financial statements, or unaudited, you know, quarterly financial statements are presented on a consolidated basis. We do provide a degree of segment information. I think the point I just wanted to make was that the -- in the quarterly report and in the narrative, you will see a reference to a -- to our updated view on fiscal 2018's net income expectation, and it would say, $40 million. And that's a consolidated number.

And so we were trying to bring to, you know, all observers' attention here that within that, we're anticipating $30 million of net income out of our electric segment.

MR. BOB PETERS: And what makes up the other $10 million in general, without giving specifics, if you're able to tell us?

MR. JAMES MCCALLUM: Well, sure. It's the Centra Gas, of course, our natural gas business, Manitoba Hydro International, and then our -- some consolidation adjustments that -- that go into consolidated accounting. Ms. Bauerlein can definitely speak further to this.

MR. BOB PETERS: I might not ask her for a while, so leave that with me.

Mr. McCallum, not trying to push you,

because I'm sure your evenings are busy enough, but we are now, if I get your fiscal year correct with the calendar year, your third quarter ends at the end of December, December 31?

MR. JAMES MCCALLUM: That's correct, yes.

MR. BOB PETERS: And we're now two (2) months into Manitoba Hydro's Q3, or third quarter, correct?

MR. JAMES MCCALLUM: Yes.

MR. BOB PETERS: And is there any update that changes the outlook that's been provided from second-quarter that this Board should have in front of it?

MS. SANDY BAUERLEIN: To the end of October, the results haven't changed the expected outlook at this point in time. However, as noted, much of our revenues come through the winter heating months, and so we may have changes once we start seeing the impacts of weather, for example, in those months.

MR. JAMES MCCALLUM: I would maybe just add and -- and augment that we have not seen anything that would cause us to adjust our view on the fiscal year, but I think the -- the point that's highlighted here on 194 about the on and off-peak opportunity prices, just as important to note in our forecast of the remainder of this year, or the, you know, where the entire year will come in, we have used updated information as to the short, you know, our short-term forecast of -- of opportunity export pricing.

I just wouldn't want it to be missed that in comparison -- what we are experiencing in the market today is quite a bit different from what's in our -- our MH16 update forecast, and that continues.

MR. BOB PETERS: Your last point, I'm sorry, I didn't catch the --

MR. JAMES MCCALLUM: I just wanted to make clear that while our updated forecast of $30 million for this year includes pricing assumptions that are -- are below what is carried in what I'd call our model, the MH16 update, we're -- we're just not getting the pricing that's in the forecast.

MR. BOB PETERS: I've got your point. And what you're also telling the Board is that while your second-quarter results take you to the end of October, I think as Ms. Bauerlein has said, from there, you have used a forecast going forward, and that forecast that you've used going forward is consistent with what you're telling the Board in your evidence here?

MR. JAMES MCCALLUM: Let me try again. What is in the forecast for 2018 forecast -- which forecast? In the $30 million net income number, call that our most current forecast, embedded in that is -- is a far more up-to-date view of water conditions.

It's based on our six (6) months actual results, and then it is based on a much more current view of opportunity export pricing than would be included in MH16 update with interim.

MR. BOB PETERS: I think we might have been saying the same thing, but perhaps not, but I thank you for your answer, sir.

MR. JAMES MCCALLUM: We can agree to be confused.

MR. BOB PETERS: All right. In the time that's left this afternoon, I'd like to turn to a new topic on financial targets. And let's start and see if we can cover some ground relatively quickly.

I'm going to be back in Board counsel's book of documents, Volume I, and that's PUB Exhibit 42-1. And maybe we can start off by, to some extent, repeating -- or at least covering some issues that we've covered before, but this time with some specificity.

And I would...

(BRIEF PAUSE)

MR. BOB PETERS: On page 234 of Board counsel's book of documents, at Tab 14, we have a cover page of the financial panel that testified before the Public Utilities Board during the Needs for and Alternatives to review in 2014, and Ms. Carriere, you were part of that panel, correct?

MS. LIZ CARRIERE: Yes, I was.

MR. BOB PETERS: And so when we turn to page 242, there is no dispute that Manitoba Hydro on page 242 was telling the Board that at that point in time, it was in its strongest financial position in its history, correct?

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

MR. BOB PETERS: And Mr. McCallum, in some of the reports, and I believe it was the KPMG report dealing with your equity ratio review, the recommendation was that Manitoba Hydro should go into a position of capital expansion, you know, with -- with 25 percent equity on its balance sheet.

Do you recall words to that effect?

MR. JAMES MCCALLUM: My recollection, without going straight to a -- to a reference from the document, was actually their preferred advice would be to go into such a period at a higher level of equity to allow for the deterioration to be less impactful.

MR. BOB PETERS: Okay. Manitoba Hydro in the -- in the years in which Manitoba Hydro wasn't undertaking its major capital expansion, it got to an equity level of 25 percent, and we've seen that on your various charts?

MR. JAMES MCCALLUM: Yes, that's correct.

MR. BOB PETERS: All right. And Ms. Carriere, this isn't meant to be awkward, but on page 242, Manitoba Hydro makes the statement that it's well-positioned to make the necessary investments to meet the future energy needs of the Province. You were part of the panel.

This may have some of your fingerprints on it, but does your position change now to say that that was a mistake, Manitoba Hydro was wrong in saying that?

MS. LIZ CARRIERE: Well, I believe this is Mr. Rainkie's portion of the presentation.

MR. BOB PETERS: Okay. And if it was

his portion of the presentation, is it your considered view that this was incorrect at the time it was given to the Public Utilities Board?

MS. LIZ CARRIERE: Well, I'd be speculating as to what his meaning was, but I -- I guess that he could -- he was saying that it was well-positioned relative to the financial position that Manitoba Hydro had seen in the past.

MR. BOB PETERS: All right. Let's move to 248, please, page 248. Here, the financial targets, Mr. McCallum, they're -- they're the same ones that exist today, except that interest coverage. You've taught us the new one where it's EBITDA at one point eight-zero (1.80) rather than EBIT at one point two (1.2)?

MR. JAMES MCCALLUM: That's correct, yes.

MR. BOB PETERS: And at the bottom of the page, financial targets may not be maintained during years of major investment in the generation and transmission system? That's a reflection that the math causes the ratio to deteriorate when you're throwing in a lot of debt compared to the equity that you're -- you're getting back?

MR. JAMES MCCALLUM: It is a

reflection of a financial plan that includes a significant amount of investment relative to the size of the Corporation, principally debt-funded and against the backdrop of a financial plan with de minimis levels of net income. Yes, that will cause your targets to deteriorate.

MR. BOB PETERS: Your denominator is starting to grow, and it's growing more than three (3) times faster than your -- your numerator?

MR. JAMES MCCALLUM: Think we have that opposite, but your point is correct.

MR. BOB PETERS: Go ahead. I won't show you my grade school math scores, then. Mr. -- Mr. McCallum, on page 249, if we could scroll quickly, I'm not sure there's any debate in this, but we'll let Ms. Carriere tell us if there is.

The twenty (20) year to achieve a target ratio of 25 percent equity was presented through the NFAT process?

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

MR. BOB PETERS: And when we look at the top, and we see that the IFF, Integrated Financial Forecast 13, and we see Integrated Financial Forecast 12, both of those Integrated Financial Forecasts included the costs of Conawapa?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Yes. I am just -- I'm trying to recall the timing of Conawapa in these. But yes, they should both include Conawapa.

MR. JAMES MCCALLUM: We're just going to -- subject to check, we're -- we're --

MR. BOB PETERS: Yeah. But put a -- put another way, and -- and is -- Conawapa was still on Manitoba Hydro's Preferred Development Plan in these Integrated Financial Forecasts?

MS. LIZ CARRIERE: Yeah.

MR. BOB PETERS: All right.

MS. LIZ CARRIERE: Sorry, yes.

MR. BOB PETERS: All right. Page 253, we see highlighted in the middle of the page that in setting these financial targets, Manitoba Hydro is telling this Board that it's always been recognized that targets may not be attained during periods of major investment in the generation and transmission system, correct?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And there's no different position taken today, is there?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And in the next bullet, the credit rating agencies, as well as other stakeholders are prepared to accept short-term weakness in financial ratios as long as Manitoba Hydro can demonstrate progress to attaining the targets over the long term?

MS. LIZ CARRIERE: Yes. And what I think we're talking about here is order of magnitude, really.

MR. BOB PETERS: And at the time this was given in terms of order of magnitude, Ms. Carriere, subject to your checking, Conawapa was in Integrated Financial Forecast both 12 and 13?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: And Conawapa wasn't a cheap generating station when it was brought forward. It was over $10 billion in -- in in-service cost. Is that correct?

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

MR. BOB PETERS: Is there a new number for that generating station? Has anybody done the math and figured out what Conawapa would cost now, in light of what's happened?

MS. LIZ CARRIERE: No, I don't believe

anyone has.

MR. BOB PETERS: All right. And then the third bullet that's highlighted on page 253 on the monitors, coming out of Board counsel's first book of documents is that the financial ratios are expected to recover after the in-service of Keeyask and Conawapa Generating Stations and reach target levels within a forecast horizon of approximately twenty (20) years, correct?

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

MR. BOB PETERS: So Manitoba Hydro's expressly here, in any event, including Conawapa and what it's telling the Board?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And the reason that the financial ratios are expected to recover is that Mr. McCallum isn't just throwing debt money out the window. He's -- he's buying a shiny new asset called Keeyask, correct?

MS. LIZ CARRIERE: Well, in this case, it would be both Keeyask and Conawapa.

MR. BOB PETERS: All right, so we'd have two (2) assets. But in -- in any event, he'd have assets that Manitoba Hydro forecasts will be revenue-generating assets?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And if Manitoba Hydro uses history as a telling tale of the future, these hydro-generating dams can prove to be wise investments in the long term?

MS. LIZ CARRIERE: They have historically, yes, and prior to NFAT with the export prices that we were projecting, yes.

MR. BOB PETERS: And the long term, Ms. Carriere, and I think at the NFAT didn't -- did -- didn't Manitoba Hydro run scenarios that went out some seventy-two (72) or seventy-three (73) years?

MS. LIZ CARRIERE: The scenarios I'm familiar with, the financial ones, were fifty (50). I believe you may have been -- may be referring to the economic analysis.

MR. BOB PETERS: And those may have been longer than the financial ones?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: All right.

(BRIEF PAUSE)

MR. BOB PETERS: Let's turn to page

258. Just while we're going through some of these slides, Manitoba Hydro was telling the Board that the Corporation had a long-standing history of gradualism in approach to developing rate proposals, correct?

MS. LIZ CARRIERE: Yes, that was true.

MR. BOB PETERS: And is Manitoba Hydro prepared to concede that its new rate plan doesn't contain the same strategy of gradualism as previous plans?

MS. LIZ CARRIERE: I would say that it isn't as long as previously, but ten (10) years is pretty long.

MR. BOB PETERS: Okay. Is the rate increase gradual?

MS. LIZ CARRIERE: Relative to higher rate increases, maybe, yes.

MR. BOB PETERS: And then relative to lower increases, it wouldn't be?

MS. LIZ CARRIERE: Yeah.

MR. BOB PETERS: Okay. Well, I -- I've got your point.

There's an interesting bullet here, also on page 258, in the middle -- the middle bullet that's highlighted, is that under cost of service regulation, cost recovery is smoothed out over time by absorbing some of the cost into retained earnings as -- on a temporary basis, if prudent, allowing sufficient time for export revenue benefits to accrue. I read that mostly correctly?

MS. LIZ CARRIERE: Yeah. That's true, and I think this was, in the context of this, comparatively under a rate-based rate of return because we -- as -- as Mr. Cormie is talking about, we have such small levels of storage and we have -- so we have very volatile levels of water flows, and they can change very rapidly.

So under a rate-based rate of return regulation, you would likely see much more volatile rate reactions on an annual basis. So in -- in the sense that cost recovery gives us -- we use our -- our retained earnings to give us some flexibility to smooth rates out over a short period of time.

MR. BOB PETERS: And Ms. Carriere, you showed that to the Board earlier this afternoon when we looked at the Integrated Financial Forecast 14, where Manitoba Hydro was going to lose approximately $900 million over an eight (8) year period of time, but was on an indicative rate request proposal, as well as an actual rate request prop -- proposal of 3.95 percent?

Yeah, it -- that wasn't very good, was it?

MS. LIZ CARRIERE: Sorry, what's the question?

MR. BOB PETERS: Yes. I apologize. Under cost of service regulation, what you're telling the Board is Manitoba Hydro is prepared to try to smooth out some of the sharp corners that would exist under rate-based rate of return regulation?

MS. LIZ CARRIERE: That's correct.

MR. BOB PETERS: So under rate-based rate of return, if Manitoba Hydro was going to put a $12 billion of assets into play into service, you would, under rate-based rate of return, expect to have 25 percent of that equity already in the Company from some source?

MS. LIZ CARRIERE: Well, that's right. You would -- you would be annually earning return based on a level of equity deemed by the regulator.

MR. BOB PETERS: All right.

MS. LIZ CARRIERE: Yeah.

MR. BOB PETERS: Interestingly, under cost of service regulation, we earlier this afternoon looked at the rates that have been awarded by this Board, including what this Board has put into Bipole

III deferral account, and the Board has approved rates for Manitoba Hydro that are flowing into the Bipole III deferral account of approximately 11.6 percent, if I remember correctly. Are you prepared to accept that, Ms. Carriere, subject to any checking?

MR. JAMES MCCALLUM: I -- I had thought the addition was about eleven point two (11.2), but subject to checking, yeah.

MR. BOB PETERS: Okay. Maybe mine was compounded, but let's take it it's 11 percent so that we can both agree. That's 11 percentage points in current rates that this Board has said, essentially, that Manitoba Hydro doesn't need it for operating, and they should be putting it into a deferral account.

Do you understand it that way?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: So under a strict cost of service regulation, when you come in for a test year, you're asking the Board, Do not -- not look too far away than that -- from the test years, and award rate increases pursuant to the test years, correct?

MS. LIZ CARRIERE: That's right.

MR. BOB PETERS: And what you've seen this Board do according to that chart that we reviewed earlier today, is they have ostensibly said, No you don't need these rate increases for your test years, but we know you've got some big expenses coming in the future when things like Bipole III come into service, correct?

MS. LIZ CARRIERE: Yes. I would say that's true.

MR. BOB PETERS: So the Board has also -- not only what Manitoba Hydro has tried to smooth out, the Board has also tried to smooth out some of the impacts by awarding rates when ostensibly, the Company doesn't need them in its operating results, according to the Board?

MS. LIZ CARRIERE: Yes, I would say that -- that's true. But when Bipole III comes into service, we're looking at over $300 million in carrying costs and revenue requirement for customers. And that would basically require a 30 percent rate increase.

So it -- it definitely makes strides towards needing that -- that revenue requirement for the first year that Bipole III goes into service, but Manitoba Hydro is sort of covering the rest, and smoothing out the rest over a little longer period of time.

MR. BOB PETERS: Thank you for your point, Ms. Carriere. If -- if $300 million is the additional in-service costs that are going to come to Ms. Bauerlein's Integrated Financial Forecast, and at -- I use the number 15, $16 million per percentage point increase, it would be a 20 percent increase that would be needed to cover that 300 million, would you be happier with my math than yours right now?

MS. LIZ CARRIERE: Okay. Yes.

MR. BOB PETERS: And so of that 20 percent rate increase that's needed, the Board has already set aside 11.11 percent or -- or more related to that?

MS. LIZ CARRIERE: Yes.

MR. BOB PETERS: And as a result of that, Manitoba Hydro's Integrated Financial Forecast looking forward does not contain the $900 million of losses that the Corporation was prepared to sustain in its Integrated Financial Forecast 14, does it?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Well, it -- it certainly helps to -- to offset those losses. And the other thing we -- we have happening in this forecast is, of course, the significantly lower interest rates.

I wouldn't -- I wouldn't have characterized it as, in MH14, that Manitoba Hydro is prepared to accept the -- the $900 million in losses. However, we recognized at the time it was still a little ways out, and we would wait and see how the economics, and interest rates, and so forth, turned out. And as I had said earlier this morning, we benefitted greatly from the interest rates, and I would largely -- that made a significant contribution towards eliminating those losses.

MR. BOB PETERS: Thank you for that. And what you've pointed out to the Board is that there's risks along the way, and some of those risks may be received favourably, some of them would be received negatively, and they would impact those forecasts going forward?

MS. LIZ CARRIERE: Yes, that's true. We've been fair -- we've been very fortunate with interest rates, but there's a number of factors that are going the other way, a downside to Manitoba Hydro since NFAT.

MR. BOB PETERS: In the last few minutes, Ms. Carriere, the last bullet highlighted on the screen, page 258, in front of everyone, is that

Manitoba Hydro, at the time of this information, was assuming even annual rate increases out to get an equity target by the end of 2032, and -- and that was done at the time of the Needs for and Alternatives to review?

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

MR. JAMES MCCALLUM: And I'd just maybe like to draw a point as to where we are today. So the model back then, with 3.95 percent rate increases, and including, as you point out, the construction of Conawapa. And I -- I can't speak to the exact timing of that $10 billion project, but it would've been very far advanced by 21 -- 2031/'32, led to that 25 percent equity ratio in that year.

If you look at a similar point of view now, just to speak to the deterioration, the same 3.95 percent rate path and without the Conawapa project leaves us at a 13 percent equity ratio in 2031/'32.

MR. BOB PETERS: Thank you for your clarification. Turning to page 273, please. We just see at the bottom of the page that in -- and first of all, this -- I shouldn't have been so quick with that. At the top of the page, the title, it relates to customer rates summary.

And this is in the same presentation, Ms. Carriere, that we had -- we'd been talking about, and you were at least on the panel, if these aren't your slides. They're ones that were on the panel when you were before the Board?

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

MR. BOB PETERS: And so when we look at the last bullet point, once in operation, the Preferred Development Plan is anticipated to assist in maintaining affordable and competitive Manitoba Hydro rates, and there is three (3) reasons for that. One (1) is that costs are spread over a long -- a very long period -- a very long time, matching when customers receive the benefits. What is Manitoba Hydro intending to convey by saying that to the Board?

MS. LIZ CARRIERE: Well, just that the capital costs are spread over the life of the assets, and charged to the customers over the full life of that -- those assets.

MR. BOB PETERS: That -- that's a fancy way of saying the depreciation rates take care of that -- those capital costs?

MS. LIZ CARRIERE: That's right.

MR. BOB PETERS: And when you say, A

very long time, matching when customers receive the benefits, the very long time for generating stations, it's measured in centuries as opposed to years, right?

MS. LIZ CARRIERE: Well, a century.

MR. BOB PETERS: Okay.

MS. LIZ CARRIERE: You have to see if it lasts longer than a century.

MR. BOB PETERS: You've got some assets right now -- or Manitoba Hydro has assets right now that are older than a century?

MS. LIZ CARRIERE: I believe there's one (1).

MR. BOB PETERS: Okay.

MR. JAMES MCCALLUM: We -- we have one (1). I -- Mr. Cormie can probably speak to its condition better than I.

MR. BOB PETERS: He wasn't there when it was built, I'm pretty sure, so I'm not going to ask him.

MR. DAVID CORMIE: No, but I had a cottage near it in 1980, and I thought it was going to fall into the water then.

MR. BOB PETERS: And the carrying costs decline over time. That -- that kind of rings -- in this application, Ms. Carriere, that Manitoba

Hydro's carrying costs on these projects won't be declining as quickly as you saw at the NFAT unless Manitoba Hydro has cash on hand that it can pay down and implement its debt management strategy. Have I understood Manitoba Hydro's requests accordingly?

MS. LIZ CARRIERE: That's correct. With the decline in export prices, for that to happen, it would be -- have to -- it would have to be on the back of the ratepayer.

MR. BOB PETERS: And you say, "On the back of the ratepayer." The third bullet talks about exports offsetting the costs passed on to ratepayers. And again, if I've been listening properly, your message to this Board is that those rate -- sorry, those export revenues aren't as robust as previously forecast, and therefore, there is even a greater portion that's falling on the backs of the ratepayers?

MS. LIZ CARRIERE: That's right. As I indicated this morning, since 2008, it was a 50 -- 50 percent reduction in export prices. It'd be somewhat less than that if you're going from 2013 -- '12 or '13.

MR. BOB PETERS: All right. On page 284 -- I'm going to skip over that. We can put it up on the screen, but I believe one (1) of the

Intervenors has already talked to Manitoba Hydro about that, so I don't want to deal with that.

On page 285, on the last bullet point:

"To the extent Manitoba Hydro prudently manages its debt and maintains its self-supporting status, Hydro's capital investment plan should have no significant impact on the Province of Manitoba's credit rating."

I read that correctly, Ms. Carriere?

(BRIEF PAUSE)

MS. LIZ CARRIERE: My finger is getting tired.

MR. BOB PETERS: The end is near.

MS. LIZ CARRIERE: Yes, you're reading that correctly.

MR. BOB PETERS: And -- and Mr. McCallum, maybe if your hand is better rested here, the caution that Manitoba Hydro puts into this rate application is Manitoba Hydro wants to be able to convince its debt rating agencies and its creditors that it's managing its affairs appropriately, and therefore any credit rating issues should be assuaged?

MR. JAMES MCCALLUM: I -- I think I would maybe state it a little differently and -- but -- but importantly so in terms of, you know, as the saying goes, the -- the cart and the horse. The horse here is getting our debt under control, getting our debt under control to manage the risk of our balance sheet to our ratepayers.

The collateral benefit to doing that is we lessen the risk of potential impacts on the Province of Manitoba's credit rating, and which we spoke -- spoke about at length on Monday as just being not part of our deal with the Province, that we're allowed to sort of willfully threaten that credit rating and credit condition, but we care anyway, because we want to do everything we -- we can do.

There's enough in interest rates you can't control. Steps we can take to mitigate pressure on the Provincial credit rating and credit spreads, I think, are important to consider.

MR. BOB PETERS: All right. And the business counsel yesterday asked some questions on it. I won't repeat those.

And Mr. Chair, in light of where I am in my questioning and the hour, I would request that maybe we adjourn for the day, and I'll pick it up tomorrow morning at nine o'clock, reminding parties that tomorrow, we'll also have a 4:30 target completion time.

THE CHAIRPERSON: Thank you, Mr. Peters. Thank you all. We'll see you tomorrow morning at nine o'clock.

--- Upon adjourning at 4:29 p.m.

Certified Correct,

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Cheryl Lavigne, Ms.