MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO

2017/18 and 2018/19

GENERAL RATE APPLICATION

PUBLIC HEARING

Before Board Panel:

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

HELD AT:

Public Utilities Board

400, 330 Portage Avenue

Winnipeg, Manitoba

January 17th, 2018

Pages 5177 to 5477

APPEARANCES

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

LIST OF APPEARANCES (cont'd)

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

TABLE OF CONTENTS

LIST OF EXHIBITS

--- Upon commencing at 9:01 a.m.

THE CHAIRPERSON: Good morning, everyone. Ms. Steinfeld, do want to lay out today's schedule?

MS. DAYNA STEINFELD: Thank you, Mr. Chair. Today we will have evidence from the Consumers Coalition witness Mr. William Harper, followed by cross-examination from Green Action Centre, GSS/GSM/KAP, MIPUG, Manitoba Hydro and Board counsel.

I also wanted to note that tomorrow we have the morning set aside to continue Mr. Harper's cross-examination, if required. Otherwise, we will be commencing at 1:00 p.m. for public presentations. It's scheduled from 1:00 to 4:00 but currently we expect that it will be more like 1:00 to 3:00 but will advise if that changes as we go forward today. Thank you.

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

DR. BYRON WILLIAMS: Yes, perhaps Mr. Harper could to be sworn.

COALITION PANEL 2:

WILLIAM HARPER, Sworn

EXAMINATION-IN-CHIEF BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: Yes and good morning, members of the Panel. Diane, if you could turn to page 108 of Mr. Harper's October 31st evidence; just scroll down on the page a bit more, please, to the bottom. And that is Coalition Exhibit 20.

And Mr. Harper, to this proceeding you bring expertise in regulatory, cost of service and rate design policy and practices?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And you currently work with Eco -- Econalysis Consulting?

MR. WILLIAM HARPER: Yes, I'm an associate with Econalysis Consulting Services.

DR. BYRON WILLIAMS: And you had a life before that, I'll suggest to you, Mr. Harper, involving employment with the Ontario Ministry of Energy for five (5) years and then roughly twenty (20) years with Ontario Hydro.

MR. WILLIAM HARPER: Yes, with Ontario Hydro and its -- and its successor Hydro One.

DR. BYRON WILLIAMS: And while with Ontario Hydro you were involved in the present -- preparation of cost of service studies, as well as the preparation of rates charged to municipal and large industrial customers, sir?

MR. WILLIAM HARPER: Yes, that's correct.

DR. BYRON WILLIAMS: And for many years you testified regularly before the Ontario Energy Board in annual rate proceedings?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And, sir, you came to Econalysis in 2000?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And you have supported clients and testified in regulatory proceedings in Manitoba, British Columbia, Quebec, Saskatchewan and Ontario, sir?

MR. WILLIAM HARPER: Yes, I've supported clients in all those jurisdictions. I haven't actually testified in all of them but I've supported clients in all of those, yes.

DR. BYRON WILLIAMS: And the one you've not testified in is Saskatchewan?

MR. WILLIAM HARPER: Saskatchewan. I prepared evidence for BC, but it -- it was accepted without testimony.

DR. BYRON WILLIAMS: Okay. And, sir,

in terms of your Ontario work or in terms of all -- those client engagements since 2000, they've involved a capital project approval, long-term planning, cost of service and rate design matters?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And in terms of Ontario, you were involved in working groups on the low income energy assistance, emergency assistance program?

MR. WILLIAM HARPER: Yes, that was their low energy assistance program; that's the equivalent of the Neighbours Helping Neighbours program here.

DR. BYRON WILLIAMS: And you were also involved over the last couple of years off and on in terms of the working group related to the Ontario Electricity Support Program?

MR. WILLIAM HARPER: Yes, that's correct.

DR. BYRON WILLIAMS: Okay. And you've testified in regulatory proceedings before the Manitoba Public Utilities Board dating back to 2002?

MR. WILLIAM HARPER: Yes, that's correct.

DR. BYRON WILLIAMS: And without going

into all of them, you've been a regular witness before this Pub -- this Board?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: Mr. Harper, you were responsible for the preparation of an expert report on October 31st, which is marked as Consumer Coalition Exhibit Number 20?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And to the best of your knowledge, is that information accurate?

MR. WILLIAM HARPER: Yes, actually, there's about three (3) -- actually typographical errors in it. I would like to correct at this point having reviewed it over the last -- again, over the last few days. If I could just make quick note of those.

The first is on page 33. There's a chart there and on the far right-hand side, the fifth line down, it says 3.95 and it starts in 2017. It should have been 2018. Obviously, this financial forecast incorporated the interim approval.

And then if we go to page 49, under section 4.4.4 on the second line, the twenty (20) years there should be thirty (30) years.

And, similarly, if we go over to the

top of the next page, page 50, on the third line the twenty (20) years -- the -- the twenty (20) years should be thirty (30) years. But -- but -- but with those corrections I believe the evidence to be correct.

DR. BYRON WILLIAMS: Okay or accurate, at least --

MR. WILLIAM HARPER: Accurate --

DR. BYRON WILLIAMS: -- to the best of your knowledge and ability?

MR. WILLIAM HARPER: -- to the best of my knowledge, that's right.

DR. BYRON WILLIAMS: And, sir, you were also responsible for the preparation of Information Responses to the Green Action Centre to MIPUG, to Manitoba Hydro and to the Public Utilities Board?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And to the best of your knowledge and ability that -- or that information is accurate, to the best of your knowledge and ability?

MR. WILLIAM HARPER: Yes, it was.

DR. BYRON WILLIAMS: Perhaps if we could call up Mr. Harper's PowerPoint for today and we suggest to the Board that it be marked as Consumer Coalition Exhibit 46.

And then Mr. Harper walk through it. Again, we would invite the Board if they have any questions, and I may interrupt from time to time as well.

--- EXHIBIT NO. CC-46: Mr. Harper's PowerPoint presentation.

THE CHAIRPERSON: Dr. Williams, we have it marked down as an hour and a half for the presentation, is that what the anticipated time is?

DR. BYRON WILLIAMS: Perhaps even a bit shorter, sir, somewhere -- I fully anticipate that if a break, if you're thinking of a break, at about 10:30.

THE CHAIRPERSON: Well, actually, what I'm thinking of is -- I'm just looking at the overall schedule. If we can finish it today, I think the preference would be to finish it today rather than have to bring Mr. Harper back for a short time tomorrow morning and -- and sort of open up the day for every -- everybody.

DR. BYRON WILLIAMS: I believe we

would be right on schedule with our original estimate or if not, a bit shorter.

THE CHAIRPERSON: Thank you.

MR. WILLIAM HARPER: Good -- good morning, Panel. Before I start the presentation, I'd like to note that for me, appearing before the Manitoba Utilities Board has become synonymous with good news events. For those of you who were involved in the cost of service proceeding will recall that I appeared here just before my son's wedding and, actually, when I finish here now I fly to Edmonton to see my granddaughter who was born three (3) weeks ago, so I look forward to the next time I have to come and see what joyous news accompanies that particular appearance as well.

So on that positive note, I'd like to start the presentation. If we could move to slide 2. Thank you. Here I've outlined the four (4) topics that I addressed in my evidence. The first topic is Manitoba Hydro's overall financial outlook, and specifically the claim by Manitoba Hydro that this outlook has deteriorated significantly since the last GRA or General Rate Application.

The second topic is regulatory assets where I'll speak generally to the role they have in ratesetting for regulated utilities and then more specifically, to the endorsements Manitoba Hydro is seeking with respect to the treatment of new regulatory accounts that have been established leading up to this GRA.

The third area addressed is cost of service. Here my evidence reviews Manitoba Hydro's implementation of the cost of service methodology flowing from Board Order 164/16. And then also looks at the role of cost of service study results in the current General Rate Application proceedings.

Finally, my evidence looks at issues related to residential rate design, including conservation rates, Manitoba Hydro's filing regarding alternative rate designs for electric heat customers and alternatives put forward regarding low income customers.

Could we have slide 3, please. As I indicated, one (1) of the objectives of my evidence was to assess the claim by Manitoba Hydro in its main application that its financial outlook had deteriorated significantly since the last General Rate Application.

The evidence starts by looking at the actual performance per Manitoba Hydro's most recent

March 2017 annual report and comparing the results with those forecasts at the time of the last General Rate Application and the more recent 2016/2017 interim rate application.

Then, since the current application was based on Manitoba Hydro's 2016 integrated financial forecast or IFF16, this forecast altered to reflect the rate increase assumptions set out in the previous GRA -- GRAs which was effectively the 3.95 percent for a number of years, followed by 2 percent per annum thereafter was the main focus of the analysis.

However, the evidence did also look at implications of the updates that were subsequently provided prior to the evidence being prepared and I will also be speaking a little bit later to the further updates that were provided in Manitoba Hydro's rebuttal evidence.

Since the objective was to look at the claim regarding the change in financial outlook made by Manitoba Hydro, no judgments were made in the evidence as to whether the underlying assumptions in the current forecasts were reasonable; whether the proposed expenditures were prudent and necessary; or whether the accounting treatment for the regulatory assets was appropriate. Rather, the assessment relied on Manitoba Hydro's forecast as they were presented.

Go to slide 4. Similarly, the assessment relied generally on Manitoba Hydro's financial metrics and how they changed and -- and looked at how they changed in order to gauge whether there had been a significant deterioration in the outlook.

The only exception to this was with respect to capital coverage. Here, in recognition of the concerns by Manitoba Hydro regarding the inadequacy of its current capital coverage metric, the evidence used a broader definition of capital coverage, which considered the difference between total cash available from operations and total capital expenditures. This measure is very similar to the one used by KPMG in its May 2015 report on financial targets, which is appendix 4.1 of the application.

I chose this broader metric primarily because, one, it seemed to be a more comprehensive way of looking at capital coverage and, two, and for my purposes, probably most important, the data to calculate the measure was readily available from all of Manitoba Hydro's integrated financial forecast, without me having -- having to do any detailed calculations myself.

Finally, I should emphasize that the exercise did not focus on what the actual values were, but whether -- and whether they were appropriate, but rather whether the values had changed from those in previous financial forecasts such that one could conclude there was a significant deterioration in financial outlook.

I will acknowledge that defining what represents a deterioration in financial outlook, let alone a significant deterioration in financial outlook is really a matter of judgment.

I approached the question by comparing the values of these various metrics as derived from Manitoba Hydro's previous financial forecasts and compared them with the values for IFF16 if it was adjusted to incorporate the rate plans for -- from -- from the previous forecasts, and then compare -- and then compared the metrics of the two (2).

If either, one, the forecast for all three (3) metrics continued to be aligned with the previous forecasts or, two, the results were balanced, such that one metric was perhaps higher, but another was lower, but -- but on balance it evened out, then I concluded there was no fundamental change in the financial outlook.

It was only if one or more of the metrics was lower than in the previous forecasts and there was no countervailing balancing results on the upside, that I concl -- that I concluded one -- one could see there had been a deterioration in the financial outlook.

I looked then at whether -- I looked then at whether a materially different rate plan would be required, or whether the results could be brought on side by a simple tweaking of the previous rate -- rate plans.

Could we have the next slide, please.

DR. BYRON WILLIAMS: And, Mr. Harper, just to remind us, when you speaking of the "previous rate plans," you're looking at increases in -- at or around 3.95 percent?

MR. WILLIAM HARPER: Yes. And actually if you turn to the next slide, that's precisely what's out -- outlined here is -- what's summarized here are some of the key financial results from those previous -- from those previous financial forecasts, including the NFAT plan that most closely reflects the Board's final NFAT decision. IFF14 which underpinned the last GRA and IFF15, which was the basis for Manitoba Hydro's application for interim rates for August 2016.

And as you'll notice then as Dr. Williams asked me, these rate plans generally consisted of a -- annual increases of 3.95 percent through to somewhere just before or just after 20 -- 2030.

Each -- each of the rate plans also envision the debt ratio increasing to about 90 percent and not reaching the target 75 percent until roughly two (2) to four (4) years after 2030.

And finally, each of the rate plans envisioned that there would be material shortfalls in capital coverage in the early years, but over the entire period the shortfalls would be closer to, if not, a breakeven point.

Using this particular approach, I then looked at three (3) specific time periods. The first being the test years, which are the focus of this General Rate Application, namely, fiscal 2018 and fiscal '19.

Second, I looked at the ten (10) year period to 2027, which -- which is the period that Manitoba Hydro flagged as being critical.

And then third, I looked at the longer term period out to 2034, which have been covered by the previous rate plans.

In each case I looked at changes from as -- as we just noted, the -- the previous IFFs that's IFF14 and IFF15 in terms of how these -- because these were the forecasts that underpinned the previous GRAs that the Board had dealt with.

If you could turn to slide 6. As I noted before getting into the forecasts, the evidence did -- looked at the actual results to date, i.e., what -- what was the situation as of March 31st, 2017 and compared those with the forecasts that had been made in the -- in the most recent rate cases. And a summary of the results is presented here.

As you can see, while the revenues and expenses are both lower than forecast, the resulting net income over the three (3) years is -- is in line with those forecasts. In terms of the specific financial metrics, while the interest coverage is slightly off, i.e., it's less, the actual cover -- capital coverage is more favourable than forecast.

Finally, in terms of the debt ratio which Manitoba Hydro has indicated early in this proceeding it views as the best indicator of whether it's making progress on rate adequacy, the actual value as of March 31st, 2017, is -- is the same as what was forecast during the last General Rate Application.

DR. BYRON WILLIAMS: And Mr. Harper, just to make sure, when you speak of interest coverage on this page, you're -- you're referring to the line that addresses earnings before interest, taxes, depreciation and amortization?

MR. WILLIAM HARPER: Yes, that's Manitoba Hydro's re -- revised interest coverage metric that -- that they're currently proposing to use.

DR. BYRON WILLIAMS: Thank you.

MR. WILLIAM HARPER: Overall, the actual financial results to date generally fall in line with previous forecasts and don't show any material change.

The evidence notes that while there were changes between the forecasts and actual results for a number of the line items in the income statement, many of these were due to changes in how the various costs and revenues were being -- were being reported. Putting aside these reporting changes, the key changes between the previous forecasts and the actual results were, one, lower actual domestic revenues due to lower rates and lower domestic loads; higher actual financial expense due to higher exchange rates and slower capital spending; lower actual operating and administrative costs due to Manitoba Hydro's cost reduction initiatives; lower actual in-service assets due to spending delays and act -- actually lower than forecast costs for some of the assets that were brought in service.

And it's also noted that while the actual export prices were less than forecast during this period, these lower export prices were actually offset by a higher export revenues and higher exchange rates such that -- such that, in total, they netted out to come out to roughly what -- what the forecast values had been.

Slide 7, please. In Manitoba Hydro Exhibit 64, which was the presentation that the first panel made to -- first Manitoba Hydro panel made -- made during their appearance here, at slide 74 Manitoba Hydro claims that this comparison isn't appropriate and needs to be normalized for the fact that the capitalization rate is greater than the borrowing rate; that higher water flows occurred during the period and that there were re -- restructuring costs that occurred during the period.

I don't agree, actually. The interest

capitalization rate has always differed from -- from -- from the current -- current borrowing rate and Manitoba Hydro's indicated that it has no intention to change this policy. This is nothing new and Manitoba has -- Manitoba Hydro hasn't raised this issue in previous comparisons we've seen in previous hearings and I see no reason why a special case should be made now.

In -- in terms of the water flows, a similar issue exists. In the past, Manitoba Hydro hasn't adjusted its actual results for average water flows when speaking to the need for -- for rate increases. This is a -- this is evidenced by the case we saw in 2004/2005 when they came through at the time of the drought. The impacts of the drought were specifically one of the sources of the need for a rate increase.

But most importantly, though, throughout this proceeding Manitoba Hydro has indicated that the rate plan which is set out in its current integrated financial forecast is subject to update and change and revision as they go forward in time, and actual events occur, and perhaps occur something different than -- than what was in the rate plan.

And it seems to me looking at the actual results as they actually occurred and then comparing those with forecasts is fully consistent with what Manitoba Hydro plans to do in the future as it moves forward and revise its rate plan to reflect current circumstances.

DR. BYRON WILLIAMS: Mr. Harper, before you leave this slide, I think you referenced saying that you were responding to Hydro's slide 74. Did you mean to say slide 44?

MR. WILLIAM HARPER: Yes, I'm sorry, that -- that's what's on the presentation here.

DR. BYRON WILLIAMS: And when you referred to Manitoba Hydro Exhibit 64, that was the revenue requirement panel --

MR. WILLIAM HARPER: No, I believe --

DR. BYRON WILLIAMS: -- policy panel --

MR. WILLIAM HARPER: I believe -- it was the policy panel. It was the very first -- first panel that appeared before the Board here.

DR. BYRON WILLIAMS: Thank you.

MR. WILLIAM HARPER: Going to slide 8. As we indicated, the first forecast time period that the evidence looked at was the two (2) test years, 2017/'18 and 2018/'19. Using the 2016 integrated financial forecast, but adjusted for the rate plan from their previous financial forecasts, both revenues and expenses are less than in the previous forecast but the overall two (2) year net income is -- is -- is higher than in either of the previous forecasts.

This time the interest coverage is higher for this period, while the capital coverage is less than forecast. However, again, the debt ratio continues to be in line with the previous forecasts.

Based on these results, I concluded there was no material change in the financial outlook for the test year period relative to what had been forecast in the previous GRA or in the previous interim rate proceeding.

Again, in terms of the changes in the individual income statement items, some of were -- some of them were, again, driven by changes in reporting, however, there were some key changes in the underlying drivers. On the revenue side, these included reduced revenues; on the domestic side, primarily due to reduce low -- domestic loads; reduced export revenues due to lower -- lower than forecast export prices, which were only this time, partially offset by higher volumes in exchange rates.

And on the cost side these reductions in revenue were offset by lower operating and maintenance costs, again, as a result of Manitoba Hydro's continued efforts at cost reduction.

Lower financial expense due to lower interest rates and a shift -- a shift to shorter borrowing. And the deferral of ineligible overheads and depreciation differences which ended up impacting net income.

Also impacting the capital coverage and debt ratio was a higher capital spending primarily in the areas of Keeyask, Bipole III and the Minnesota/Manitoba transmission line.

Go to slide 9. Looking at the ten (10) year period out to 2016/2017, the overall results are, again, somewhat different. Excuse me, some -- the same, actually, I apologize. Compared to the previous forecasts both revenues and expenses continue to be down but the overall results in terms of net income are higher.

In terms of the financial metrics, the forecast interest -- interest coverage has had -- has continued as -- has continued to be improved over the forecast. The capital coverage continues to be a little bit off and the debt ratio continues to be in line with the previous forecasts.

Based on these results I, again, concluded there was no material change in the financial outlook relative to the previous forecasts and for this period, the key -- the key -- key drivers again were virtually the same as what we'd seen in the previous cases.

If we can go to slide 10. Finally, I looked at the period through to 2033/2034 at which time the previous financial forecasts were all forecasting the Corporation had achieved its 75 percent debt ratio target. Again, the same drivers in terms of lower domestic volumes, lower export prices and higher capital costs were offset by lower operating and maintenance expenses, lower interest rates, delays in the Keeyask in-service date, and -- and deferred -- and the deferral of some expenses, which led to the results, again, being similar to what we saw in the previous periods such that net income is in line with the previous projections, interest coverage is more favourable, capital coverage has deteriorated but, again, the debt ratio continues to be in line with the previous forecast.

DR. BYRON WILLIAMS: Mr. Harper, just before you leave this page, in essence, I'll suggest to you what you've been doing in -- inn this section is comparing the integrated financial forecast for 2014 versus 2015 versus the forecast on which the 7.9 percent rate application was initially brought, but assuming that -- that rates only increase by 3.95 percent versus 7.9.

Is that what you've been doing?

MR. WILLIAM HARPER: Right. That's actually what I've been doing in each of these cases and seeing whether if you continued with the previous rate plan which had been rate increases of 3.95 percent for the initial period and then moving down to 2 percent per annum, how -- how the financial outlook would change in terms of these financial metrics I've talked about relative to the previous plans.

And in all three (3) periods look -- looking at those metrics, on balance, I -- I don't see a material -- I don't seem material deterioration. Some are; some are down. But an average as -- as you look at it, the debt/equity ratio which is the indicator Manitoba Hydro has ind -- has indicated is the one that best indicates the adequacy of -- of their rates is in line. It's between -- it's within the range of those previous forecasts in all three (3) periods.

And effectively I think what I've just done is sum -- summarize slide 11, if -- if we flip to that. Yes, I think that's effectively what I've done is summarize that.

So we want to move to slide 12. The evidence also looked at the Mani -- Manitoba Hydro update with interim, which incorporate -- with the interim rate increase, which incorporated revised forecasts for Manitoba Hydro's load, export prices and various economic indicators. And as I indicated it -- it also incorporated the 3.36 percent that the Board approved effective August 1st, 2017.

These revised forecasts called for even lower levels of domestic sales over the forecast period. And in terms of exports, the -- the revenues are higher in the near term due to improved hydraulic conditions, but lower in the long-term and export revenues are actually lower overall due to -- due to what's now a lower export price forecast.

Finally, another major change in the area was at the financial expense in the updated forecast included higher forecasted interest rates. Assuming rate increases similar to those in -- in the previous integrated financial forecast for 2015 for the balance -- the balance of the projection period results in interest coverage ratios that are still favourable relative to the earlier forecasts, but a further deterioration in the cap -- capital coverage results relative to those previous forecasts.

However, with this more recent financial forecast, the debt ratio does not achieve the 75 percent target until 2036; later than the previous financial forecasts. So with -- with that context, I'd like to move to slide 13.

As a result, and with that change in the financial metrics, my evidence concluded that this updated outlook does represent a deterioration in the financial outlook; as both the timing for the achievement of the debt ratio of 75 percent and the capital coverage are out of line with the previous forecasts.

But however, the evidence also notes that extending the 3.95 percent increases to 2033/'34 allows for the achievement of a 75 percent debt ratio just one (1) year later than the previous plans had, i.e., 2034/2035. As a result, while there's been some deterioration, I do not see it as being -- being significant, but rather one that could be managed by adjusting the existing rate plan a small amount.

DR. BYRON WILLIAMS: And, Mr. Harper,

perhaps I could ask to go back to slide 20 -- 12, just for a second.

On the up -- on the top on the right side you see the IF16 Update with the 3.36 interim. And you see there that it's indicated that after 2030 2 percent rate increases?

MR. WILLIAM HARPER: Yes, that's correct.

DR. BYRON WILLIAMS: And what you're saying is if you increase that to 3.95 percent that leads to your conclusion --

MR. WILLIAM HARPER: Yes, if you increase that to 3.95 percent through to 2033/'34 that -- that allows you to achieve the 75 percent debt target. And, indeed, that's only two (2) more years of the 3.95 percent than what the IFF14 called for, which was the underpinning of the last General Rate Application.

DR. BYRON WILLIAMS: And Mr. Harper, before we go on, I just wonder if we can go back to slide 5 for just one second.

In slide 5, at the top left is what you presented as the plan out of the NFAT that best represented where we've gone since then with Keeyask, the Manitoba/Minnesota transmission line and the --

and the Minnesota sale?

MR. WILLIAM HARPER: Right. I think -- I don't think there was any of the plans that precisely matched what -- what you would interpret as being the Board's NFAT decision but this was the one that closely -- most closely matched it.

DR. BYRON WILLIAMS: And what it contemplated with -- was rate increases in the -- somewhere between 3.74 and 3.95 out to 2032?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: Okay. I hope I didn't throw you off too much, Mr. Harper.

MR. WILLIAM HARPER: No, your questions always provide clarification. Thank you, Dr. Williams.

If we can maybe go back to slide 14. The next slide summarizes the key drivers that I have identified in comparing the various forecasts and they are: The domestic load forecast and, in particular, the load forecast for the top consumers; the export price forecast, particularly, that after the -- after the Keeyask in-service date; interest rates; the planned operating administration cost reductions; and capital spending.

As I noted at the start of my

presentation, for purposes of my evidence, I accepted Manitoba Hydro's financial forecast and underlying assumptions as a given. However, clearly in assessing the reasonableness of Manitoba Hydro's current financial forecast, these are areas that will warrant, in my view, the most scrutiny -- most scrutiny going forward. And I guess for -- fortuitously or -- or probably by design, in many of these areas, these are areas where the Board has -- has actually contracted with independent experts to -- to provide them further advice on the -- on the forecast and I focus specifically on the domestic load forecast and export prices as -- as examples of that.

If we can go to slide 15. In its rebuttal evidence, Manitoba Hydro claims that any comparisons of IFF15 and IFF16 need to be adjusted for the Keeyask in-service date delay and more recent updates. Again, I don't agree that such adjustments are necessary or appropriate. The 2016 integrated financial forecast includes a number of updates and -- and revisions based -- based on the best information that is available, as well as a number of policy changes regarding matters such as the use of average versus median water flows in the second year, or the elimination of the capacity value for uncommitted exports from surplus dependable generation.

I see no reason to isolate just the change in forecast assumptions for Keeyask for any special treatment. However, more importantly, I see no need to isolate and adjust for any of these changes, as conclusions regarding a change in the financial outlook should reflect the actual conditions in the best forecast for the future. As I already noted, such an approach is consistent with the way Mani -- with the way Manitoba Hydro intends to approach its -- its financial outlook going forward, revising it as necessary to reflect actual conditions and new conditions as they -- as they change.

Finally, in its rebuttal evidence, Manitoba Hydro notes that the comparison between the two (2) financial forecasts should also be adjusted for the $78 million that arises from the most recent update they've done for 2017/'18 and 2018/'19.

My problem with this adjustment is that only updates two (2) years -- the two (2) years results for anticipated changes in the net export revenue due to lower export prices and lower water conditions. There are a myriad of other factors that could be considered if the intent was to provide a more recent update, so I don't see this adjustment as being particularly useful or informative.

Can you go over to slide 16, please. In its rebuttal evidence, Manitoba Hydro also indicates that the assumed twelve (12) year weighted average term to maturity or WATM, for want of -- want of an expression, used in IFF16 for new debt, would not be an acceptable management strategy if the allowed rate increases were only 3.95 percent for the next ten (10) years or so, and that in such a case, use of the previous ten (10) year weighted average term for maturity would be more appropriate.

Appendix 1.3 of the rebuttal --

DR. BYRON WILLIAMS: Mr. Harper --

MR. WILLIAM HARPER: Yes?

DR. BYRON WILLIAMS: -- can I just stop -- you said the ten (10) -- the previous ten (10) year weighted average term. Did you mean to say the previous twenty (20) year?

MR. WILLIAM HARPER: Yes, I'm sorry, I meant twenty (20) year. I got the twenty (20) years of the term mixed up with the ten (10) years of the rate forecast. I apologize.

Appendix 1.3 of the rebuttal produced a -- a version of IFF that would -- of the IFF16 that -- that was updated to reflect this twenty (20) year term based on the rate plan from the previous forecasts. A comparison of these results with the previous forecast produced in the previous GRAs is set on -- on this slide. As you can see, the debt ratio rises to the upper end of the range of the previous forecast, but does not achieve the 75 percent target until 2030 -- until -- until after 2036. Similarly, the interest coverage has declined, but is still in line with previous forecasts, but the capital coverage experiences an even further -- further decline relative to what we've seen before.

If you go to slide 17. In my view, the foregoing indicates that -- that adjusting to the twenty (20) year weighted average term for new debt would result in a further deterioration in the financial outlook with both the capital coverage measure and the debt ratio now being out of line with the previous forecast.

However, I'd note that to achieve the 75 percent debt ratio by 2033/'34 would require only a modest increase in the annual rate adjustment over the period to 4.34 percent per annum. Based -- based on this, the proposed 7.9 percent change pro -- proposed by Manitoba Hydro is -- does not seem to be warranted.

If we go to the next slide, I don't

want to expect -- spend much time on this, but I just wanted to highlight in this slide what the debt ratio results would be if you used the 4.34 percent annual increase through to 2033/'34. And as you can see -- see from the green line there, the pro -- the -- the profile is rea -- reasonably within the range of the previous financial forecasts.

If we go to slide 19, please. I'd like to now turn to the second issue addressed in my evidence, which is the regulatory accounts. First off, it should be noted that the use of regulatory accounts is a common practice by regulated utilities, and it serves a number of useful purposes. These purposes include promoting intergenerational equity by allowing costs to be deferred and amortized so as to better match the timing of when the costs will be paid by customers and when benefits will be received by customers. They also address forecast uncertainty such as neither the Utility, nor -- nor customers are -- are unfairly burdened with the associated risk. They're used to smooth rate increases. They're used to permit the recovery and refund of costs and revenues arising from unforeseen events. And finally, they're often used to offset accounting provisions.

However, as the footnote point -- on

the slide points out, some of these purposes are more applicable to utilities under rate of return regulation or incentive regulation than they are to Manitoba Hydro with its cost of service regulation. And more -- and -- and in specifically that -- that would apply to the issues around addressing forecast uncertainty and the -- the recovery of -- of unforeseen events.

Go to slide 20. This next slide sets out the regulatory accounts that were included in the previous General Rate Applications and their treatment. I should note that under the purpose designation for each account is based on my understanding of the role of the account as opposed to any specific determination that's been made by this Board. As I note in the last column, I believe the current treatment for these accounts is -- is reasonable in all cases.

DR. BYRON WILLIAMS: Mr. Harper, before you leave this slide, in essence, you're looking at on the left-hand side, the different accounts for which there are deferral accounts. When you -- the second is you interpret the purpose.

The third column is the proposed treatment by Manitoba Hydro?

MR. WILLIAM HARPER: Actually, this is the treatment that currently exists and the way they're currently treated in Manitoba Hydro's financial statements.

DR. BYRON WILLIAMS: And then you offer your commentary in the fourth column?

MR. WILLIAM HARPER: Right.

DR. BYRON WILLIAMS: Okay. Thank you.

MR. WILLIAM HARPER: Can we move to slide 21. Here, I've set out the regulatory accounts that are effectively new for this General Rate Application. All of them except for Conawapa appear in Manitoba Hydro's 2016/'17 financial statements. However, they do so with the footnote that the amortization periods will be determined by the PUB as part of the future regulatory proceeding, which is where we are today.

Again in each case, on the second column, I've set out on the slide my understanding as to the -- the purpose of the account, then Manitoba Hydro's proposed treatment, and then my particular view of that treatment. And I'll speak to each -- each for those in turn.

In the case of a loss on disposal of assets, this account arises as a result of Manitoba

Hydro's transition to international financial reporting standards, or IFRS. The regulatory account defers the costs consistent with the pre -- previous accounting practice and the proposed amortization period is reasonable, in my mind, as it approximate -- approximates what would have happened under the pre -- previous accounting practice.

In the case of ineligible overheads, Order 73/'15 directed the deferral of these costs. It is not immediately clear from the Board's Order whether this was based on considerations or rate smoothing, intergenerational equity, or a combination of the two (2).

In any event, subsequent communication from the Board directed that the deferred costs be amortized over thirty (30) years, and it's charged through other comprehensive income. In contrast, Manitoba Hydro is proposing to amortize the costs over twenty (20) years and charge them through net income. Manitoba Hydro is also proposing to cease the deferral of these costs after 20 -- 2022/'23.

In my view, Manitoba Hydro's proposal to amortize the deferred costs by net income is reasonable, as this mirrors what would have occurred if these costs were capitalized and -- and subsequently depreciated. However, if the costs were capitalized, they would have been amortized over the life -- over the lives of the various future assets as they came into service, and on average, these lives are considerably longer than twenty (20) years, or even the thirty (30) years directed by the Board. This -- this would suggest that the thirty (30) year amortization directed by the Board is more reasonable, and indeed, the -- the Board may want to consider even a -- a somewhat longer period.

In addition, the communication from the PUB makes no reference to ceasing the deferral of these costs. And indeed, if the Board's view is that for rate-setting purposes, the level overhead to be capitalized should include this 20 million, there is no reason to -- to cease the deferral after 2022/'23.

Excuse me for a moment.

DR. BYRON WILLIAMS: Mr. Harper, just in the -- in terms of the 20 million, is that a annual cost, or a total cost?

MR. WILLIAM HARPER: Well, that -- the -- what I -- what I have attempted to show in brackets under each to give a size of context is that's the forecast annual additions to -- to the -- to the account for 2018/'19 for each of these accounts. And there is no forecast for loss on disposal of assets, because that is something that actually happens when the -- when the assets are disposed of, and we'll know of -- as of the end of that year, but for the other three (3), there -- there are forecasts provided in -- in Manitoba Hydro's materials.

Now, we'll -- when we get to it, we'll note that the amortization for Conawapa doesn't start until 2019/'20, and that -- that's the point in time at which the 380 million is actually placed into a regulatory asset account.

In the -- if we move -- if we move back up to the depreciation differences, the PUB also directed in the same Order 73/'15 that Manitoba Hydro continue to use the current average service life, or ASL, depreciation method for rate-setting purposes until the Company had provided more information regarding IFRS-compliant ASL depreciation rates, and -- and also provided information on the impact on its integrated financial forecast of using ASL-based depreciation rates versus the Equal Life or ELG-based dep -- based depreciation rates.

The need for the regulatory account arises from the fact that Manitoba Hydro uses the Equal Life Group for -- methodology for -- for financial reporting, but per the Board's direction, uses the average service life for -- for regulatory purposes.

Following Order 73/'15, the Board directed that these deferred costs also be amortized over thirty (30) years and charged through other comprehensive income. In contrast, Manitoba Hydro is proposing to amortize the cost over twenty (20) years and charge them through net -- net income. Manitoba Hydro is also proposing to cease the deferral of these costs after 2022/'23.

As I noted in my evidence, both depreciation methods will fully recover the cost over the life of the assets. As a result, from a benefit-matching perspective, there is no need to amortize the balance in the account. However, if one was to choose to amortize the balance in the account, a period that would be most appropriate would be one that matched the remaining service life of the existing assets, which is roughly thirty-four (34) years. So in this case, the thirty (30) years directed by the Board would be much more appropriate than the twenty (20) years Manitoba Hydro has proposed.

The Board's directive also called for Manitoba Hydro to return with the necessary information to permit it to make a determination as to which depreciation -- while -- methodology should be used for rate -- rate setting. Assuming Manitoba Hydro intends to comply with the directive in a timely fashion, there is no need, in my view, to either, 1) amortize the current balance, or -- or establish a date after which the cost differences between the two (2) will no longer be deferred. These matters can better be addressed by the Board after it has determined what is the appropriate depreciation methodology for rate-setting purposes.

Indeed, I see some parallels between this account and the proposed treatment for the DSM deferral account, where Manitoba Hydro is proposing that there be no amortization of the balance until Efficiency Manitoba has been established and it's clear what actions are required to clear -- to clear the account.

The final deferral account that the Board is being asked -- excuse me, regulatory account that the Board is being asked to address in this proceeding is the one dealing with the 380 million sunk -- dollars of sunk costs related to Conawapa. In this case, the purpose of the regular account is for rate smoothing, and the choice of the deferral period is a matter of judgment.

In my view, the proposed thirty (30) year period put forward by Manitoba Hydro is reasonable, given the size of the dollars involved. Also, while the purpose of the account is rate smoothing, it's worthwhile noting that the write-off that's triggered by the PUB's NFAT decision regarding the most appropriate way to meet Manitoba Hydro's long-term energy needs. Considered in this context, the write-off can be viewed as part of the cost of implementing the Board's decision, which would suggest amortization of the costs over a -- over the long-term planning period which had been considered.

If we can move to slide 22 please.

THE VICE-CHAIRPERSON: Excuse me, Mr. Harper. Just before you move, the two (2) areas where you thought that the -- the proposed treatment and your recommendation were different, did you consider what impact those two (2) might have on rates for the rate that you recommended, for example, of the 4.34 percent?

MR. WILLIAM HARPER: Well, actually, one (1) -- in -- in my evidence, I wasn't particularly noting the four (4) -- recommending the 4.34 -- 4 percent. I was noting that even with the most recent updates, the 4.34 percent would -- would bring -- was bringing us back in line with the previous plans in terms of when we're achieving the debt/equity ratio.

Having -- within that context, given that context, I -- I didn't specifically look at the impact, but my anticipation would be that with longer amortization periods, and with continuing the deferral, what -- what you would see is the -- what you would see is more favourable net income results over the period, but you would see a growth in the regulatory asset accounts, which is probably a very useful segue into my next slide, so thank you very much for that question.

THE VICE-CHAIRPERSON: Thank you for your clarification on the 4.34 percent.

DR. BYRON WILLIAMS: And -- and just to go back to that point, and we thank the Board member for that question, Mr. Harper, just to reiterate, you -- you noted that your analysis on what has changed was based on no -- no judgment.

So in effect, you were assuming Hydro's forecasts were reasonable, and you were assuming that their operations were prudent without testing those propositions?

MR. WILLIAM HARPER: Yes, and that's

why there was the one (1) slide in the evidence noting what I'd flagged as -- what I saw as being the key factors that were changing the forecast, because I thought that was maybe useful information to share in terms of what were the key factors that one might want to look at when one was testing the reasonableness of the current financial forecast Manitoba Hydro has put -- has put before the Board.

DR. BYRON WILLIAMS: And that would be slide 14. We don't need to go back there, but --

MR. WILLIAM HARPER: That's -- that's correct. Okay. Could -- if we could move to slide 22, and I just -- as I said, the -- the question just asked was a very good segue into this particular slide.

One (1) of -- one (1) of the reasons for Manitoba Hydro's proposals for shorter amortization periods and ceasing the deferral of certain accounts after 2022/'23 as to -- appear -- appears to be a concern about the growth in regulatory asset balances and the potential this creates for intergenerational equity. In support of these concerns, Manitoba Hydro has referenced the -- the BC auditor general's 2011 report on BC Hydro's regulatory accounting, and the specific citation of that as referenced is shown on the left-hand side of the slide.

In my evidence, I question the relevancy of the BC auditor's report to Manitoba Hydro's situation. First, as the table on the right-hand side of the slide indicates, there is a material difference between the balance in Manitoba Hydro's regulatory asset accounts and the balance in BC Hydro's accounts. Indeed, as a percentage of total assets, the net balance in Manitoba Hydro's 2017 regulatory accounts was -- was one-eighth (1/8) of that of BC Hydro's when you look at on -- on -- when you look at on a -- percentage terms in terms of, out of the total assets of the Corporation, how much of that is made up by regulatory assets? For BC Hydro, it's 17.6 percent, and for Manitoba Hydro, it's only 2.2 percent.

Furthermore, the bottom row indicates even if Manitoba Hydro were to follow the directions of the Board and continue to defer and amortize ineligible overheads and depreciation differences for the next twenty (20) years, the level of regulatory asset accounts would only represent 5.3 percent of total assets, which is roughly still only less than one third (1/3) of the BC Hydro's current -- current percentage. Clearly, Manitoba Hydro's regulatory asset balances are nowhere near the levels that triggered the BC auditor's -- concerns.

Go to the next slide, please. The -- this next slide also identifies some of the spec -- specific issues raised by the BC auditor's report, and reflects on their relevancy to Manitoba Hydro. One (1) of the auditor's concerns was the protracted period for the recovery of cost variance accounts and the implication this has for intergenerational equity. Now, cost variance accounts track differences between forecast and actual accounts for items such as fuel, and interest, with a view that these forecasts, whether they be plus or minus, will be recovered or refunded from customers over a short period of time.

However, if you'll -- however, Manitoba Hydro makes only very limited use of cost variance accounts. Indeed, the only one that's currently on Manitoba Hydro's books is the DSM deferral account where the customers are actually owed money as opposed to the Corporation.

A second concern of the auditor was the fact that BC Hydro's regulatory accounts attract in -- interest, and what this does is -- is it leads to an actual -- an increase in the reported net -- net income, because it removes interest from the financial statements. However, in Manitoba Hydro's case, the only regulatory account that attracts interest is the Affordable Energy Fund, and the balance of that is almost nearly fully retired now.

The BC auditor also expressed concern that the level of annual recovery for BC Hydro's regulatory accounts was less than the interest being accrued on the accounts. Clearly, this is like not paying off the interest on your cred -- credit card every -- every month. This is a situation again that clearly does -- does not -- does not apply to Manitoba Hydro, when interest is only being applied to the AEF account, and the balance is so small right now.

If we move on to slide 24. The third area addressed in my evidence is Manitoba Hydro's cost of service study and the implementation of the Board's directives regarding the cost of service methodology as it was set out in Order 164/'16. However, before getting into the details, I think it would be useful or important to look at some of the principles, or what I call key take-aways from the Board's 164/'16 Order.

First is the Board's determination that cost causation is the sole principle that should be used in establishing an appropriate cost of service methodology, and that other rate-making principles or goals such as efficiency and rate stability, as well as public policy considerations are not to play a role.

The second take-away which is closely related to the first is that the cost of service study results did not determine the level of the revenue requirement to recover from each customer class, nor the rate structures to be used. Relative -- rather, the results are an input into such determinations, along with other rate-setting objectives, like those just mentioned.

And go to the next slide. A couple of other key take-aways I took from the report was the fact that it was clear from the report that there's no generally accepted methodology or industry standard when it comes to the appropriate cost of service methodology.

Furthermore, establishing the appropriate cost of service methodology to be used involves judgment, and the results are not as arithmetically precise as they appear. Finally, in looking at the various determinations made by the Board, the last take-away is that while cost -- cost causation is paramount in determining the appropriate methodology, practical matters such as acceptability and understandability also come into play.

You can go to the next slide, which is slide 26. In terms of Manitoba Hydro's --

DR. BYRON WILLIAMS: Mr. Harper --

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: -- just -- just as I understand what you were doing there, you were taking what you interpreted to be the key principles from cost of service, and with the focus on cost causation flowing from that Order, and -- and then suggesting that when you go to the revenue requirement, there's a -- a broader spectrum of regulatory considerations that come into play?

MR. WILLIAM HARPER: I think what I was suggesting was that was -- that was my interpret -- interpretations of the Board's report. And it wasn't when you go to the revenue requirement. It was when you go to the determination of how much of that revenue requirement should be recovered from each individual customer class. The determination of the overall revenue requirement really comes before and is an input in -- into the cost of service study meth -- methodology.

So if we're on slide 26, in terms of Manitoba Hydro's implementation of Order 164/'16, their pers -- perspective cost of service study for 2018 generally follows the methodology set out in the Board's Order. There are a few areas of departure. However, in my view, these are based on either a lack of data, or simplifying assumptions.

And example of where lack of data comes into play would be the allocation of late payment revenues, where historic data on payments by customer classes other than the residential was not available. An example of simplifying assumptions would be the assignment -- the assignment of all transmission common costs to the transmission function when we -- when some of those transmission facilities in the end are actually functionalized as generation.

My evidence also notes a few areas where there appeared to be a mismatch between the Board's principle that cost causation should be the primary consideration and strict interpretation of the Board's directives. In some cases, refinement of the cost of service methodology would have minimal impact on the results and would addit -- introduce additional com -- complexities, in my view.

Examples of this include the

classification of wind resources as -- as 100 percent energy-related, which is what the Board directed, whereas Manitoba Hydro has now suggested that they do provide some capacity benefit, but -- but teasing that out and reflecting that in the cost of service methodology would likely have minimal impact on the results and add unnecessary complexity.

Another example of the -- of the same issue is the fact that distribution facilities are used to facilitate a small amount of -- of exports. However, trying to reflect that in the cost of service methodology, again, would identify -- would incorporate a level of complexities and probably wouldn't change the result was very much.

However, there are instances where changes could -- could readily be made if needed, and further consideration is warranted. These include the choice of the facilities to be functionalized as generation outlet transmission, and the inclusion of radial lines in the allocation of export revenues.

In its rebuttal evidence at page 61, Manitoba Hydro claim -- claims that has conducted a review of those transmission facilities eligible for functionalization as generation outlet transmission, and that it regularly reviews this issue as part of its tariff transmission studies. However, these reviews have not been provided in this proceeding, and therefore parties are unable to confirm Manitoba Hydro's claim or satisfy to themselves that the same criteria used by Manitoba Hydro in these studies is the same as what -- what -- the criteria the -- the Board used in its report when -- when it established what types of facilities should be -- should be classified as generation outlet transmission. And therefore, I -- I think this additional information would -- would be useful, and help satis -- satisfy the parties and content the Board that their directive is -- is being followed, or that revisions have to be made.

Finally, there are a number of -- number of areas where in Order 164/'16, the Board directed that further study was required and the matter is still outstanding. These include the allocation of common cost, the appropriate allocator for services, and the appropriate treatment of primary and secondary distribution lines.

During this proceeding, Manitoba Hydro has committed to completing the service drop update prior to the next GRA. A similar timeline should be established with the other outstanding stud -- studies and updates directed by the Board.

Can we go to slide 27, please.

(BRIEF PAUSE)

MR. WILLIAM HARPER: A key output of the cost of service study are the revenue to cost ratios for each customer class. While dividing customer class revenues by their allocated costs sounds like a straightforward calculation, a number of ext -- issues have arisen in this proceeding as to precisely how that should be done.

One (1) question that has arisen is whether the revenues used in the calculation should include the additional revenues that are going to accrue to the Company as a result of the rate increase, or the -- the revenues used in the numerator should just be those from current rates. In Manitoba Hydro's case, it has just used the revenues from current rates.

In my experience, the common practice when looking at the cost of service results for forward test years is to include the additional revenues from the requested rate increase, and that is my prep -- that is actually my -- my preference. By including them, it is easy for all parties to see what the resulting revenue to cost ratios would be if the rate increase proposed was evenly applied across all customer classes.

However, the impact of doing so is really -- is fairly small. My understanding, less than 1 percent, and ultimately, it is -- is a matter of judgment. Probably what's more important is over time, the same method is used from year to year, so that if you're comparing cost of service study results and the resulting revenue to cost ratios, they're all calculated on the same basis.

The second calculation issue raised is whether net export revenue should be treated as an additional revenue or as a cost offset. Manitoba Hydro treats the net export revenues as an additional revenue for each customer class.

Although not as material, a similar issue exists with the other revenues, such as late payment charges, and pole rental charges. In these cases, Manitoba Hydro's approach is mixed. For example, late payment charges are treated as an additional revenue, but pole rental charges are treated as a cost offset.

On this issue, practice elsewhere is

mixed. I -- I've seen it done both -- both ways, to -- to be quite honest with you, and I can't say I have a strong preference for one (1) approach versus the other. Again, in my view, probably the most important matter is that the trist -- is that the treatment be done on a consistent basis from year to year so that we're comparing apples to apples as we look at revenue to cost ratios coming out of one (1) cost of service study versus another.

The final calculation issue that arose was whether net export revenue should be included at all in the calculation of the revenue to cost ratios. Manitoba Hydro actually calculates the ratios both ways, but its subsequently focuses on the ratios with the net export revenues included when it calculates and discusses its revenue to cost ratios.

In my view, given that exports are an integral and significant part of Manitoba Hydro's operations, of -- of its planning, and of its planned investments, the relevant calculation is one (1) that actually includes the export revenues in -- in the revenue-to-cost calculation.

If we go to side 28. In Order 164/'16, the Board noted that while the results of a cost of service study appear to be arithmetically exact, this is not the case. Reasons for this include the fact that there's no industry standard as to what's the preferred cost of service methodology. I would note that when Dr. Williams and Mr. Barnlund were discussing this on January 3rd, reference was made to NERC's cost allocation manual as being an industry standard.

However, if one reads the preface to the manual it is clear that the purpose of the manual is really to provide a non -- nonjudgmental catalogue of what are the available and -- approaches are out there that are being used. And if you look at the classification and allocation and generation costs there are probably more than half a dozen methodologies reviewed.

And on a non -- nonjudgment -- excuse me -- nonjudgmental basis, the pros and cons of each are -- are discussed, but no conclusion is derived as to which is the most appropriate one (1).
If they had try -- tried to draw a conclusion, they probably would have never gotten the manual published or agreed to by -- by all of the commissioners.

Another reason why the results are not exact, is that not only is there judgement involved in the choice of methodology, but frequently judgements simplifications are required due to data limitations and considerations of practicality. Finally, the data that's actually used in cost of service studies is often imprecise, being based on samples for estimates drawn at a particular point in time.

For these reasons utilities and regulators common -- commonly establish a range for the revenue to cost ratios, referred to as the zone of reasonableness, within which a customer class's rates are viewed as recovering the cost to serve that class. However, in looking at the results of a cost of service study and the zone of reasonableness it is important to remind ourselves that, as the Board noted in its order, cost of service results are but one (1) input into the rate-making process.

Therefore, the zone of reasonableness does not set the bounds for the range of revenues to recover from each -- each customer class. Indeed, and to be honest with you, the tendency on the part of some regulators and some utilities to overlook this last point during the ratesetting process was one (1) of the reasons why in the cost of service proceeding I actually supported including some of these considerations in -- in the -- in the cost of service methodology itself, because otherwise I was concerned they would be overlooked when it came -- came to the ratesetting process.

If one makes a clear distinction, as the Board has done in its report, that cost of service is cost causation and these other considerations come into play when we're setting rates, in my mind that -- that is perfectly acceptable and may be even a better -- better and cleaner way of approaching the whole issue.

If we could move to slide 29, please. This table is -- is taken from my interrogatory response to Manitoba Hydro/Coalition Number 9, and provides examples of the zones of reasonableness various Canadian utilities apply to utilities -- the various Canadian regulators apply to utilities. As my evidence indicates and as the table shows, most Canadian regulators use ranges of either 95, 105 percent or 90 to 110 percent.

As a final point I should note that what you see here is not as a result of some comprehensive survey, but rather reflects decisions that have come to my attention while working on cost of service related matters. The interrogatory response also includes the date of each decision, and some them go back and number of years. The reason for this is that most regulators only look at cost of service methodology on a periodic basis, similar to the way the PUB approaches it. But in those cases and in many cases the zone of reasonableness is often only examined when the cost of service methodology itself is -- is reviewed.

If we could go to slide 30, please. This next slide sets out Manitoba Hydro's rate-making objectives and contrasts them with the criteria for a desirable rate structure as established by Bonbright, who you've heard and who's been referenced a number of times in this proceeding already. You can really ignore -- you can ignore the numbers afterwards if you want to. They really try and draw a reference to where -- what number -- what number I've applied them in my evidence. So if you're trying to read my evidence and rate -- relate it back to the slide, the -- the numbering will help you to do so.

There is a fair degree of alignment be -- between the two (2), with the notice -- noticeable exceptions being Bonbright's reference to public acceptability as an aspect distinct from simplicity and understandability, and Manitoba Hydro's inclusion of competitiveness in rates as an objective. In my view, both of these additions are consistent with the view that in rate-making there are also public interest issues that need -- that need to be conc -- that need to be considered.

And, indeed, one could view under the auspice of public acceptability that rates should be competitive. They're -- they're all in my mind different -- different aspects and there are other aspects of concern when it comes to broader public interest issues that have to be taken into account when making rates.

If we go on to slide 31. This next slide sets out my view as to how these other rate -- rate-making objectives come to play in the context of the current General Rate Application. First, Manitoba Hydro's requested 7.9 rate -- rate increase is already four (4) times the inflation rate and, therefore, challenging in terms of the objectives of rate stability, gradualism, and public acceptability. Given this context, higher customer class rate increases due to interclass revenue adjustments would be even more challenging and problematic.

While Manitoba Hydro's rate setting guidelines suggest a further rate increase of up to two (2) percentage points could be considered due to class revenue requirement adjustments, it must be recalled that these guidelines were established number of years ago and the overall rate increases were much lower than what's currently being proposed.

With respect to efficiency, compatibility with this objective is usually assessed by comparing customer class rates and their marginal costs. The marginal cost provided by Manitoba Hydro assumed all classes have a 100 percent load factor, which is clearly not the case.

In my evidence I adjusted the class marginal cost to account for this, and concluded that the average rates were less than marginal cost for all classes, with the greatest disparity being in the differences for the general service medium and the general service large classes. However, since the preparation of my evidence Manitoba Hydro has updated its marginal costs and the new values are considerably lower than what were provided in the application.

If we could maybe flip forward one (1) slide to slide 22 -- excuse me, 32, just briefly here. Here I've tried to rework my schedule 23 from my evidence using Manitoba Hydro's current new marginal cost values. The new results indicate that for most customer classes average revenue is now greater than marginal costs and that the greatest differences exist for the -- for residential where the ratio is 125.5 percent, and for the general service small non-demand customers where the ratio was 141.9 percent.

Now, it should be noted that these results do not include any load factor adjustment for generation due to the fact that such a -- such an adjustment would only apply to the capacity portion and we can't put that out due to confidentiality reasons.

However, if one was to include it, I would predict that it would tend to increase the marginal cost for the smaller volume customers by -- by a greater amount than for the larger volume customers, which would tend to move the ratios for the residential and the general service small customer classes down somewhat.

However, it's not clear how material the effect would be since values for capacity are not included in Hydro's marginal cost prior to the year 2031. And with the discounting that involves in calculating their marginal costs, I -- I would say -- I don't know what effect having capacity cost in -- just in the later periods has on the overall value. Also, the results do not reflect the fact that customer classes have different time of use profiles, which will to some extent impact their marginal costs.

And finally, I have not included any environmental adders in the marginal cost calculations. This is based on the view that absent any specific direct -- directive from government the price signals Manitoba Hydro should be sending customers should be based on the costs it incurs to serve them.

If we can maybe return to slide 31.

DR. BYRON WILLIAMS: Mr. Harper, can I just stay on slide 32 for second. In terms of environmental adders or -- or not, you're well aware of -- of the environmental consequences of hydroelectric development on the Nelson River? Or you're aware at least to some degree that there were significant environmental impacts?

MR. WILLIAM HARPER: You're -- you're talking about the local -- the local environmental impacts as a result of the -- of the development of those facilities?

DR. BYRON WILLIAMS: Yes.

MR. WILLIAM HARPER: Yes, I am.

DR. BYRON WILLIAMS: And environmental impacts and human impacts. Sir, and to the extent that there are mitigation costs associated what with that, not suggesting in any way that they can -- can ever wholly compensate people, would those be captured in the -- in the costs?

MR. WILLIAM HARPER: Yes, to -- to my understanding the -- the mit -- mitigation costs reflect payments to various parties to help offset the local -- the local impacts of those developments, and they are actually in -- those costs are actually included in Manitoba Hydro's revenue requirement, and therefore reflected in the rev -- on -- on the revenue side of the calculations that you see here.

(BRIEF PAUSE)

MR. WILLIAM HARPER: If we return to slide 31 then. Based on these updated marginal costs average revenues for small volume customer classes exceed marginal costs, while for the larger volume customer classes the average revenues are roughly equal to marginal cost. What this tells us is that there is no basis from an efficiency perspective to shift revenue responsibility from larger to smaller customer classes, as that would just tend to aggravate the problem more.

From a -- from a public policy and

public acceptability perspective, issues that carry forward from previous -- previous proceedings and continue to be relevant are the impacts on low income customers, impacts on space heating customers, particularly those in non-gas areas, and the uniform rate adjustment.

Overall, it is for the Board to determine the relevance of these factors -- all of these factors, along with the results of the cost of service study. However, in my view, a key consideration in such deliberations needs to be the magnitude of the overall rate increase.

If we go to slide -- flip forward two (2) to slide 33, please. I'd like now to turn to the issue of residential rate design. One (1) matter that has arisen during this proceeding is conservation or inverted rates for residential customers. As you'll recall these are rates where the monthly cost per kilowatt hour increases after the customer has used an initial amount or block of electricity, and are designed such that most customers are exposed to a higher rate for their incremental electricity use with a view that the higher rate will encourage customers to consume.

In my view, the first issue that needs

to be addressed is the purpose behind introducing conservation rates, namely are the rates intended to simply reduce use, or they intended to encourage efficient use. That is, use where the value to the customer exceeds the cost of supplying them. In my view, and which I can see consistent with Bonbright's rate design objectives, is the purpose should be to encourage efficient use.

That brings us back to Manitoba Hydro's current marginal costs and the estimated cost of serving the residential class. As we saw in slide 32, and you don't necessarily have to -- have to return there right now, the marginal cost of serving the residential customers is in the order of seven (7) cents a kilowatt hour, well below the current energy rate of approximately eight-point-two (8.2) cents a kilowatt hour.

Furthermore, this difference is likely to in -- grow in the future, if future rate increases exceed the rate of inflation. As a result in the current circumstance, there's no need for conservation or inverted rates as it would only increase this differential further, and therefore widen the differential between what -- what rates customers will be charged for their incremental use and the actual marginal cost of using that electricity.

If we could go to slide 34. I'd like to turn now to the issue of rates for residential electric heat customers. At the Board's direction, Manitoba Hydro filed an alternative rate design for residential electric heating customers which would see lower rates for such customers. Manitoba Hydro has indicated that it is not proposing this rate be implemented, but rather that it should be tested during this proceeding with the view of the Board provide to feedback on how they should proceed from here.

Using the rate-making objectives outlined earlier my evidence looked at Manitoba Hydro's alternative rate design for electric heat and non-heat customers, and compared it with existing -- with existing residential rate design.

Some of the key observations to be drawn from that assessment are first, based on the Board's cost of service methodology and using the existing residential rates the revenue to cost ratio for non-heat customers is higher than that for the electric heat customers, with -- with the estimate for non-heat being 103.7 percent versus 90.1 percent for elect -- electric heat.

Providing rate relief to electric heat customers would only reduce the 90.1 percent further and increase the 103.7 percent of the foregone revenues recovered from the balance of the residential class, thereby increasing the disparity in cost recovery between the two (2) groups. As a result, lower rates for electric heat customers cannot be justified on the basis that they result in a fair apportionment of costs from a cost of service per -- perspective, and indeed would lead to the opposite result.

Similarly, while insufficient information is available to determine the marginal cost of serving an electric heat versus a non-heat customer, it is reasonable to conclude that the electric heat customer's cost on the marginal basis will -- will be higher.

This conclusion can be based on the fact that electric heat customers have a lower load factor, and have a higher concentration of their energy use in the win -- wintertime, which is the higher cost period for Manitoba Hydro. As a result, if lowering the bills for electric heat customers relative to non-heat customers is achieved by a lower charge for incremental use, the effect would be inconsistent with the efficiency objective.

On the other hand, various constituencies, including the Board, have expressed concern about the impact of electricity rates on electric heating customers, particularly those who are low income, or in areas where gas is not available.

As a result it is fair to conclude that the cost of electric heating is a matter of some concern when -- when it comes to public policy and public acceptability. Indeed, overall the justification for lower rates for electric heating would appear to rest almost entirely on its merits with respect to public policy and public acceptability considerations.

Recognizing I was likely to be asked what my views were on whether such a rate should be offered, I struggled to come up with an answer. Based strictly on cost of service and efficiency considerations, the answer is relatively easy. However, the Board has acknowledged that public interest considerations will also be taken into account in its determinations.

So the question arises as to what weight to give to concerns regarding the impact of higher bills on those customers that use elect --

electric heat, particularly those with limited income or limited alternative options for space heating.

This is where I personally run into difficulty, because weighing these sorts of considerations is beyond my area of expertise, but also because there is limited information available on how Manitoba Hydro's customers would view such a proposal. And not living in Manitoba, I don't have any first-hand experience to bring to this at all.

Also, there are a number of details that still need to be resolved and which are likely critical in establishing what -- what in the end the public acceptability for such a rate would be. What -- what I'm often quoted as saying in many workgroups I participate is the devil is in the details. And until you've worked out the details, the acceptability of something is sometimes hard -- hard to determine. As a result, I find it -- I find myself unable to offer you an expert opinion on whether electric heat rate should be implanted or not.

DR. BYRON WILLIAMS: Mr. Harper, can you -- before you leave this page. You referenced not a lot of insight from Manitoba Hydro in terms of how Manitobans view this issue.

How does one get this insight based

upon your experience in other jurisdictions? Like, what are the processes which one could undertake to get insight into the perspectives on this?

MR. WILLIAM HARPER: Well, I -- I think one (1) such process is the one (1) the Board is going through here right now, in terms of hearing directly from various parties. I've understood you've heard indirectly from thousands of customers, if I'm not mistaken, in terms of comm -- communicating with you and expressing their concerns or interest in various aspects of the general rate application.

Another area is -- another way is to actually go out and do some form of -- of outreach with -- with customers, asking them either through surveys or through focus groups as to what their -- as to what their deference is to offering these sorts of rates, and what might be their tipping point as to how -- how much they -- they are willing to -- to contribute.

I -- I think -- you know, and on a parallel matter, and may we need to draw some analogy, and it's maybe anal -- analogous, but I think it's useful to note that the Ontario Energy Board has recently changed its -- its approach in terms of what it expects utilities to do when it's coming forward with rate applications. And it expects utilities to be communicating more with their customers in the past about what the customers want and what -- what the customers expect and what the customers are willing to pay for before they bring an application be -- before the Board.

And they've now actually instituted that utilities have to hold town halls on their applications with -- with. And I've actually seen utilities revise their applications as a result of the town halls that took place and the feedback they've gotten from -- from them. So I think that there are a num -- number of different ways that you can get this information. And actually the -- like I said, the proceeding we're having here right now is -- is definitely one (1) of them.

DR. BYRON WILLIAMS: Thank you.

MR. WILLIAM HARPER: That being said, I believe I am in a position to help define and frame some of the issues that would need to be considered if such a rate was to be implemented. First is the form of -- of the rate and whether it should be a proportional discount where the bill reduction increases with the amount of electricity used, as is the case with Manitoba Hydro's alternative rate design, or where the discount is essentially a fixed dollar amount, which -- which it would be for most customers under Mr. Chernick's proposal.

The trade-off here is that the proportional discount approach offers greater relief to those customers with larger space heating bills. Whereas, the approach suggested by Mr. Chernick maintains the same price for incremental usage and therefore does not run afoul of the efficiency objective we talked about earlier.

As an economist I may prefer Mr. -- Mr. Chernick's approach. However, if the objective is to provide needed assistance to electric space in question -- customers, excuse me, the question arises as to whether offering the same level of the discount to everybody in Manitoba is a reasonable approach.

Clearly, one (1) of the related issues to this is the wide variation in climate and heating requirements, where the heating degree days in northern Manitoba are considerably higher than those in southern Manitoba and whether, if you were doing a rate like this, have -- having a fixed to discount is appropriate. And if you had a fixed discount, how would you design it given that the level of relief for northern Manitobans is always a quite a bit higher than for southern Manitobans.

Another issue is the question of whether the rate should focus just on residential heating customers in areas where gas is not available. The -- the legislative requirement for uniform rates would -- would appear to preclude offering rates that take into account such differences. However, if electric heat rates are an issue the Board wishes to pursue, I believe the question of exactly what the legislation persudes -- precludes, excuse me, should be looked at more closely.

The second question is, is when the rate should be available. Under the Manitoba Hydro alternative rate design the lower rate is offered for all use during the year. In contrast, Mr. Chernick's proposed design only offers a lower discount during the winter months. From my perspective, if the issue is the affordability of electric space heating then a rate reduction that is only available in the winter is more appropriate and likely be more -- more publicly acceptable to -- to parties that have to support that rate.

However, there are practical issues with implementing rates that vary by the season, as Manitoba October Hydro only reads every customer's meter once every two (2) months, and the billing cycles don't align with either the seasons or the calendar months of the year.

Before moving to rates that vary by season it will be necessary to consider the implications from both Manitoba Hydro's perspective in terms of its billing systems, and also from the customer's perspective in terms of the understandability of their bills if there has to be some adjustment or something, less than a perfect way of calculating the bill due -- due to problems with Manitoba Hydro's metering practices.

Finally, there's the question of how the revenue foregone as a result of the lower electric space heat rate should be recovered. Under Manitoba Hydro's proposed rate design the balance of the customers in residential class are responsible for making up the difference. Whereas, Mr. Chernick's proposals the -- the difference is recovered, with -- with a few exceptions. from all of Manitoba Hydro's other customers.

There is also a related question as to what the level of foregone revenue other customers on the system would be willing to find acceptable to make up as -- as a difference. In my view, it would be useful to understand what the tipping point is for these other customers. If the funds available to underwrite electric heating rates are limited this will clearly impact some of your considerations around rate design.

In terms of who should be responsible for the foregone revenue it is my perspective that if public policy and acceptance are the main basis for implementing electric rate then there's little rationale for recovering it just from the other residential customers, and widening the customer base would reduce the impact of any level of recovery.

Given these considerations, it is my view that further work and research is required to establish an acceptable and workable rate design, including input from customers both on the general public acceptability of electric space heating rates, as well as on the specifics of the rate design itself. In this regard, any direction the Board could provide flowing from this proceeding that could help focus those efforts would -- would probably be useful going forward.

DR. BYRON WILLIAMS: Mr. Harper, before you leave this slide I have a couple of questions.

One (1) is what other jurisdictions -- Canadian jurisdictions are you aware of that -- that use a -- for example, an all electric rate that's distinguished from a standard rate?

MR. WILLIAM HARPER: I'm -- I'm not aware of any jurisdiction that has an all electric rate just for electric space heating.

DR. BYRON WILLIAMS: In terms of the further research, hypothetically if -- if we're looking at a 7.9 percent rate increase, you understand the pressure is to -- to have it -- and the -- and -- and a decision is made by the Board to go this route, you understand the pressure is to have something in place before the next winter heating season?

MR. WILLIAM HARPER: Yes, I understand the pressure. In -- in my view, count -- countering that is the fact -- is that when I implement a rate -- when -- when I changed the cost of service methodology, this is in, excuse the expression, it's -- it's in the back room. It's something that goes into the overall rate-making process.

When I design a rate that's something that's going to be out there on everybody's bill and everybody's going -- going to be reacting to. As a result, I think it's important that time is taken to make sure that it's implemented properly, because it's going to happen -- it's going to apply to everybody, and that it's done in a way that everybody will -- will un -- understand, because everybody is going to be trying to read their bill.

In my view, that's particularly important for initiatives such as this that are very new, because if -- if you get it wrong, and it may be a good idea, but if getting it wrong in implementation creates a backlash such that the idea -- the baby gets thrown out with the bath water, to be quite blunt about it, you've -- you've probably done more harm than good. I think careful consideration in implementing a really fundamentally new rate is -- is something that's quite -- quite critical in my view.

DR. BYRON WILLIAMS: And -- and based on your many years of experience, both with Ontario and -- and in other jurisdictions, do you have any sense of is -- is this a three (3) month project, sir, to do further research? Is it a six (6) month project? Is it a three (3) year project? What's -- do you have any sense of that directionally, sir?

MR. WILLIAM HARPER: Well, I think to some extent the -- the time -- the time that will be required is -- is a matter of what's the level of commitment that's given to -- to the partic -- to the particular initiative. I -- I think if there is a commitment on all parties' part and the parties are participating, I would think -- and I think I addressed this in one (1) of my IR responses. I would think something in order of six (6) to twelve (12) months is something that -- that would be reasonable.

DR. BYRON WILLIAMS: Thank you. And I am sorry to interrupt.

MR. WILLIAM HARPER: If we go to slide 36. In previous proceeding various parties have also expressed concerns about the impact of electric rates on low-income customers. These concerns have been echoed in previous Board orders which led up to the bill -- the Bill Affordability Workgroup.

In its report the working group explored various approaches to offering direct rate relief to low-income customers, but did not recommend any of them due to a lack of consensus. In this proceeding, while Manitoba Hydro's application did not include any alternative rate designs for low-income customers, the evidence put forward by Mr. Chernick on behalf of GAC has.

In response to interrogatories from the Public Utilities Board staff and Manitoba Hydro I have provided a high-level assessment of how the various low income rate options considered by the working group and Mr. Chernick align with the generally accepted rate-make -- making objectives. With respect to cost of service considerations, there is no available information on how the cost to serve low income customers compares with the cost to serve other residential customers.

However, it is clear that low income and non-low income customers can't have similar levels of usage, such that reduced rates for low-income customers could be viewed as unfair if you looking at it just from a cost of service perspective. Similarly, there is no information available to indicate what the relative marginal cost is of serving a typical low income customer versus other residential customers.

However, if reducing the bills for low-income customers is achieved by a lower charge for incremental use, the effect would be to alter the pricing signal for those customers versus other residential customers which on -- on general, could -- could lead to inefficient decisions overall.

One (1) of the greatest challenges with low income rates would be the implementation in terms of -- in terms of establishing who would be eligible and setting up the process as to that -- that potential participants. Reference has been made to adopting the same approach as used for Manitoba Hydro's low income DSM programs. However, annual participation in those programs is less than 5 percent of the total number of low income customers in Manitoba.

So is not clear to me that the same approach would be workable if we went forward to implement low-income rates where you could see -- now, you probably wouldn't see in reality twenty (20) times the number of applicants, but you would see orders of magnitude higher. And there would also be issues about having to re -- regularly re-qualify all of those customers on an ongoing basis, whether it be every one (1) or two (2) years.

Suggestions have often been made that customers who are already qualified for certain social assistance could automatically be deemed eligible for a low income electricity rate, and this would help simplify the problem. However, issues arise if the social assistance being received also include some support for -- for electricity bills, and careful consideration would have to be given as to what types of -- of social program qual -- eligibility on one (1) side would allow you to participate in the low income rate. In other cases, maybe it would -- it would disqualify you from participating. I think, again, some consideration of that would need to be made.

Overall, the situation is similar to that with respect to electric heat rates in that the impetus for the rate comes from various constituencies, including the PUB, who express concerns about the impact of electricity rates on low-income customers. And the justification for low-income rates would appear to rest on its merits with respect to -- with respect to public policy and public acceptability considerations.

As such, I find myself in a similar situation as I did with electric heat rates, in that weighing these sorts of considerations is beyond my area of expertise and there's limited information as to how Manitoba Hydro's customers view -- view the situation. However, in this case, there are also a number of details that would need to be -- be resolved, even more details than in the electric heating case in terms of the implementation, the qualification, and administration of the program.

If we go to slide 38.

DR. BYRON WILLIAMS: 38 or 37?

MR. WILLIAM HARPER: 37. Yeah. Sorry. How I -- okay, yes. Again, however, I believe I can be of some assistance to the Board in framing some of the rate design issues that would need to be considered. The first issue is how a low-income customer should be defined for purposes of the rate. Manitoba Hydro already has a definition of low income for purposes of programs funded by the Affordable Energy Fund, and there would be merit in using a common definition.

Also, in selecting a definition it is important to keep in mind the ease and -- the ease or difficulty involved in administering the definition. There is -- there -- there is practice and experience in administering the definition Manitoba Hydro currently uses and, therefore, in my mind that -- that provided song -- strong support for using a similar definition going forward.

The second issue is the form of the rate, specifically whether it's a fixed discount similar to that in Ontario or as suggested by Mr. Chernick, or takes the form of a lower rate or percentage discount on the bill. Clearly, the latter approach provides greater relief to customers with higher usage and, therefore, higher bills. But it also means that these customers are receiving a different pricing signal regarding the cost of using electricity.

Again, there -- there is a trade-off to be made here, and the there's some questions as to which way. And any direction as to which -- which of those two (2) directions would be preferable would be useful.

Finally, there's a question similar to that with respect to electric heat customers as to how the foregone revenue resulting from a low income rate should be recovered, as well as a question of what level of foregone revenue would be acceptable to other -- other customers on the system. Again, it would be useful to understand their tipping point.

In terms of who should be responsible for the foregone revenue, again, it is my view that if this is a public policy or public acceptability perspective there -- there is no reason why the recovery should be limited just to other residential customers or ineligible residential customers. Indeed, some of those ineligible residential customers may be low-income customers that for some reason or other did not -- did not apply. And it should be --

and it should be spread over the broader base of all customers on the system.

Again, given the foregoing comments, in my view there is some additional work that needs to be done, again, in this area be -- before one can decide on what form of low income rate should -- should be implemented, if that's the way the Board chooses to go. Any direction the Board can provide in this would be useful.

DR. BYRON WILLIAMS: Mr. Harper, timewise, again, any sense of -- of the time?

MR. WILLIAM HARPER: Again, I think the -- I think the same time frame as I referenced before. Six (6) to twelve (12) months would -- would probably be useful. Again, it depends on the -- on the level of effort you put on it. In -- in Ontario when they started setting up the entire electricity support program, I was involved in the -- in the ini -- in the initial working group that -- that was doing and participated for probably about two (2) months, I think.

And then, to be quite honest with you, the meetings were full day meetings once every two (2) weeks. And between that and the fact that there were people from other public and social agencies on the group who I found quite -- quite articulate and quite able to re -- represent the interests of their particular parties, I felt that my time could best -- could best be spent elsewhere and I bowed out of further participation in -- in the group. But again, that -- that group, in a concerted effort, the -- the program was put together in a fairly reasonable period of time.

DR. BYRON WILLIAMS: Do -- have you explored the participation rates in -- in the Ontario program? And is there any publicly available data related to it?

MR. WILLIAM HARPER: Actually, prior to coming here I did try to look and see if there was any publicly available data available on what was the level of participation. And -- and, unfortunately, no. This -- this is to a large extent a government program and often information on government programs is somewhat limited. If it had been a full OED program there probably would've been a lot more annual reporting on it, and such information would -- would be available. So I haven't seen any publicly available statistics. For what it's worth, and you can give it whatever weight it's worth, I -- I have heard indirectly that the participation rate is something less than 50 percent.

If we could maybe move to the last slide. During the course of this proceeding there has been some discussion of what constitutes rate shock. In my view, rate shock cannot be parsed into what's acceptable from a GRA implications versus what successful permit an interclass shift due to cost of service considerations versus what's acceptable from a rate design consideration.

To be frank, at the end of the day customers are only looking at the total bill and how much it has changed. And -- and instead what rate shock considerations have to take into account is what's the impact on -- on the total bill as supposed to saying, Well, if it's so much just -- just for the GRA we're happy there, or we're happy with -- with this piece. It's the total bill that's important.

Also, while 10 percent is referenced as a benchmark for rate shock, I don't believe there is a single standard that is applicable in all situations. Customer tolerances for high rate increases are influenced by a number of factors, including their expectations regarding inflation, their experience regarding past rate increases, and to be quite honest, their perceived understanding of the reasons for the proposed rate -- rate increases.

To some extent, this is part of the problem that -- that Ontario has been having. We've been having large rate increases, but the perception is that a lot of the reason for those large rate increases are fundamentally problems with the management of the system as opposed to cost drivers, and that's what's led to a lot of the outcry there.

With -- with that I'll -- I'll conclude my presentation, and the take the break now or have -- answer any questions the Board panel may have right now.

DR. BYRON WILLIAMS: Thank you. And I apologize for running five (5) minutes. That's -- that's my bad.

THE CHAIRPERSON: That's fine. Thank you, Mr. Harper. We're -- we'll take a fifteen (15) minute break now. Thank you.

--- Upon recessing at 10:35 a.m.

--- Upon resuming at 10:53 a.m.

THE CHAIRPERSON: Okay, if we could resume. Mr. Cordingley, you're up?

MR. DAVID CORDINGLEY: Thank you, Mr.

Chair.

CROSS-EXAMINATION BY MR. DAVID CORDINGLEY:

MR. DAVID CORDINGLEY: Mr. Harper, I have a number of questions for you from -- on behalf of the Green Action Centre, primarily focusing today on marginal costs but -- but -- but primarily rate design issues.

Before we go there, though, perhaps an easy question for me to ask, maybe not for you to answer: In your material I see two (2) proposals from you or two (2) projected rate trajectories that you suggest would meet the capital cost coverage debt-to-equity ratio over a certain number of years.

So -- so -- so one -- one (1) scenario that you put before us is from your report and you suggest that if a rate trajectory of 3.95 percent through 2015 -- 2033/2034 would meet the debt-to-equity ratio that was discussed at the NFAT/

I'm right on that?

MR. WILLIAM HARPER: Well, that was based on a certain financial forecast, the financial forecast that Manitoba Hydro, you -- one, I wasn't recommending any particular rate trajectory. I -- sort of let's take -- take this in bites.

What I was commenting on was what -- what rate trajectory would be required if we accept Manitoba Hydro's current integrated financial forecast 2016 to bring us back in line with the -- where -- where we were arriving in terms of a debt/equity ratio by 2033/'34 and the type of target that we saw being used in the previous -- in the previous plans.

So it was a matter of what -- what -- what rate increase for what period of time would be required to bring us back in line with sort of the outlooks that have been -- that have been talked about prev -- previously, you know, to -- to propose a particular rate trajectory assumes that you -- you -- you are comfortable with all of the underlying costs that go into that rate trajectory; that wasn't part of what I was looking at when I prepared my evidence.

MR. DAVID CORDINGLEY: And -- and you may -- you may have answered my -- my -- my ultimate question there. To wrap it up nicely for my notes, the -- the other alternative that you look at, or that you've -- you've considered is from your slide presentation we saw and it was annual increases of 4.34 percent would achieve that same -- the debt/equity ratio accepted previously at the NFAT in 2033/'34; is that correct?

MR. WILLIAM HARPER: And the number changes because it's -- it's being applied to a different financial forecast now. It's been applied to an updated financial forecast with a different weighted average -- assuming a different debt management strategy.

And so as -- the -- an underlying cost change because of those updates, you -- you would require a different average annual rate increase in order to get to the same target debt ratio by -- by the year 2033/'34.

Again, it was -- it was more a matter of saying, given that forecast, what's the level of rate increase that -- that would bring us back to that same debt ratio we've been looking at in previous forecasts.

MR. DAVID CORDINGLEY: And as I understand it, Mr. Harper, you've acc -- you -- you haven't done a deep dive into Manitoba Hydro's forecasts insofar as you're accepting them -- some of the fundamentals of them at --

MR. WILLIAM HARPER: Right. For -- for purposes of the exercise because what I was trying to look at was the claim by Manitoba Hydro that there'd been a change and how material the change had been and, clearly, Manitoba Hydro and looking at change is using its own forecasts. And so I was trying to use the same information that Manitoba Hydro would -- would be using when -- when -- when it was trying to look at how -- how or if things had changed.

MR. DAVID CORDINGLEY: Right, correct. Thank you. So -- so I take it then, and you may have gotten there already, you're not making a recommendation for any particular scenario with respect to either a 4.34 percent rate increase trajectory -- I'll say trajectory going forward -- or -- or a longer trajectory of the 3.95, assuming you want to reach the -- the debt-to-equity ratio?

MR. WILLIAM HARPER: No. I guess what I would say, and the way you could interpret my evidence is, is that if -- if you -- there hasn't been a change -- in my mind there hasn't been a fundamental change in outlook. If you look forward through to 2033/'34, these are -- what happened with -- on the previous plans versus what will arise with a plan now based on a modest -- a modestly higher increase of 4.34 percent.

If -- if you have that same view of how we should be managing rates over the fut -- future as -- as we had -- as we had previously, I believe, you know, the panel, the Board, heard from yesterday was speaking specifically to whether or not the types of financial metrics and the types of sort of financial thoughts that went into that plan whether -- whether the previous plan was acceptable or whether Manitoba Hydro's view that, no, we -- we have to -- we have to improve things much better, faster is the appropriate way; that was the evidence that was dealt with yesterday.

What I was looking at was the question of if you assume that that isn't the case and the way we were going to improve things in the past is still acceptable, what sort of rate increase would be required and if things fundamentally changed.

MR. DAVID CORDINGLEY: Okay. Let me move on to -- to ask you about marginal cost. It arose a number points in your slide presentation, one with respect to inclining rates and one with respect to rate design.

I take it you'll accept that -- that marginal cost can play a significant role in rate design?

MR. WILLIAM HARPER: Yes, there -- I would say they're -- they're one (1) of the inputs and depending upon the particular emphasis the Corporation or the reg -- the time wants to -- wants to put into it, it -- it can be a significant play -- play on the rate design, yes.

MR. DAVID CORDINGLEY: Have you -- have you, sir, had an opportunity to review Mr. Chernick's evidence and, particularly, his critique of marginal costs?

MR. WILLIAM HARPER: I read through his evidence and -- and -- and his critique. His cri -- to be quite honest, his critique involved a critique of some fairly extensive documents that Manitoba Hydro had produced on distribution, marginal costs and transmission marginal costs and I think to fully appreciate sort of that, I would've had to go back and look at those documents and that -- that was not some -- that was not something that -- that I did.

So I looked at his critique. I understood, in general, what -- what some of his critique was, but I didn't go back and try on my own time, my -- verify or determine whether or not I -- I agreed with him or not, no.

MR. DAVID CORDINGLEY: Sir, is it fair to say that if marginal costs are recalculated as per Mr. Chernick's recalculation that might affect -- or that would -- would affect recommendations on rate design or considerations on rate design?

MR. WILLIAM HARPER: Well, I guess you know, Mr. Chernick made a number of recommendations. I can't remember off the top of my head precisely what each -- each of them were. If you were -- if you were more specific perhaps on whether -- whether there was -- I'm sorry, I -- I think at the end of the day, the question is: At a general level Mr. Chernick's recommendations ended up increasing marginal costs higher than what Manitoba Hydro had put forward and higher than what my calculations were. I think primarily because of the inclusion of the environmental adders.

I haven't -- it would be interesting to see, and I apologize, I don't know whether or not with the reduction in Manitoba Hydro's marginal cost is they're now con -- down considerably lower. When you add in those envi -- even after you add in those environmental adders how that comes out relative to the rates for certain customer classes, you take the general -- general service small non-demand, they're roughly 40 percent in excess of revenues. Now, I'm not too sure whether adding an environmental cost would bring them back up, so I think it would depend very much on which customer class you were looking at as to what the im -- what the -- final implications would be.

MR. DAVID CORDINGLEY: So Mr. -- Mr. Harper, if -- if -- if I could turn you, perhaps, to your slide 33. One of your points with respect to conservation rates was that -- is the second point that as current residential marginal costs are -- are less than the energy rate, you didn't find a basis for conservation rates at this time.

Is it -- if that were to flip around, so if grea -- less than sign was to flip around, would that change your recommendation then as to whether conservation rates may be -- there may be a basis for cons -- conservation rates at this time?

MR. WILLIAM HARPER: Yes, it would actually, and I think with -- and actually, that was the basis I was asked an interrogatory I think by the Public Utilities Board staff as to what recommendations I've made in another jurisdictions on this particular issue.

And the one (1) place where -- where --- where -- did appear frequently on this issue was in -- was in Quebec and their -- their marginal costs were in excess of the rates and I was supportive of the conservation or inverted rate design that Hydro Quebec was putting forward at that point in time.

I think maybe history and lessons learned since then have taught me that I think one has -- one wants to maybe look at the basis for the marginal cost a bit closer. Marginal costs tend to move around -- can sometimes move around from one estimate to another, just as we've see in -- in this proceeding, and rates can't move around to the same extent that marginal costs move around; if you're interested in gradualism and rate -- and rate -- rate stability.

So I think you have to take them as a signal more than a precise number you'd want to target on; that's the only caveat but I think yes, but just as a signal as opposed to a number to sort of try and target on.

MR. DAVID CORDINGLEY: Assuming, sir, that the marginal costs calculation was to change as well such that marginal costs were recalculated to be greater than current energy rates, would that also -- also affect how you would design -- design a affordability rate?

MR. WILLIAM HARPER: I think it -- if it did, it would be well down on the list of consi --

of considerations I would want to take -- I would want to take into play. I think the -- I think you have to recognize a conservation rate when you're designing it by the very name of it, and I've talked about whether it's efficiency or conservation, you -- you have an objective there, and therefore, you're trying to align sort of the inputs you're using for the rate with what's the objective you're -- you're trying to achieve.

I think when you're designing a low income rate, perhaps the efficiency objective may -- something you have to bear in mind, but I don't think it's nearly as much front and centre as it would be when you are designing a con -- a conservation rate.

MR. DAVID CORDINGLEY: Sir, as I understand it, in -- in -- in re-calculating or doing a deeper dive into the marginal cost rate, Mr. Chernick identified three (3) -- three (3) issues that he felt led to an underestimate of costs; one being transmission distribution costs; second being an underestimate of generation costs; and then the third which we've -- we've sort of touched on already is the environmental costs and how they're included.

Are you aware that he touched on all three (3) issues?

MR. WILLIAM HARPER: Yes. And I -- I can't remember -- when -- when you say underestimates of generation costs, I'm not too sure and I don't recall if that was the same issue I had about sort of the treatment of -- of generation capacity costs and the fact that if you were to try and sort of tease them out and apply load factor adjustments to them you might end up with -- with a slightly higher number. I think that was the issue he -- he was raising and that was something I -- I recognized in my evidence.

I'm sorry, what -- what was the -- the other -- I know he took some exception to -- to the transmission and distribution costs. I basically accepted those as given in my -- in my particular calculations and didn't make reference --

MR. DAVID CORDINGLEY: That -- that wouldn't have been an area that you would have looked into with -- within the way that Mr. Chernick did?

MR. WILLIAM HARPER: No. No, I didn't. I appreciate he -- he spent a fair -- he spent a fair amount of time on it and raise -- and raised the issue and I...

MR. DAVID CORDINGLEY: With -- with respect to the environmental costs, you've mentioned you -- you've treated those differently insofar as you're not including those in your marginal cost estimate; is that --

MR. WILLIAM HARPER: No, not in my marginal cost if you're wanting to use them for -- for rate design purposes, no.

MR. DAVID CORDINGLEY: Your rate design purposes. And you -- I believe you mentioned that that would be something that ought to come from direction of government.

Was that -- am I -- am I paraphrasing you correctly?

MR. WILLIAM HARPER: Well, I -- I think what I was trying to say was that I think if you're use -- when you're designing rates for rate -- rate design and sending cost signals and your view is those cost signals is what are the implications of the customer's decisions on the cost they're going to see in the future, because that's effectively what you're trying to do here. You -- you should be including in those, what are the types of costs that are going to be built into their rates in the future, and that so -- and that doesn't include environmental costs for -- for issues south of the border right now.

You know, and it would only be if -- if either (a), for some reason there was a reason to include a -- levy and include additional environmental costs on electricity in Manitoba or that -- or -- or I guess that was the other exception, or if the government made an explicit decision that there is no cost, but we think in the rates there should be a cost and that was a policy directive from the -- from the government and that was more the reference I was making there.

MR. DAVID CORDINGLEY: Thank you. Thank you, sir. Would that not be a policy direction, a policy decision that this Board could -- could consider now in the same way that it's considering policy decisions with respect to -- or policy considerations with respect to impact on low income or impact on electric -- all electric heat?

Is that -- is environmental consideration, would that not fall along the same lines?

MR. WILLIAM HARPER: I -- I don't see them as being parallel. And I think, you know -- you know, clearly whether you have low income rates, electric heat rates, time-of-use rates for industrial customers, any of those, those are rates to the customers, that's what the Board here is being asked to approve. It's very -- you're much in line, you know.

When -- when you're talking about the types of things that may be -- should be in included, I mean, I think that -- I think you're right that the Board can make any -- any recommendations they want, but I don't see -- see it as being as closely related to their mandate as -- as the other rates you were talking about.

MR. DAVID CORDINGLEY: Okay. Sir, we've already touched on your review of Manitoba Hydro's justification for the requested rate increase insofar as that comes out of -- arises out of deter -- deteriorating conditions and -- and your finding that there may be not as bad as Manitoba Hydro is forecasting.

MR. WILLIAM HARPER: Right. They're -- they're not as bad as to justify 7.9 percent.

MR. DAVID CORDINGLEY: Right, correct. We've heard other or I've leached other -- other justifications out of the -- out of proceeding. I was hoping I could put those to you and see what, if any, weight you would give those or -- or if you've considered them. And there's three (3) others, as I see it.

One is -- is with -- we've heard about

-- to meet expectation -- raising a rate to meet expectations of bond rating agencies in order to protect lower borrowing costs for the province and Manitoba Hydro.

Are you aware that that's been one of the justifications?

MR. WILLIAM HARPER: Yes, I -- I believe if you look at Manitoba Hydro's application there were really two (2) fundamental reasons for it; one was the change in outlook and one was the sort of, you know, the issue you've just raised now about sort of a financial -- financial soundness.

And my mandate was to look at the first issue. I believe it was Morrison Park's mandate more to specifically look at the second issue. I have not considered that, nor to be quite frank with you, do I consider myself to have the expertise to do so.

MR. DAVID CORDINGLEY: Okay. Another -- another justification I've -- I've -- I've picked up is -- is in order to reduce risks -- increase rates to reduce risks from potential adverse conditions, including drought -- drought water conditions, seeing as how we've already been running above-average flows, I guess there's a -- potentially we could have a drought -- drought -- increased average drought conditions and -- and -- and one of the justifications is to increase rates to protect against that.

Have you -- are you familiar with that?

MR. WILLIAM HARPER: Yes, I think that's been a -- I've -- I've heard that theme in previous GRAs before this -- this one, actually, and I thought it was issues around what sort of reserves were required which led to the whole risk proceeding that took place here in a number -- number of years ago, and furthermore, was the -- I understood was -- was the underpinning for some of the analysis that -- that was done and filed in this proceeding in terms of the box and whiskers type analysis that's been presented to the Board.

MR. DAVID CORDINGLEY: Has -- has that been part of your analysis or have you considered that in the context of this -- of this GRA?

MR. WILLIAM HARPER: No, I did not actually. Again, I saw that as being more closely related to -- to the issue that Morrison Park was dealing with.

MR. DAVID CORDINGLEY: Finally, sir, one of the other justifications I've distilled is -- is with respect to increasing -- increasing rates now in order to in the long term have -- have lower rates ten (10), fifteen (15), twenty (20) years down the line; that's that the larger increases is -- is due now and needed now to -- to lead to -- to forecasted lower rates in the future.

Have you -- have you heard of that or are you aware of that position?

MR. WILLIAM HARPER: Yes -- yes, I am.

MR. DAVID CORDINGLEY: Have you considered that or...

MR. WILLIAM HARPER: I -- I didn't consider it within the context of this. I think if you look back at the evidence I've provided in the -- in the NFAT proceeding while I wasn't looking at the financial forecast, I did offer an opinion and I think it was somewhat similar to Morris -- to the opinion raised by Morrison Park that if you are looking at that, you have to look at the time value of money at the same point in time. A dollar of a reduced rate in 2034 is not the same as a dollar reduced rate in 2024 or 2018. You have to look at the time value of money and in my evidence -- and I believe it's in the cross-examination I had from Manitoba Hydro that time, was actually discussing what's an appropriate time value of money given that you have to look at it from the customer's perspective.

So I haven't looked at it now, but I think the -- my view of the type of evidence I gave in NFAT was very much aligned with what Morrison Park said yesterday.

(BRIEF PAUSE)

MR. DAVID CORDINGLEY: Sir, jumping back around then to -- to your discussion with Dr. Williams -- arising out of Dr. Williams questions concerning the timeframe to perform the additional study surrounding low income and electric heat rates. I believe you -- you -- you estimated it could take six (6) to -- you -- six (6) to twelve (12) months to perform the kind of study you were thinking of in terms of public acceptability.

Am I -- is that -- am I -- am I -- did I hear that right or am I understanding that right?

MR. WILLIAM HARPER: I think -- one, I think it goes beyond public acceptability. I think there are a number of implementation-related issues that have to be -- that would have to be dealt with with both of those rates.

And, as I said, I think the devil is in the details and I think so -- it's not only the public acceptability, sort of, that -- that's actually one (1) input in -- into the implementation, the design. Not only in terms of what the rate looks at but in say in -- from a low-income customer, how -- how you actually implement and what sorts of verification process is used or what sort of mechanisms you establish for -- for verification.

And -- but -- but you heard me right in terms of the six (6) to twelve (12) months. Yes, I just want to qualify, it was far more than just, you know, asking -- asking for input from customers.

MR. DAVID CORDINGLEY: And -- and I know -- I know Dr. Williams put this to you, but I'm going to do it again.

In light of -- a decision will be made on rates arising out of this GRA. One possibility is that it could be -- the rate awarded could be 7.9 percent, and there's certainly predicted various trajectories that have been put forward as options, some of which include consecutive 7.9 percent increases for a number of years.

Do you still see the benefit of conducting a year-long study in light of what could be seen as more urgent need to mitigate -- mitigate a rate increase for the low income and electric heat?

MR. WILLIAM HARPER: Well and maybe I should add to -- you heard my response to Dr. Williams. What I might add to that is, in my view, I don't think Mr. Chernick's proposal is road ready. And I think he, himself, acknowledged that what he was giving there was -- was examples.

And why don't we just take the electric heat -- heat rate, for example. We're talking about a seasonal rate there. I think there -- there are questions that would have to be addressed by Manitoba Hydro in terms of -- if we're -- if we're parsing by seasons, you've given the metering cycles, given on issuing bills every day of the year, how do I actually define seasons? How do I implement, and that -- implement that in my billing system? There's probably more than one way of doing so. How do I implement a way in my billing system so customers will understand their bills at the end of the day?

When it comes to the low income rate I think there's even more fundamental problems in terms of, you can -- again, I think it's a problem I have to make sure I have the processes in place to be able to manage the applications. What -- what's the application process going -- going to look like? How it's -- it's going to be managed.

Resolving those sorts of issues to even make Mr. Chernick's proposal road ready, I think will take some time and so, therefore, I don't see a lot of difference between the two (2) in terms of the time requirements needed, to tell you the honest truth.

MR. DAVID CORDINGLEY: Would there be any value in -- in -- in piloting a project, in getting boots on the ground and in learning lessons from implementing a procedure, even if it's not perfect and you might amend it?

Do you see -- do you see any value in -- in that learning process?

MR. WILLIAM HARPER: Well, I guess they were asked in terms of what ways could -- could the Board get input -- a pilot study is another way. Now, I think one has to watch what you mean because if -- if you're talking about how is Manitoba Hydro going to change its billing system to sort of manage something, that change has to be made whether -- whether it's for a pilot or whether it's for -- for everybody. So I'm not too sure if -- how the two -- two would line up. If it's trying -- trying to get -- get a sense of how customers understand their bills, then -- then a pilot would be one way.

But I think a pilot only takes you so -

- so far in addressing some of the issues that I noted.

MR. DAVID CORDINGLEY: Sir, as I understand it, you -- you mentioned you played -- you were involved with the Ontario affordable electricity process, some while back?

MR. WILLIAM HARPER: Ontario Electricity Support Program.

MR. DAVID CORDINGLEY: Okay.

MR. WILLIAM HARPER: Those acronyms drive us all crazy, I know.

MR. DAVID CORDINGLEY: What was -- what was your role in that process?

MR. WILLIAM HARPER: Well -- well, actually they -- they were put -- this was developed under the auspice of the Ontario Energy Board and the Ontario Energy Board put together a working group of parties, included people from utilities, people from o social agencies. I, as a consultant, worked for a -- an Intervenor -- a coalition of Interveners. They're fairly similar to what Dr. Williams represents here and I was asked on their behalf to -- to participate on a -- on a working group that was sort of working through -- this initiative came from government.

It was a matter of, okay, how are you

going to implement that? That was a task that was given to the Ontario Energy Board. And they had this working work that was established and I was one of the members that was asked to participate in it.

(BRIEF PAUSE)

MR. DAVID CORDINGLEY: Sir, with that Ontario process, when did you -- when were you -- did you get involved in the process on behalf of those Interveners? At what stage of the consultations?

MR. WILLIAM HARPER: Like I said, it -- we -- it was shortly after -- it was when -- when -- like I said, the task of actually doing it, let me put it that way was -- was mandated to -- to the Ontario Energy Board to oversee and their first step was to try and get input from people and set up a working group. So I'd say it was sort of at -- at the start of the process.

Now, you know, now that was a mandate from government. So there were certain -- I'd say certain parameters that were given coming in to the working group's process but --

MR. DAVID CORDINGLEY: Were you engaged at that point as -- as an expert on rate design to -- to -- to provide some expertise to that group?

MR. WILLIAM HARPER: I -- I was not engaged as an independent expert, I was asked to participate as somebody who could perhaps provide -- who -- who could provide some useful input and insight into the types of issues they were dealing with.

MR. DAVID CORDINGLEY: And you mentioned at some point you stepped back from that process. How -- how far along through that working group did you step back up? How far along the design process were you involved?

MR. WILLIAM HARPER: This is where I go... I'm trying -- trying to recall. It may -- may be -- after a -- after a few months; sort of initially got some of the initial framework together and at that point in time it was getting much more into the implementation details, the implementation details dealing with precisely for -- manners I talked about in terms of, how was this going to work with the particular sort of low income customers that were applying. And there were other parties there representing social -- different social agencies in Ontario that were -- much more boots on the ground and had much -- much - much more experience than I had with that and between that and the time -- time commitments, I -- I bowed out, unfortunately.

(BRIEF PAUSE)

MR. DAVID CORDINGLEY: Mr. Harper, those -- those my questions. Thank you so much.

THE CHAIRPERSON: Thank you Mr. Cordingley. M. Monnin...?

CROSS-EXAMINATION BY MR. CHRISTIAN MONNIN:

MR. CHRISTIAN MONNIN: Thank you, Mr. Chair, members of the Board. Good morning, Mr. Harper. I'm -- I'm back here. I am legal counsel for the General Service Small/General Service Medium customer classes in addition to Keystone Agriculture Producers.

I have a few questions for you this morning. I'm allotted thirty (30) minutes, but I've advised my colleagues and the Board counsel that I -- I expect to be about half that time.

The first questions I have for you, Mr. Harper, perta -- pertain to revenue to cost ratio, and my understanding is the revenue to cost ratio is that a revenue to cost ratio that's close to one (1), or a hundred percent is considered to mean that the customer class is paying its fair share, correct?

MR. WILLIAM HARPER: It's considered -- I think you have to parse that in pieces. I think we -- I've talked about the fact that how any particular cost of service methodology is -- is not precise. So I -- I think what you could say, it's paying close to its fair share. Applying that -- applying that particular cost of service meth -- methodology, if you wanted to make a more general statement in terms of its applying its fair share, I think that's where the zone -- zones of reasonableness issue -- issue comes in.

MR. CHRISTIAN MONNIN: Right.

MR. WILLIAM HARPER: And to some extent, whether one is at 97 percent or 103 percent of that broader definition, I -- I would argue you're equally paying your -- your fair share.

MR. CHRISTIAN MONNIN: Based on that answer, I might reconsider my assessment of taking fifteen (15) minutes. We might be a little longer this morning.

And so with the revenue to cost ratio, the question I'd put is -- is that the revenue to cost ratio of a hundred percent is unity. Is that -- is that fair to say?

MR. WILLIAM HARPER: Yes, that's fair to say.

MR. CHRISTIAN MONNIN: Okay. And if a ratio exceeds the one point-0 (1.0), the unity by enough of a margin, that class is considered -- appreciating that it's imprecise, that class is considered to be paying more than its fair share, correct?

MR. WILLIAM HARPER: Yes, and that's where the zone of reasonableness comes in.

MR. CHRISTIAN MONNIN: That's right. And we might as well just skip right to the zone of reasonableness. I have some questions for you there. And as we'd discussed earlier, the unity is a revenue to cost ratio for a customer that is -- is a hundred percent. And Manitoba Hydro, in its evidence earlier in this hearing, referred to unity as the Holy Grail, meaning it's something to strive for, but in all practicality, you're probably not going to get there. Is that fair to say?

MR. WILLIAM HARPER: That was their evidence, yes.

MR. CHRISTIAN MONNIN: And would you dispute that?

MR. WILLIAM HARPER: Well, I don't necessarily see it as -- as the Holy Grail for -- for two (2) reasons. One (1) is the one (1) reason I just mentioned is that I'm -- I'm not -- I don't believe the answer is that precise, and two (2), the target is continually moving. And I think to -- which I think is another reason why you have -- have a zone of reasonableness.

We -- we -- we've all seen the response that Manitoba Hydro gave to questions about how might the zone of -- how might the revenue to cost ratios change if Bipole III comes into play. So that if I set up -- if I try and achieve the Holy Grail, as it's been defined right now, and set a plan over three (3) years, once Bipole III comes into play, the Holy Grail has moved. It -- it's now some -- some -- it's now somewhere else. And as I try to move through that, Keeyask is going to come into service, and it's going to move one (1) more time again.

And so I -- I think that actually adds another level of imp -- imprec -- imprecision to this, and so I -- I'd -- and also, the other issue, to be quite honest with you, is the fact that that's the Holy Grail if I was looking at things solely and strictly from a cost of service perspective. When it comes -- we -- we -- we've all note -- noted when it comes into designing rates and setting revenue requirements by customer class, it's only one (1) of the consid -- one (1) -- one (1) of the considerations that come into play.

MR. CHRISTIAN MONNIN: Right, but that's -- I appreciate that there are other factors that ought to be considered or can be considered at the discretion of the Board, correct?

MR. WILLIAM HARPER: Yes.

MR. CHRISTIAN MONNIN: And we'll get to those other factors in the line of questioning I have for you, but right now, I'd like to just focus on the zone of reasonableness.

And the zone of reasonableness that this -- this Board has established for quite some time is 95 to 105 percent, correct?

MR. WILLIAM HARPER: Yes. That was established a num -- number of years ago, I believe.

MR. CHRISTIAN MONNIN: Subject to check, I believe it's 1996.

MR. WILLIAM HARPER: That's right.

MR. CHRISTIAN MONNIN: And -- and you had touched upon earlier, in your answer about Bipole III coming on-stream, and Keeyask coming on-stream, which will have an impact on -- on the cost causality, correct?

MR. WILLIAM HARPER: Yes, it -- it will have an impact on the percentage of costs that are allocated to each customer class.

MR. CHRISTIAN MONNIN: And so in your report -- we're looking at page -- we're going to get there, but in your report -- and I didn't -- I didn't hear it in your -- your presentation this morning, but in -- in your report, you -- you make a suggestion of broadening the zone of reasonableness, at least on an interim -- or possibly on an interim basis, correct?

MR. WILLIAM HARPER: Yes, I think -- what I was saying was that there were still some outstanding issues to be resolved around the cost of service meth -- method -- methodology, and on that -- and -- and that basis, what -- what one might want -- want to consider being a little bit more flexible on the zone of reasonableness until we've honed down on exactly what -- what the cost of service methodology is going to be going forward.

MR. CHRISTIAN MONNIN: Right. So on the one hand, you -- you assert that because the methodology for cost of service is still evolving, there might be a broadening of the zone of reasonableness, correct?

MR. WILLIAM HARPER: Yes.

MR. CHRISTIAN MONNIN: Okay. You -- you don't provide in your report any examples of another regulatory body doing this, do you?

MR. WILLIAM HARPER: Doing -- doing what? I'm sorry.

MR. CHRISTIAN MONNIN: An interim broadening of the zone of reasonableness.

MR. WILLIAM HARPER: No. I -- I think there -- there are examples of -- of regulators who, given the appreciation they have of the cost of service methodology, that -- that they're going to be applying sort of use that as an input into how they'd -- the zone of reasonableness --

MR. CHRISTIAN MONNIN: Correct, an input, one (1) of the -- one (1) of the factors you need to consider, but I'm putting a specific question to you, Mr. Harper, and it's the following: You mentioned the suggestion of an interim broadening of the zone of reasonableness, correct?

MR. WILLIAM HARPER: Yes.

MR. CHRISTIAN MONNIN: Nowhere in your report do you provide an example of a regulatory body doing so, correct?

MR. WILLIAM HARPER: That's correct.

MR. CHRISTIAN MONNIN: Okay. And you -- you indicate that the cost of service on the one (1) hand is still evolving, and also we touched upon Bipole III and Keeyask has yet to come on-stream, and that will have an impact.

Wouldn't it be prudent for this Board not to back away from a well-established regulatory principle of ninety-five (95) to a hundred and five (105) until the cost of service methodology is done evolving, and until Bipole and Keeyask has come on-stream. Would you agree with that?

MR. WILLIAM HARPER: No, I think all -- you could almost apply the opposite in logic, I think.

(BRIEF PAUSE)

MR. CHRISTIAN MONNIN: Wouldn't you agree that given that we're still waiting for Bipole and Keeyask to come on stream that this Board ought to rely upon the long-established regulatory principle of a ninety-five (95) to hundred and five (105) as just one (1) of the tools in its toolbox when it comes to ratemaking, and not make a premature move to broaden the scope of the -- of the zone of reasonableness?

MR. WILLIAM HARPER: I think I've answered that question. And the answer is no.

MR. CHRISTIAN MONNIN: If you can go to your report, page 81, please, Diana. And here we have the revenue cost ratio under PCOSS18. And as I mentioned earlier, I'm -- I'm legal counsel for general service small and general service medium. Even at you're suggestion of an interim broadening of the zone of reasonableness from -- I believe it's moving it to 110 percent on the higher echelon, general service small non-demand are still outside of that zone of reasonableness.

Do you agree with that?

MR. WILLIAM HARPER: I would agree with that, yes.

MR. CHRISTIAN MONNIN: I'd like to ask you a few questions about -- under the heading in your report it's page 85, "Application to Manitoba Hydro's Current Circumstances."

(BRIEF PAUSE)

MR. CHRISTIAN MONNIN: I appreciate it's your report, but do you need time to -- to review that before I ask you some questions?

MR. WILLIAM HARPER: Well, I guess it depends on the particular question. Maybe -- maybe we -- we -- we -- and which part of the page you're looking at. So maybe -- maybe it's just easier to proceed with the question and we'll see.

MR. CHRISTIAN MONNIN: Sure. It's really the first paragraph starting with "Manitoba Hydro's application," and then ending with "appropriate today."

MR. WILLIAM HARPER: So it's the second paragraph in the section there?

(BRIEF PAUSE)

MR. CHRISTIAN MONNIN: It's the -- the first paragraph, right after the title, "Application of Manitoba Hydro."

MR. WILLIAM HARPER: Okay. Because you said "appropriate today" and that was the second paragraph. That was all that threw me off. Okay.

MR. CHRISTIAN MONNIN: So when you -- when you're done reading just let me know, please.

MR. WILLIAM HARPER: Okay. No, that's -- that's fine. I -- I think -- I think I recall what

I said, yes.

MR. CHRISTIAN MONNIN: And so here you note that -- it's -- it's your evidence here, Mr. Harper, that the proposed increase of 7.9 percent is already four (4) times the rate of inflation. I'm just repeating what's there; correct?

And in that regard. You also state that the higher customer class rate increase -- sorry, the -- the higher customer class rate increases due to interclass revenue adjustments would be even more problematic.

MR. WILLIAM HARPER: Right. That -- that comes back to the issue of rate shock.

MR. CHRISTIAN MONNIN: Correct. And -- and with regards to Manitoba Hydro's metric on gradualism and stability, that is the annual adjustments to revenue by customer class should be less than 2 percent -- 2 percent points greater than the overall proposed increases.

Your evidence here is that this is a dated guideline?

MR. WILLIAM HARPER: Yes, I -- I think the evidence here is the guideline was -- was developed under a sort of a different era or within a different context. When -- when we rate increases --

I think another one (1) of the guidelines of Manitoba Hydro, if I can recall that time, was that rate increases should be close inflation overall. So that -- obviously it was a different era we were dealing with then.

MR. CHRISTIAN MONNIN: And -- and you question whether that metric is appropriate today, but you don't provide a suggestion on what would be appropriate; correct?

MR. WILLIAM HARPER: Well, I think what -- what I was trying to say the same as in -- in my direct is I don't think you can -- I don't think you can say it should be -- you should have -- have a limit for 2 percent for, say, inter-revenue adjustments without looking at also what's the impact of the GRA changes, what would be impact if I'm making rate design changes on the residential or any other particular customer class at the same point in time. And you have to look at the total -- at the total impact.

MR. CHRISTIAN MONNIN: So it's -- it's it's fair to say that at the proposed rates of 7.9 percent, such an adjustment, in your position that's not appropriate; correct?

MR. WILLIAM HARPER: Well, I don't

think it's totally inappropriate. I -- I think -- I think what I'm suggesting here is that the Board has to take a range of considerations into account. One (1) -- well, if I -- say, your particular customer class, for ex -- that you represent, for example, will be the fact that their revenue to cost ratio right now is -- is in excess of the zone of reasonableness even at ninety (90) to a hundred and ten (110). That's one (1) factor to be taken into account.

Another factor to be taken into account is the size of the overall rate increase, and that's what they have to weigh. They can't just apply this rule blindly without looking at the other considerations that are involved, one (1) of which, in my mind, a major one (1), is what's the overall average rate increase that's going to be approved in this proceeding.

MR. CHRISTIAN MONNIN: And so if I were to ask that same question, but rather than seven (7) nine (9) -- the 7.9 percent, and inserted with the 3.95 percent, which is the previ -- previous rate plan, would your answer still be the same?

MR. WILLIAM HARPER: Well, I think the issue is, is that the weight you -- the weight in those considerations that you would put to the implications of the overall rate increase would be less because their overall rate increase is less, yes.

(BRIEF PAUSE)

MR. CHRISTIAN MONNIN: And --

MR. WILLIAM HARPER: I mean, maybe just to clarify. I don't think the Board has a black box where it goes away and inputs a bunch of these things and all of a sudden out -- out comes a particular number. There is a -- that there is a -- you know, there's a number of considerations that have to go into play and -- and be weighed to a certain extent. And that -- that's what I was trying to emphasize here. It's not a -- it's not a formulaic re -- result at the end of the day. We add 2 percent here 3 percent for rate design, and that gives us a number.

MR. CHRISTIAN MONNIN: And -- and so it would be safe to say that in certain circumstances, subject to the discretion of this Board, an adjustment between the classes would be acceptable.

MR. WILLIAM HARPER: You know, I -- I think the Board has the discretion to decide what it wants to assign in terms of what it considers to be acceptable, yes.

MR. CHRISTIAN MONNIN: So if I were to put to you that from your perspective these -- these adjustments shouldn't happen at all, you wouldn't agree with that?

MR. WILLIAM HARPER: No, I -- I -- you know, if you were to put together they should never happen under any circumstance, I would not agree with that.

MR. CHRISTIAN MONNIN: And you've indicated that -- and I think we've -- we've touched upon this, that in addition to the cost of service the Board can consider other compel -- other compelling policy considerations and factors.

And would you agree with me that we touched upon, or you touched upon that, but the Bonbright principles are some of the factors that this Board can consider?

MR. WILLIAM HARPER: Well, I think we have to parse two (2) things down. You are talking about other broader public policy considerations, which I think is -- I would interpret as maybe one (1) element of Bonbright's criteria which even go beyond that in a sense of look -- I guess -- I'm not sure whether it's beyond that, because public interest and public policy can include whatever you want to include.

But, you know, his issues about rate stability, un -- understandability, efficiency, I mean, one can decide whether one wants to capture all that under -- under the gambit of public policy or public interest or not. But I think I would want to make sure they aren't forgotten in the process.

MR. CHRISTIAN MONNIN: Okay. And one (1) of the main points that you raised that the Board ought to keep in mind is -- is public accept -- acceptability of the rate increases; correct?

MR. WILLIAM HARPER: Yes.

MR. CHRISTIAN MONNIN: And would you agree with me that the impacts or the potential impacts that proposed rate increases may have on the economy form part of public acceptability?

MR. WILLIAM HARPER: Yes, I would agree with that.

MR. CHRISTIAN MONNIN: Thank you. No further questions.

THE CHAIRPERSON: Thank you. Does the panel have any questions?

(BRIEF PAUSE)

BOARD MEMBER GRANT: I had a -- a few questions, usually preceded by a long rambling.

MR. WILLIAM HARPER: I -- I'm -- I'm sorry, either I wasn't...

BOARD MEMBER GRANT: Okay. Sorry. No, I was just -- never mind. I -- I wanted to ask you about cost of service, just to give you a chance, because you must have rare opportunities to actually meet people on the street to talk about this stuff.

MR. WILLIAM HARPER: Well -- well, I must admit my wife is never able to explain to people what I do for a living.

BOARD MEMBER GRANT: She must be happy to see you come home from a cost of service hearing to talk about your day. Can I just talk about rate design a bit, because when you -- I take your point about the Chernick proposal not being road ready. But I really have to appreciate the fact that he put some numbers out there with a model. And the only way I see this sort of going forward is someone, you know, gets the discussion started and we can tinker and play with and criticize that.

MR. WILLIAM HARPER: I agree with you a hundred percent there.

BOARD MEMBER GRANT: Would I be

correct that -- so I am leading up to a question. I think part of the issue in the Chernick model, if you think of some of the Coalition's clients, say you are a natural gas heater in a nice suburban area of Winnipeg. You'd be looking at potentially a large across-the-board rate increase. Then you might get dinged with a subsidy for low income. You might get dinged with a subsidy to all electric. You're already, I guess, paying a subsidy for uniform rates.

And -- and then in theory, with the revenue cost zone of reasonableness issue, you -- you could get sort of dinged again when you're not really, you know, driving those costs. And so is there one (1) -- so one (1) thing that I didn't quite appreciate at the time of the cost of service hearings, is there a clear criteria for different rate classes?

So should the Coalition see some separatist movement right where you get such widely different revenue cost requirements within a rate class? Is -- is there any clear model for, you know, setting up customer classes?

MR. WILLIAM HARPER: I -- I guess, you know, there -- there are two (2) questions there. One (1) is really the -- I guess you could say the sort of rate-making type question of how -- how do you set up customer classes. And the second one (1) is, is it always possible for one (1) particular entity to represent all the customers in that class once you've set it up. You know, or -- or are there disinterest there such that they have to spin off.

And I think -- you know, I think the whole idea of setting up customer classes is that, you know, at the end of the day no two (2) customers are the same. But you sure as heck don't want a customer class for every single customer in the province, and there has to be some averaging and some -- some aggregating of customers. And -- you know, and -- and utilities have typically done this with all residential customers, all large industrial customers.

I can tell you from experience when it -- and I'll use the industrial class as an example. Industrial customers tend to be fairly high load factor customers. They all are high load factor customers. And there was a group -- there was -- they were represented before the Ontario Energy Board by a group called AMCO that represented them.

There was a small segment of that that were electric furnace customers. They are -- they are fairly low load factor customers. The furnace comes on, it whips up, and it runs for a short period of time at a high peak demand, and then it's off for a while. They basically found that the AMCO representation, being a part of the group, wasn't representing their interests. And they actually ended up intervening separately in the proceeding be -- because of that.

So I take your point that no one (1) Intervenor -- one (1) Intervenor may not represent all the interests in that class, and people participating in that class have to be mindful of that in making sure they're being appropriate represented.

BOARD MEMBER GRANT: But -- so -- so -- where is -- you know, I was aware of the revenue cost guesses for all electric versus non-electric.

MR. WILLIAM HARPER: Yes.

BOARD MEMBER GRANT: And so what's the threshold when you start to see those departing that widely? I mean, I guess there's no -- Bonbright didn't write anything down on that.

MR. WILLIAM HARPER: There -- there's no -- you know, I -- I mean you -- you could -- one (1) threshold you could do is you could apply the same zone of reasonableness test you apply to cost of service methodologies overall. And if electric heat is one-o-three (103) and the other -- you know, if you're using ninety-five (95), one-o-five (105), the electric heat is -- is one-o-three (103) I think. Excuse me. The non-electric heat is one-o-three (103). The other one (1), I think, is down close to ninety (90) if I recall. So you would say maybe we're outside of the bounds there and there is a problem there.

I'll often -- to be quite honest with you, when people are talking about looking -- taking a class and breaking it up and setting up different customer classes, they'll do exactly that sort of analysis, look at what's the cost of service study if I separate them out. And do I get materially different revenue to cost ratios? And if I do that would be one (1) of the drivers and one (1) of the rationale for actually setting up a separate class.

BOARD MEMBER GRANT: Switching gears, this is a little bit self-serving. I just want to show that I read your report. So I want to ask you about footnote 204, which is -- you provide a definition of marg --

MR. WILLIAM HARPER: Well, luckily I'm on that page, but...

BOARD MEMBER GRANT: You have a definition of marginal cost there. And I -- and I take -- I think I take your point to be marginal cost really only has a role -- it doesn't have as much of a role in allocating cost today as much as a planning purpose to look at increments to capacity. Because I -- you know, I struggle with the issue of essentially, what's an average cost framework, and then trying to inject these sort of -- what we think a better price incentive signals into a system.

MR. WILLIAM HARPER: Yes.

BOARD MEMBER GRANT: So -- but is that -- do you want to just elaborate on that, because --

MR. WILLIAM HARPER: No, I -- I think that's a fair comment that I think is, you know -- and if you think about it when you were -- when we were in the NFAT we were focusing mainly on the economic analysis. I mean, we looked at the financial analysis, but the economic analysis was the main framework in which to make your decisions.

And as to the economic analysis, where you're looking at what's the -- I'd say that's more of a efficiency marginal -- it isn't really marg -- but -- but it's sort of more -- attuned to or akin with marginal cost. So I -- I think you're right. I think from -- from a planning perspective that -- that's where you want to look when it comes to sort of the

GRA rate-making process, you know, I guess.

And maybe -- maybe that's why there's a -- maybe that's why it's useful to make a distinction between cost of service methodology and rate-making, because since you are using an embedded cost approach, trying to mirror those -- when you're allocating embedded costs or accounting costs it be -- becomes awkward. And I think people often think of marginal cost as maybe coming more to play as an input in the rate design process.

And I think even there it's probably -- its weight as an input probably depends upon where a utility is in its overall plan -- planning cycle and development. If you're getting close to needing new supply, and you're concerned about new supply, you know, sort of the economic implications of building a supply, then perhaps incorporating marginal costs into your rate design becomes much more important than if you're sort of at another period of time in your development.

To be quite frank with you, I've seen utilities that they've come forward with one (1) proposal, putting a priority on various rate-making objectives. And maybe five (5) years later come forward with another proposal and the priority has slightly changed because their circumstances changed.

BOARD MEMBER GRANT: Okay. And so just the last question/comment, because we look to people from Ontario as guides to the future of Manitoba --

MR. WILLIAM HARPER: Well, I wouldn't do that.

BOARD MEMBER GRANT: But you had a bit of a taste of higher rates for electricity. And I guess I'm wondering is some of the difference between, say, GAC's presentation and yours is it -- is part of it just how important these price incentives are? Is -- is -- or is that --

MR. WILLIAM HARPER: Well, I'm not sure if it's how important the price incentives are. It's how important it is -- in my mind, it -- and this is where it comes back to the road ready issue in terms of when you're setting up processes and rates that are going to be basically affecting everybody in -- in the province, whether it be from those who have to pay or from those who are actually going to be put on a new rate design or have to apply for new rate. I think you want to make sure that it is road ready and you aren't going to run off the rails right away. Be -- you have to think -- think it through before you implement it. I think that's the issue.

BOARD MEMBER GRANT: So in that sense you really -- just get this right, is it's you'd go off the rails because you haven't struck the right balance between fairness and incentive? Or --

MR. WILLIAM HARPER: Or -- or, you know, or you haven't -- haven't -- you haven't -- there could be an number -- number of ways you go off the rails. Maybe, one (1), you -- you don't quite appreciate -- as you said, you add all those little pieces together and all of a sudden other customers who are out there are paying what they all consider far more than appropriate, given what they're paying for. And you get a real backlash from -- from that perspective.

Or you try to implement it and you haven't worked it through far enough so that people are applying, but they can't -- but -- but the implementation and the verification process just can't manage that -- that the volume and, therefore, they don't get accepted or -- or on the program as quickly as they think -- think is reasonable. So there's a number of ways things go off the -- might go off the rails.

BOARD MEMBER GRANT: Thanks very much.

THE CHAIRPERSON: Mr. Harper, Mr. Monnin's last question related to public acceptability of rate increases. And -- and I believe you agreed with that.

Is the public acceptability a consideration for rate increases or for rate structure?

MR. WILLIAM HARPER: I think it's both actually.

THE CHAIRPERSON: Okay. Because as I read Bonbright, which I just happen to have here. Everybody keeps quoting him. I thought I'd read him. The paragraphs actually -- the -- the -- sorry. The chapter is actually called "Criteria of a sound rate structure." And the sentence says -- and I'm just sort of paraphrasing it. A number of writers have summarized their answers in the form of a list of desirable attributes of a rate structure.

And then he goes through eight (8) -- he says -- he -- he gives eight (8) items in no particular sequence. And one (1) of them is the related practical attributes of simplicity, understandability, public acceptability, and feasibility of application.

If it is a -- if -- if public

acceptability of rate increases is the factor, and the Board decided to order a larger increase for which the public may not find acceptable, how -- I'm -- I'm really having a problem understanding this. This Board actually in earlier times ordered rate increases higher than were -- were requested.

MR. WILLIAM HARPER: Right.

THE CHAIRPERSON: I assume at the time the public may not -- may or may not have found those to be acceptable. It had to do with drought.

Is -- is that something we should be --

MR. WILLIAM HARPER: Well -- well --

THE CHAIRPERSON: -- we should be looking at?

MR. WILLIAM HARPER: And -- and I think that goes back to -- if you look at my last slide in my presentation and the last bullet on the last slide in my presentation. I think that speaks precisely to that point. And that is that I think everybody in Manitoba understands drought and understands drought has a -- is going to have -- have an impact on their rates.

If -- if the perception was that rates were going up because Manitoba Hydro's executive were all getting a 30 percent increase in pay it might --

it might -- there might've been a different reaction of the front page of the -- whatever the Winnipeg newspaper is as -- as to -- as to what -- what was the acceptability of the increase. So, you know, and I think we don't have to -- have to lose sight of the fact that, you know, that amongst those -- those objectives of Bonbright is the adequacy of the revenue requirement, which clearly speaks to -- to level, not just to structure.

You know, and so I think that -- that's something obviously the Board has to take into account as well which is why, in circumstances such as drought and looking forward, you know, it -- it may well be more -- more appropriate to order rate increases that are larger than what -- what the particular utility has asked for.

THE CHAIRPERSON: Okay.

MR. WILLIAM HARPER: So I think it has to do a lot with -- with the perceived reason for the increase. High rate increases are not -- if I'm being served by a fossil fuel based utility that's got oil -- mainly oil generation, and international oil prices are moving around, I can understand why my utility may be looking for higher rate increases. I mightn't like it, but it's much more easier to understand and accept those -- in such a situation.

THE CHAIRPERSON: You -- you could look at all of those factors. How would the Board determine if a rate increase is publicly acceptable?

MR. WILLIAM HARPER: Well, I -- I think, one (1), it's to a large extent based on what -- you know, it's wing of those. It -- it's what you're hearing -- it's what you're hearing during the course of the proceeding that you're holding right now. It's what you see in terms of the letters that you're getting from -- from various parties.

I think, you know -- I guess the last thing at the end of the day is you -- you all are a cross-section and representation of Manitobans, to be honest with you and can -- and can apply that -- that as well within the context of your decision-making.

THE CHAIRPERSON: Okay. So you would see it as input prior to making the decisions?

MR. WILLIAM HARPER: Yes.

THE CHAIRPERSON: Okay. Thank you very much, sir. We'll -- we'll adjourn until -- we'll adjourn for an hour. We'll start at ten (10) to 1:00. Thank you.

--- Upon recessing at 11:52 a.m.

--- Upon resuming at 1:02 p.m.

THE CHAIRPERSON: Okay, if we could -- we could resume. M. Hacault...?

CROSS-EXAMINATION BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: Thank you, Mr. Chair and members of the Panel. Good afternoon, Mr. Harper, good to see again.

MR. WILLIAM HARPER: Good afternoon.

MR. ANTOINE HACAULT: I'm going to start with some questions which are a follow-up on a question by Vice Chair Kapitany this morning. It related to your slide 21. Perhaps we can go to your slide 21 to remind ourselves what the question related to.

It related to ineligible overheads and a depreciation difference in methodology. Do you recall that discussion?

MR. WILLIAM HARPER: Yes, I do.

MR. ANTOINE HACAULT: Okay. And to -- the question was asked whether or not you specifically had looked at the impacts of -- following what's referred to as the ESC recommendation.

And -- and to your defence, I guess,

you haven't been here to see all the undertakings and all the runs that have been done since this hearing has begun; that's correct?

MR. WILLIAM HARPER: I haven't been here. I'm been trying to keep up with them, but I probably haven't managed do as well as I should.

MR. ANTOINE HACAULT: So if we go to Manitoba Hydro Exhibit 93, 9-3. This is a document that was produced by Manitoba Hydro. And if we look at number 2 in that requested undertaking, there is a run that follows which deals with the following issues or assumptions.

Firstly in 2(a) we start with the IFF16 update with interim assumptions, except where noted.

Are you following me so far?

MR. WILLIAM HARPER: Yes.

MR. ANTOINE HACAULT: So Manitoba Hydro ran a scenario where there would be a twelve (12) year WATM. You're following that?

MR. WILLIAM HARPER: Yeah, I -- I thought that was what was actually embedded in IFF16 to begin with this so.

MR. ANTOINE HACAULT: Yes. And here is where we deal with your recommendation, sir, as I understand it: overhead accruals of 20 million continue throughout amortized at a thirty (30) year rate.

That's your recommendation, correct?

MR. WILLIAM HARPER: Yes, it is.

MR. ANTOINE HACAULT: And then 2(d), depreciation at ASL for average service life throughout; no amortization of difference with ELG which is equal life group method.

That's your recommendation, sir?

MR. WILLIAM HARPER: Not precisely. My recommendation was based on an expectation that the Board would come back per the Board's directive and we would have a -- have a conversation about which rate setting methodology should be used for -- excuse me, which depreciation methodology should be used for rate setting purposes.

And at that point in time, depending upon that -- that decision, you know, at -- in conjunction with that, you'd have to make decisions that were consistent with that about what you were going to do with this deferral account going forward. Whether you needed a deferral account. If you did, how you were going to amortize.

But my recommendation was that until we sort out that particular understanding of where we're going to go in the long term, we -- which hopefully won't take very long to do, we -- we -- we should really put on hold. So I think it's no amortization of the difference over a short-term which, hopefully, isn't more than a couple of years. And then after that it depends, I guess, is the best I can say.

MR. ANTOINE HACAULT: Okay. But would you agree with me, sir, that the Board direction is that we continue to use average service life method until we come back and deal with that issue?

MR. WILLIAM HARPER: Yes, I do.

MR. ANTOINE HACAULT: Okay. And then we can see the other assumptions, rate increases necessarily -- consistent with the approach used by a coalition request that means annual -- equal annual increases to reach a target of 75/25 by the year 2035/'36.

Do you see that?

MR. WILLIAM HARPER: Yes, I do.

MR. ANTOINE HACAULT: Okay. Now, these runs don't deal with the whole issue of how Manitoba Hydro has changed its approach to valuing its surplus dependable energy, correct?

MR. WILLIAM HARPER: No, there's -- there's nothing in here about changing the way they --

making any changes from the way they're currently proposing that their export prices should be based on and what sort of assumptions about capacity value that should include.

MR. ANTOINE HACAULT: And I don't intend to take you through it again, but we saw that visually when we were dealing with Daymark Export reports and testimony where we saw visually when the Northern Sales Power agreement ended in 2025, all of that capacity and energy was assumed to be put in the opportunity market at low prices?

MR. WILLIAM HARPER: I haven't seen the specific slide, but -- but -- but I understand that that treatment would be consistent with -- with Manitoba Hydro's treatment of export pricing in general in the IFF.

MR. ANTOINE HACAULT: And if we go to the next page. I want to have a discussion on depreciation, generally. For example, irrespective of the depreciation method if we use a straight-line method and we have a thirty (30) year life.

Are you following me so far?

MR. WILLIAM HARPER: Yes. We have a straight line method and a thirty (30) year life for...?

MR. ANTOINE HACAULT: For a particular asset.

MR. WILLIAM HARPER: Oh, for an asset, that is thirty (30) years.

MR. ANTOINE HACAULT: Yes.

MR. WILLIAM HARPER: And it has an expected thirty (30) year life, yes.

MR. ANTOINE HACAULT: So that asset, irrespective of the method, by the end of that thirty (30) year life will have been fully depreciated, correct?

MR. WILLIAM HARPER: Correct.

MR. ANTOINE HACAULT: So the discussion that we've had, and I put everybody to sleep on ELG and ASL, was whether one (1) method was more aggressive than the other at the front-end of the depreciation cycle. That was the nature of the discussion.

Do you recall that?

MR. WILLIAM HARPER: Yes, it was and I think that was the issue that the Board wanted more information on, actually, I believe.

MR. ANTOINE HACAULT: But would you agree with me that at the end in my example of an asset that's expected to be a -- have a thirty (30) year life, if you use a thirty (30) year life table, whatever differences there might be in the methods at the beginning will correct themselves by the end of the thirty (30) year life because in both methods you depreciate the asset fully at the end of the thirty (30) years?

MR. WILLIAM HARPER: Yes, I would. At the end of the thirty (30) years, the value is zero in both cases.

MR. ANTOINE HACAULT: Now, sir, what I'd like to take you to -- through now and it corresponds in large extent to some of the tables that you have is the last page of this exhibit, again, produced by Manitoba Hydro which is a summary of different integrated financial forecast runs with certain headings and metrics that are looked at in comparing to each different run.

The first thing if we look at the bottom left-hand corner which indicates MIPUG scenario December 21, 2017, is we see that the run results in even annual consecutive increases of 3.57 percent to achieve a 75/25 deb/equity ratio by the end of 2035/2036.

Do you see that?

MR. WILLIAM HARPER: Yes, I do.

MR. ANTOINE HACAULT: So that's different than the run that you used which is quoted immediately above and was quoted in your paper which resulted in a 4.34 percent average annual increase to bring the 75/25 debt ratio by 2033/2034.

MR. WILLIAM HARPER: Yes, there's different assumptions used in each of the two (2) runs.

MR. ANTOINE HACAULT: And we've gone through those assumptions?

MR. WILLIAM HARPER: Well, probably not. Well, probably not all of them directly. I think the other major one that's missing off the last row, and to be fair, is that I believe the last row is based on the twelve (12) year WATM as supposed to the twenty (20) year WATM. And a twenty (20) WATM would narrow the difference. I anticipate would narrow the different between the two (2) scenarios.

MR. ANTOINE HACAULT: Yes, assuming the Company would follow the different weighted average --

MR. WILLIAM HARPER: -- maturity, I apologize --

MR. ANTOINE HACAULT: -- on to maturity.

Now, the one (1) thing that you didn't have in your charts was the maximum long-term debt between all of the scenarios that you considered?

MR. WILLIAM HARPER: That's correct.

MR. ANTOINE HACAULT: And this table gives us the results of those different runs on that metric if one were concerned about a long-term debt issue?

MR. WILLIAM HARPER: Yes.

MR. ANTOINE HACAULT: So that if we look at the -- on the left-hand side, Manitoba Hydro 14 IFF run gave us a maximum long-term debt of some $24.5 billion approximately; correct?

MR. WILLIAM HARPER: Yes, I'm sorry.

MR. ANTOINE HACAULT: You see that on the table?

MR. WILLIAM HARPER: Yes, I do.

MR. ANTOINE HACAULT: And if we go to the extreme right-hand side, we see a maximum net debt for that MH-14 at 23.2 billion approximately?

MR. WILLIAM HARPER: Maximum net debt, yes.

MR. ANTOINE HACAULT: And we see retained earnings at -- as at 2033/'34 of some $5.5 billion for that MH-14 run?

MR. WILLIAM HARPER: Yes.

MR. ANTOINE HACAULT: Now, with that caveat that you put that the last run by Manitoba Hydro being entitled MIPUG scenario, with the lower rate increase at 3.57 in equal annual increments, we see that that results compared to Manitoba Hydro 14 at a debt about $1 billion higher. The maximum long-term debt is now $25.5 billion approximately.

MR. WILLIAM HARPER: Yes, it's a little over a billion dollars more.

MR. ANTOINE HACAULT: And we see that the minimum equity, if we go and compare those two, between the MH-14 run and this last scenario, even at 3.57 percent equal rate increases, our debt-to-equity ratio doesn't go down quite as much, does it, sir?

MR. WILLIAM HARPER: No, it doesn't.

MR. ANTOINE HACAULT: Manitoba Hydro 14 run shows it would go down to 10 percent versus the last run with the lower rate increases. It's not much different, but it -- it doesn't go down quite that far. It goes down to 12 percent, correct?

MR. WILLIAM HARPER: Yes.

MR. ANTOINE HACAULT: And let's compare the negative net income for the Manitoba Hydro 14. MR. WILLIAM HAIGHT: see that we were projecting in that IFF some $977 million of negative net income in eight (8) years?

MR. WILLIAM HARPER: Yes.

MR. ANTOINE HACAULT: Versus with the lower rate scenario of three point five-seven (3.57), we see a total negative net income at the bottom under that column of $418 million during six (6) years?

MR. WILLIAM HARPER: Right.

MR. ANTOINE HACAULT: And finally, if we look at the retained earnings and compare Manitoba Hydro 14 to the MIPUG scenario, we see that the lower rate increases at three point five-seven (3.57) result in about $5 billion of retained earnings instead of the $5.57 million -- billion in retained earnings?

MR. WILLIAM HARPER: Yes.

MR. ANTOINE HACAULT: Sir, does this change your opinion in any way as to whether or not with those two (2) adjustments on operating expenses and depreciation -- and there is the twelve (12) year -- and twenty (20) year WATM.

Does it change your opinion at all that there isn't really a significant difference between prior projections, and even the MIPUG scenario, which has been run as of December 21?

MR. WILLIAM HARPER: Well, I think the

MIPUG scenario builds in a lot more differences between IFF16. You know, there -- there's a lot more differences buil -- built in here than -- than in the particular scenario I was looking at. So I'm not too sure whether it's -- and again, it's -- it's not the way Manitoba Hydro would -- would be looking at -- would -- would be looking at -- would have been looking at the future. And so I don't think it changes my -- my conclusions at all, no.

MR. ANTOINE HACAULT: Okay. Thank you. I'll bring you back to your numbers, and to be able to understand exactly what's included or excluded in your assumptions. I'll take you to the Morrison Park Associates presentation at pages 44 and 45.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: Mr. Hacault, this is just from the exhibit from yesterday from Morrison Park?

MR. ANTOINE HACAULT: That's correct.

DR. BYRON WILLIAMS: Just for clarifi -- thank you.

CONTINUED BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: Yes, Coalition Exhibit 45, for the record.

Sir, in the IFF runs that Manitoba Hydro does, do you know at all of whether or not for years 2 and following in the twenty (20) year IFF, whether they use the mean flow cases or median flow cases?

(BRIEF PAUSE)

MR. WILLIAM HARPER: It wasn't clear, in my view, that they actually used either. My understanding that may be totally incor -- incorrect, is what they did was they looked at the financial implications of each of these flow cases and then averaged the financial applications as opposed to using the average flow and then inputting that in the model as -- as one (1).

So -- and I don't think the approach I -- I understand they used, which is you basically do -- if -- if there's a hundred bars here, a hundred different financial projections, and then average them would give you the same result as if you plugged the mean hydraulic situation into the financial model and just ran it once. So I don't think they used either.

At least, that's my understanding of the approach they used.

MR. ANTOINE HACAULT: Okay. And you weren't here, then, sir, for the example I -- I took Daymark through, where the IFF, in a particular year, led to $40 million less than the P50 number, which was the median flow?

MR. WILLIAM HARPER: No, I wasn't here.

MR. ANTOINE HACAULT: Okay. So I -- I won't go further than that. But if the IFF in my example used with Daymark is based on a number that's $40 million lower for export revenue than the P50, that's something which you are assuming is to be taken and not to be challenged?

MR. WILLIAM HARPER: Yes, I -- I accept that Manitoba Hydro's forecast, as presented, and so -- and obviously, there are a number of areas where they should be tested, and are being tested during this process, and obviously, that's one (1) that you've -- you've pursued.

MR. ANTOINE HACAULT: Okay. Now, another area in which your calculations assume -- are being tested by others is the way export sales are dealt with in the new integrated financial forecast, correct?

MR. WILLIAM HARPER: Yes. I think I particularly highlighted that in my presentation this morning.

MR. ANTOINE HACAULT: And to understand that point, we had the Daymark report on exports. They had slides 48, 49, and 50, which gave us some insight on whether that was something that had a negative or a positive impact on the results, cor -- is that fair?

MR. WILLIAM HARPER: I don't have the slides in front of me, so I'm not too sure. I -- I can answer your particular question at that -- right now.

MR. ANTOINE HACAULT: So at slide 48, first, there's a couple things on this slide. At the year 2021, that's when we see Keeyask coming into effect --

MR. WILLIAM HARPER: Right.

MR. ANTOINE HACAULT: -- and we see a bulge in the export revenues, correct?

MR. WILLIAM HARPER: Right.

MR. ANTOINE HACAULT: And then we've discussed in 2025, we see a fairly sharp drop in export revenues. Do you see that?

MR. WILLIAM HARPER: Yes, I do.

MR. ANTOINE HACAULT: And we've had a discussion that that's the end of the Northern States Power sale where the revenues go down to opportunity prices?

MR. WILLIAM HARPER: I would assume that's one (1) of the contributing factors. Whether it's the whole reason or not, I don't know.

MR. ANTOINE HACAULT: Okay. And -- and if we go to slide 49, we see this happening on revenues with -- I'm going to call it some whiskers on probabilities. Do you see that sharp drop again --

MR. WILLIAM HARPER: I see.

MR. ANTOINE HACAULT: -- in 2025? And then if we go to slide 50, we have Daymark's view on whether or not the forecast is conservative. Do you see that?

MR. WILLIAM HARPER: Yes, I do.

MR. ANTOINE HACAULT: And a fit -- and ener -- energy market price forecast is conservative. If we would accept that evidence, that would mean that the revenues after 2025 would be understated, correct?

MR. WILLIAM HARPER: The export revenues would be understated, correct.

MR. ANTOINE HACAULT: And that would

have an impact on a host of different things such as the maximum debt, retained earnings, et cetera?

MR. WILLIAM HARPER: Yes.

MR. ANTOINE HACAULT: Okay. Now, we've dealt with, at the start of this cross-examination, an area where the integrated financial forecasts don't deal with overheads or depreciation in accordance with the PUB directives. And that could be another factor which would affect how the financial forecasts are portrayed, correct?

MR. WILLIAM HARPER: It would affect some of the parameters in the financial forecasts more -- more than others. It -- it would affect the net income. It probably wouldn't -- it would -- would have -- I don't think it would have virtually any effect on the capital coverage metric, but on some of the other metrics like debt ratio, it would have an effect, yes.

MR. ANTOINE HACAULT: Okay. And another thing which the IFFs assume is that there's no opportunity to modify spending in the area of demand-side management, correct?

MR. WILLIAM HARPER: Well, they use one (1) specific DSM forecast, you know, and -- and then they assume that DSM fore -- forecast throughout, and they assume the same forecast. I'm not too sure what you mean by "opportunity." If -- if there was a -- you could input a different DSM spending forecast, and you could come up with a different result.

MR. ANTOINE HACAULT: Yes. So perhaps you weren't there, but we've, earlier on in the hearing, gone through some slides of Boston Consulting Group, which suggested there might be some opportunity to lower DSM spending, which would have a corresponding impact on retained earnings and other metrics?

MR. WILLIAM HARPER: Yes. If you're -- lower -- lower the spending, it would -- it would have an impact on the financial metrics, yes.

MR. ANTOINE HACAULT: And as you've said, there's others that have spoken to that, and whether that was -- the continued higher spending was an optimal issue or not.

Another option which also would have an impact on the IFF would be a subject that we're going to start to get into is priority and planning of capital spending. There might be some efficiencies which can be gained there, correct?

MR. WILLIAM HARPER: I -- I would say priority -- priority and rationalization, yes.

MR. ANTOINE HACAULT: And your assumptions assume that there is zero efficiency that can be obtained there?

MR. WILLIAM HARPER: Well, my assumptions accepted the financial forecast that Manitoba Hyd -- Hydro had -- had presented, which -- which basically was based on its underlying capital expenditure forecast.

MR. ANTOINE HACAULT: Thank you. Now, I'd like to change the subject to discuss a bit your slides 34 and 36. Those are the slides which discuss the electric heat and the low income rate initiatives. And, sir, I heard some of the discussion on public access -- acceptability.

Are you suggesting that because there's over five hundred thousand dollars ($500,000) -- or five hundred thousand (500,000) individual domestic ratepayers, that each of those should get a vote, and clients might -- like mine, who are big power users, only get ten (10) votes because they're ten (10) companies?

MR. WILLIAM HARPER: No, I -- I don't think it's as simp -- I don't think it's as simple as -- I don't think it's as simple as that.

MR. ANTOINE HACAULT: Okay. If we can

go to MIPUG-13, that's Mr. Bowman's evidence at page 7-13 -- 7-13, please, Ms. Villegas.

We've seen this graph before, and it ill -- illustrates in part some of the questioning that Mr. Monnin took you through, that if we look at peak costs in '96, on the bottom, and the numbers are pretty small, we see that's when the Public Utility Board changed the zone of reasonableness to ninety-five (95) up to one-o-five (105), correct?

MR. WILLIAM HARPER: That's correct.

MR. ANTOINE HACAULT: Do you see that in the --

MR. WILLIAM HARPER: Yes, I see.

MR. ANTOINE HACAULT: -- dark, bold line? And except for in 2003, this Board didn't give the larger industrials a differentiated rate increase? It was a uniform rate increase.

Is that consistent with your memory?

MR. WILLIAM HARPER: I'll take that -- I'll accept that --

MR. ANTOINE HACAULT: Okay.

MR. WILLIAM HARPER: -- for now.

MR. ANTOINE HACAULT: And will you also accept that this visually shows us that the general service large over 100 kV and the general service large 30 to 100 kV were, by and large, over whatever zone of reasonableness was set by the PUB during this time frame shown on the graph?

MR. WILLIAM HARPER: Yes. I understand that's the -- the dotted purple line and the blue line, and they're generally both in excess of the 105 percent. There's a couple of places where they touch down or just dip below it, but in general, yes.

MR. ANTOINE HACAULT: Okay. And if we...

(BRIEF PAUSE)

MR. ANTOINE HACAULT: Okay.

--- Upon recessing at 1:31 p.m.
--- Upon resuming at 1:40 p.m.

THE CHAIRPERSON: M. Hacault will resume and we'll add --

MR. ANTOINE HACAULT: Two (2) minutes. I don't think it will be necessary --

THE CHAIRPERSON: I think we're going to be -- going to auction on this one. We'll add --

we'll add some additional time if you require.

MR. ANTOINE HACAULT: I don't think it will be required but thank you very much for your offer, Mr. Chair.

CONTINUED BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: Mr. Harper, I've put the Daymark slide back on again. And I just want to bring your attention to different time frames, because you did that in your presentation. You focused on a shorter time frame which was more like a ten (10) year time frame and then you focused on the longer time frame in your slides; correct?

MR. WILLIAM HARPER: That's correct.

MR. ANTOINE HACAULT: And if we take a time frame of ten (10) years and we've heard Hydro's policy to try and achieve certain results in ten (10) years, what we see is that would bring us to 2027 on -- on this export metric, and that would be -- it would only have two (2) years of considering the impact of how they now treat export revenues; correct?

MR. WILLIAM HARPER: I'm not sure whether it's two (2) or three (3) because it'd be 25, 26 and 27.

MR. ANTOINE HACAULT: Oh, so somewhere

in the area of two (2) to three (3) years. If we're running a twenty (20) year integrated financial forecast, is it fair to suggest to you that the -- the last ten (10) years of that integrated forecast taking us to 2035/2036 would be the part of the forecast that would be most significantly affected by this change in how they address export revenues?

MR. WILLIAM HARPER: I would agree if you were looking at the period all the way throughout the 2033/'34 as I did that. That period would be much more impacted by -- by the export pricing assumption with respect to capacity than if you're looking at the shorter ten (10) year period, yes.

MR. ANTOINE HACAULT: And, sir, I also noted and Hydro presented this as a -- as a criticism of your analysis that you're looking at taking into the bank, I'll sort of say -- speak, the high waterflow years. Now my question to you is: When you have a high flow year, how many of the years does that effect of your integrated financial forecast over a twenty (20) year time period?

MR. WILLIAM HARPER: Well, my understanding is there's probably one (1) or two (2) at best because it's -- it's the inflows and then perhaps the storage as result of those inflows carrying over to -- to the next year, the forecast and probably after that it's a -- it doesn't.

And the other important thing is that -- high water flows, we're -- we're not assuming high water flows after that and, to my understanding, the probably of having a drought in the future doesn't change depending upon what happened -- having a drought next year may depend on what happened this year, but having a drought -- the probability of having a drought five (5) years from now really isn't an impact on water flows today.

MR. ANTOINE HACAULT: So if we're looking at twenty (20) year metrics and where we land and the maximum amount of debt and where we land on the retained earnings, you have a full eighteen (18) years of what I'll call the lower median calculation as opposed to P50 calculation, which leads you to the total results on retained earnings; is that correct?

MR. WILLIAM HARPER: Well, you'd have -- the bulk of the period would still be based on some average year of water flows and the impact of that on your revenues is going to be, yes.

MR. ANTOINE HACAULT: Now -- thank you. I'll move on or back to Mr. Bowman's evidence, MIPUG-13 and the table that's shown that page 7-3.

We've seen this table before. And if we could zoom in perhaps to the top section, which shows us residential and also the general service large 30 to a hundred kV. And a little bit more to the right, which shows general service large, greater than 100 kV.

Are you following me so far, Mr. Harper?

MR. WILLIAM HARPER: Yes. Yes, I am. And hopefully we don't scroll too much further, otherwise, I'll lose the definition of the lines but I'm following you so far.

MR. ANTOINE HACAULT: Okay. And what -- I took some Hydro witnesses through was based on PCOSS, so that's a protect -- prospective cost of service study of 2018, Manitoba Hydro -- or based on Manitoba Hydro's run of that, we see that the residential customers are about $42 million under the parity level of 100 percent; correct?

MR. WILLIAM HARPER: Yes, based on the application and a specific methodology, yes, they are.

MR. ANTOINE HACAULT: And in a very general way, if we look at the general service ND which would be no demand. There's a heading on top.

Do you see that?

MR. WILLIAM HARPER: Yes.

MR. ANTOINE HACAULT: The second line. If we go down to the bottom, we see that based on this run of the analysis, that class is about $19 billion over the 100 percent parity calculation, correct?

MR. WILLIAM HARPER: Yes. You -- you clarified, yes and you've sort of qualified this but based on this run of the analysis because these numbers aren't precise the same as what I understand Manitoba Hydro presented in their tab 8, page 27 of their evidence.

So, I'm not too sure if this is based on a slightly different calculation or --

MR. ANTOINE HACAULT: No, the numbers are the same, Mr. Harper, and -- and -- and if we look through the actual numbers, and that's why I'm focusing on the numbers and not the percentages. I had a discussion with Mr. Barnlund about how the percentages get calculated and -- and there's a difference in methodology.

MR. WILLIAM HARPER: And I think that's part of what I talked about in my presentation this morning probably too. So I was just wanting to clarify that, you know, I'm not precisely sure how these percentages are -- are -- are being derived, and if that's important in your questions, I just wanted to flag that.

MR. ANTOINE HACAULT: Thank you.

DR. BYRON WILLIAMS: Mr. Hacault, if I could just interrupt and it's just a -- perhaps a potential confusion on the record between a (b) and an (m) and it may be that you said 18 or 19 billion and I believe you meant to say "million."

MR. ANTOINE HACAULT: Million, yeah, sorry. Thank you for that, Mr. -- Dr. Williams.

So that's why I intentionally stayed away from the percentages and I'm looking at the -- the actual numbers to refus -- to not get into a discussion on how we calculate percentages.

MR. WILLIAM HARPER: Well -- well -- the percentages are calculated from the numbers so depending upon -- so you can't a different percentage unless the numbers are different in some way. So I'm -- I'm not too sure what turns on that. But -- but I'm not too sure if it's -- I'm not too sure if I -- I can divorce the two (2) entirely.

MR. ANTOINE HACAULT: Okay, can you just follow me on the numbers --

MR. WILLIAM HARPER: Yeah, I'll follow you on the numbers --

MR. ANTOINE HACAULT: Subject --

subject to check --

MR. WILLIAM HARPER: Okay, that's fine.

MR. ANTOINE HACAULT: Just -- cause you weren't here, the discussion I had with Mr. Barnlund was whether or not we added the export revenues to the revenue line, or whether we added them to the ex -- the expense line.

What we did with them, and you discussed that in your evidence, that results in the change of percentages that we see as the next line in this, but the -- the data is the same.

Can you go on that assumption for now?

MR. WILLIAM HARPER: Yes, I will. And I'm sorry, I just didn't want to make sure we got too far down the line and I didn't understand what was going on. That's fine.

MR. ANTOINE HACAULT: Okay. And if we go to general service large, 30 to 100 KV, that's further to the right of the table, we see that compared to the hundred percent metric, that class is putting some $8 million into the pot.

Do you see that, sir?

MR. WILLIAM HARPER: Yes, I see that.

MR. ANTOINE HACAULT: And finally, if

we go to general service large over 100 kV, we see that the -- the general service large over 100 kV based on the methodology in PCOSS, so prospective cost of service study, 18 are contributing close to $20 million.

Do you see that?

MR. WILLIAM HARPER: Yes, they -- I see the difference is close to 20 million.

MR. ANTOINE HACAULT: Sir, would you have any knowledge of whether in Manitoba there's any development north initiatives?

MR. WILLIAM HARPER: I'm sorry, I'm not even too sure if that's a particular acronym or whether you're talking about development in the north. So, obviously, I don't. I'm sorry.

MR. ANTOINE HACAULT: Okay. No, I wouldn't expect you to know. We had produced some documents in -- in our book of documents that talked about some initiatives to develop the north and if you don't know anything, that's okay. I don't intend to ask any questions on -- on -- on those initiatives.

Now, sir, I think some of what you were saying in your direct evidence with respect to all electric rates -- of which included heating versus the non-heating customers, we might see some challenges in implementing that; is that fair so far?

MR. WILLIAM HARPER: Yes.

MR. ANTOINE HACAULT: And would you acknowledge, Mr. Harper, that an individual might have a different net income profile versus a rate paying profile from the sense of how much he would end up paying whether the program would be paid through income tax, as a policy --

MR. WILLIAM HARPER: Okay, no, because I didn't understand what you mean by "net income profile" as opposed to "rate profile."

I guess what you're asking was a different tax profile as opposed to Manitoba Hydro ratepayer profile, if that's --

MR. ANTOINE HACAULT: That's right. So you might have somebody that has taxable income of a hundred thousand dollars ($100,000) consuming the same amount of energy as somebody who's making twelve thousand ($12,000).

MR. WILLIAM HARPER: You might have, yes.

MR. ANTOINE HACAULT: And so -- we've got to grapple with the policy as to whether or not when we do a social program whether the governments do that through income tax or, as suggested by some

Intervenors, through a rate profile?

MR. WILLIAM HARPER: Well, I think if you start from the premise that it's not being done through the tax system right now and -- and if there's no proposals to -- to pursue it, then -- then the question comes down to whether or not -- and so relief is not going to come from that particular quarter, whether -- whether or not -- and there is an issue about low income people and their ability to pay their electric bills, whether there is a case to be made about it, shou -- it should come from the Man -- from the Manitoba Hydro ratepayer because we know it is not going to come from the taxpayer.

So to this extent, it isn't a choice of one or the other, it's a choice of one or nothing.

MR. ANTOINE HACAULT: Okay. Now -- and that might mean that Mr. Hacault who lives outside the perimeter who has all electric and as a hot tub might get subsidized to run his hot tub and all -- his all electric bills because there would be some lower blocks for Mr. Hacault and his rate structure?

MR. WILLIAM HARPER: That's assuming with your hot tub you're on low income. You're a low income hot tub customer? I'll -- I'll leave that as it is.

MR. ANTOINE HACAULT: Now, sir, there's been some discussion in this hearing with respect to time of use as it relates to top consumers.

Did you direct your mind at all to -- to that subject?

MR. WILLIAM HARPER: I read Mr. -- Mr. Bowman's evidence. I'm -- I'm aware of the -- I'm aware of the proposal. I'm aware there have been discussions between Manitoba Hydro and the larger customers about time of use for a while and that there's actually been materials presented before this -- before this Board in earlier proceedings on time-of-use rates, yes.

MR. ANTOINE HACAULT: And would I be correct in understanding for rate design that the purpose of some time-of-use rates would be to send a signal on efficiency for the customers to use energy at appropriate times to reduce peak demands on the system?

MR. WILLIAM HARPER: Well, it could be to reduce peak demands. It could be to try and encourage them to shift their load from higher cost peak periods to lower cost off -- off-peak periods. I think it -- it would encompass both of those.

MR. ANTOINE HACAULT: And is this an

example of a policy issue or a rate design efficiency issue?

MR. WILLIAM HARPER: I'm not too sure if I see a clear difference between the two (2) because I see rate design as often a ri -- designing a specific rate is just -- rate is just a tool to be used to try and -- to a large extent, accomplish a particular objective.

And so that if your objective is to try to -- you want to send better price signals to customers, then designing rates a certain way is -- is a way of doing that. Rate design inn itself is not a policy. I mean, it has to have some -- some objectives und -- underlying it and, frequently, I find from -- from my perspective, it's a matter of people are coming to you and saying, can I design a rate that will ach -- achieve these sorts of objectives; that's the -- so I don't see the -- I don't see there being a distinction between the two (2).

MR. ANTOINE HACAULT: So would you see a distinction between a time-of-use rate design for top consumers or versus, for example, a rate design which would distinguish between all electric users versus people who might not heat on electricity?

Is there a difference between the rate design?

MR. WILLIAM HARPER: Well, there's a difference in terms of the object -- of the objectives and the -- and -- and the issues you're try to address, yes.

MR. ANTOINE HACAULT: Okay. And would you qualify one as a social policy objective versus the other one not being a social policy objective?

MR. WILLIAM HARPER: I -- I would probably qualify it more as a public interest objective as opposed to a social policy objective.

MR. ANTOINE HACAULT: Okay. Now, if we could turn to MIPUG book of documents 23-1, the last page. This is a slide from Boston Consulting Group which identified economic development rates available in other provinces to attract and retain electricity intensive industries.

Would there be a distinction between this type of rate incentive and a time-of-use rate design?

MR. WILLIAM HARPER: Well, I think -- I think these are examples of different types of rates. Some of them aren't even rate designs, if I can put it that way. Like -- and the one I'm most familiar with is the BC Hydro one in the mining company to deferral. And that was specifically related to a concerns about downturn in commodity markets, ability of certain industries in -- in the province to be able to pay -- pay -- pay their electric bills.

And this wasn't a BC usage decision, this was a directive from -- from -- from the government to, basically, allow these mining companies to defer their payments with a view that there be interest accrued on it and if the commodity prices came back that they would have to re -- repay it. So it as almost like a cost smoothing or sort of a bill -- bill management program. Maybe something you can --- you know, sort of a -- sort of a -- and the longer term payment programs for residential customers, whereas some of the other ones I -- looks like to me are more sort of a rate -- rate design issues. Like I said, I'm not too sure if I could characterize all these as being precisely the same. Each of them, as I said, are trying to address a particular problem or a particular situation.

MR. ANTOINE HACAULT: Would you agree with me that the focus is a policy one where you're giving a class of ratepayers a lower rate to implement economic policy?

MR. WILLIAM HARPER: On the face of just reading the bullets, it looks -- it looks like that, yes. I can't say for sure whether that was to present an example, but if I read through the bullets themselves, it sounds like that's the type of thing that -- what's going on here, yes.

MR. ANTOINE HACAULT: And as I've heard your evidence, sir, the low income rates because the government isn't implementing that policy, you feel compelled to comment on whether or not the PUB and Hydro should implement that social policy?

MR. WILLIAM HARPER: Well, it was something -- it was a matter that had could come up in the proceeding, and I felt I had -- had some worthwhile comments to make and if you're going to look forward at such a policy, how you would implement it.

I should maybe point out with that mining company BC Hydro proposal, if the mines had not been able to pay the money back, it would have been paid -- the impact of that would have gone to all ratepayers in BC. It would not just have gone to industrial customers or back to those mining customers. All ratepayers in BC would have been responsible for it.

MR. ANTOINE HACAULT: Thank you. Those are all my questions. No time extension required.

THE CHAIRPERSON: Thank you, Mr. Hacault. Sorry, Mr. Ghikas -- oh, Ms. Ramage...?

MS. PATTI RAMAGE: Yes, thank you, Mr. Chair. I just have one (1) short point of clarification with Mr. Harper and then we'll be turning the mic over to Mr. Ghikas but it wasn't an area we had assigned to Mr. Ghikas.

CROSS-EXAMINATION BY MR. PATTI RAMAGE:

MS. PATTI RAMAGE: Morning, Bill or afternoon, Bill.

MR. WILLIAM HARPER: Good morning.

MS. PATTI RAMAGE: I was wondering, Diana, if you could turn to slide 21 of Mr. Harper's presentation. That is the slide that deals with regulatory accounts.

MR. WILLIAM HARPER: Yes.

MS. PATTI RAMAGE: It's an area -- it hasn't received a lot of attention, I think for good reason and I don't intend to change that. I just wanted to ask a couple of points of clarification.

You've recommended extending the

amortization period for ineligible overheads from twenty (20) to thirty (30) years and to continue with the deferral indefinitely; that's correct?

MR. WILLIAM HARPER: That's correct.

MS. PATTI RAMAGE: And with respect to the ALG and ASL deferral account assuming continued deferral of the ELG ASL depreciation difference, you're recommending continuing the deferral indefinitely and a thirty (30) year amortization, correct?

MR. WILLIAM HARPER: No.

MS. PATTI RAMAGE: No?

MR. WILLIAM HARPER: Pending the Manitoba Hydro report and the resolution of the ELG ASL issue. So it -- so in anticipating that hope maybe that comes back at the next -- next GRA, you -- you -- you would have a -- no amortization for a period of two (2) or so, then -- and then the Board once it's decided what the appropriate depreciation is for regulatory purposes and rate setting purposes going forward at the same point in time, you could decide, one, depending on what that decision was whether there was a need for a deferral account going forward, how -- how it would be treated, if there was need for one, and they would deal with the two (2) years worth of accruals in the existing account.

MS. PATTI RAMAGE: Okay, fair enough. You'd agree that if the Board adopted these recommendations, it would have minimum impact on the requested rate increases in this proceeding?

MR. WILLIAM HARPER: Yes, in terms of the two -- of the two -- of the two (2) specific years we're looking at, yes.

MS. PATTI RAMAGE: Okay. That's all my questions on that point. I'll pass the mic up.

THE CHAIRPERSON: Thank you. Mr. Ghikas...?

CROSS-EXAMINATION BY MR. MATTHEW GHIKAS:

MR. MATTHEW GHIKAS: Thank you, Mr. Chairman, members. Good afternoon, Mr. Harper.

MR. WILLIAM HARPER: Good afternoon.

MR. MATTHEW GHIKAS: My name's Matt Ghikas. I am one of the lawyers for Manitoba Hydro.

I'm going to focus my questions on the financial section of your report, and the documents that I'll be referring to primarily are your presentation today, and your evidence, okay.

MR. WILLIAM HARPER: That's fair.

MR. MATTHEW GHIKAS: I wanted to start

with slide 15 of your presentation, Consumer Coalition 46, please.

Now, I just wanted to start off just with a clarification. In the last bullet there when you're talking about the update not comprehensive only accounts for lower water export prices, that's not a reference to the IFF16 Update with interim, is it?

MR. WILLIAM HARPER: No, no, no, it is not. In the rebuttal itself it talked about a further update again, if I can call, of -- of the -- and the update was dealing specifically with net export revenues and the implications for low water and export -- and lower export prices on the export revenues.

MR. MATTHEW GHIKAS: Right. And so that -- and that update you're referring to pointed to a decline in export revenues since IFF16 Update with interim; correct?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: Okay. Now, just jumping up one (1) bullet there to the -- your -- your point, conclusions regarding financial outlook should reflect current conditions and expected changes.

I take it that's your position?

MR. WILLIAM HARPER: Yes, it is.

MR. MATTHEW GHIKAS: Okay. And so you

say -- let me just take you to your -- your report now. I'm at page -- well, let's first of all, let's go to the table of contents might -- might help us here, which is the second -- second page of the pdf. Right.

So the section that we're focusing on here is the first thirty-two (32) pages, right?

MR. WILLIAM HARPER: Right.

MR. MATTHEW GHIKAS: Okay. And so for the first few pages you deal with a comparison over the period of 2015 to 2017, actual forecast to actuals?

MR. WILLIAM HARPER: That's correct, yes.

MR. MATTHEW GHIKAS: Okay. And so when we get to page 13, that's where we start comparing forecast to forecast?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: Okay. So let's start there, page 13. And the -- this section starts by comparing past forecasts to IFF16; right?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: And not IFF16 Update with interim --

MR. WILLIAM HARPER: Excuse me, not

IFF16, IFF16 where you've incorporated into it the rate plan from IFF15.

MR. MATTHEW GHIKAS: Thank you. Okay. And it's not the update with interim?

MR. WILLIAM HARPER: No, that's dealt with later on.

MR. MATTHEW GHIKAS: Okay. So if we go to schedule -- schedule 6, for example, schedule 6 isn't looking at the update with interim?

MR. WILLIAM HARPER: No, it is not.

MR. MATTHEW GHIKAS: Okay. And if we go to schedule 7, that's not looking at the update with interim either, is it?

MR. WILLIAM HARPER: No, as I -- as I sort of laid out in the evidence and I sort of indicated in my presentation, the -- the focus of the first part of this -- and actually the main focus of the evidence was on IFF16 because that was the basis for Manitoba Hydro's claim there had been a significant deterioration in the financial outlook.

MR. MATTHEW GHIKAS: Right. Thank you. And IFF16, you'd agree with me, is not the most current and updated information?

MR. WILLIAM HARPER: Yes, that's correct.

MR. MATTHEW GHIKAS: Okay. So if -- just rolling through then schedule 7, schedule 8. We just keep scrolling down, schedule 9, schedule 10, schedule 11, schedule 12, schedule 13, schedule 14, schedule 15, schedule 16 and sch --

MR. WILLIAM HARPER: You're going faster than the -- then -- then the screen is, but so.

MR. MATTHEW GHIKAS: Yes. Okay. So, and all the way up to schedule 17 on page 27, all of those are dealing with IFF16 with the 3.95 and not the updated with interim; correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: So the part that deals with the most current forecast, the updated with interim then, is the last four (4) pages of the thirty -two (32)?

MR. WILLIAM HARPER: Yes, it is. But I think as I pointed out before, it's important to note that I was looking at the justification Manitoba Hydro had in the application that it initially filed. And the application initially filed was based on IFF16 and it was in the context of IFF16 that they made the claim there was a significant deterioration.

So I acknowledge and I've tried to address the fact that the financial forecast has changed. I think, to some extent, the claim itself and the justification for the claim has to rest on IFF16 cause that was the information Manitoba Hydro had when it made that claim.

MR. MATTHEW GHIKAS: Right, but the decisions of the Board, sir, have to be made on the best available information going forward; correct?

MR. WILLIAM HARPER: I agree. I was just trying to make -- make that distinction in terms of what the intent of the evidence was, and that's why even in my presentation I tried to incorporate the IFF16 with interim with twenty (20) year WATM.

MR. MATTHEW GHIKAS: Okay. So let's -- let's go back to the three (3) year period, first of all, where you compared forecast to actuals and that starts on page 8. Under the heading Recent Financial Performance.

So this is the forecast over the three (3) years to actual; correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: Okay. And the forecast that we're looking at is the forecast -- the IFF14, the IFF15 compared to what has actually been achieved?

MR. WILLIAM HARPER: That's correct.

And to some extent, the IFF15 will incorporate I think one (1) year of actuals if I'm not mistaken because by that point in time we'd gotten part way in the three (3) year period.

MR. MATTHEW GHIKAS: Right. Okay. So on -- on slide 6 of your presentation, you actually summarized your conclusion about this section and maybe that's a good place for us to jump off.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: First of all, before we get into the details, there's a row that says "EBITDA dollar millions -- average." Am I correct that that's actually the EBITDA to interest ratio expressed as a ratio rather than in millions of dollars?

MR. WILLIAM HARPER: Yes. Yes, you're correct, and that's the way it's presented in -- in the evidence, actually, yes.

MR. MATTHEW GHIKAS: Right. And it -- that appears in a number of -- of the schedules, but the same clarification applies?

MR. WILLIAM HARPER: Yes. Yes, I -- I apologize. I --

MR. MATTHEW GHIKAS: That's okay. I just wanted to make sure everybody was on the same page. But they are averages?

MR. WILLIAM HARPER: Yes. I basically took the EBITDA for each of the three (3) years, and then -- and averaged that over the three (3) years.

MR. MATTHEW GHIKAS: Each of the EBITDA to interest ratio outputs, averaged those over --

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: -- ten (10) years --

MR. WILLIAM HARPER: No, over the three (3) years in this case.

MR. MATTHEW GHIKAS: Over the three (3) years in this case, sorry. Yes. Thank you.

Now, you'd agree with me that if you're making a comparison like this, it's important to compare on an apples to apples basis?

MR. WILLIAM HARPER: Again, I may have been -- that's with a quibble was, I think, because it can depends -- it depends what -- what you're using the purposes for and what you're calling apples to apples.

MR. MATTHEW GHIKAS: Okay. Well, let

me -- let me go at it this way. So you'd agree with me that in between the time that IFF14 was prepared, and the presentation of the actual results, there was a Board Order that addressed the treatment of overheads capitalized and depreciation.

MR. WILLIAM HARPER: Yes, there was.

MR. MATTHEW GHIKAS: Okay. And the IFF15 forecast, although it predated the Board's Order, the IFF -- or sorry. Although it postdated the Order, it did not include the -- it did not reflect the directions in the Order on those two (2) things, because Manitoba Hydro is seeking clarification, correct?

MR. WILLIAM HARPER: Yes, the -- that -- that's correct.

MR. MATTHEW GHIKAS: So -- and in your report, we don't actually have to turn there, it is on page 42, but you discuss the effect of that overheads capitalized change, and you indicated that the impact of that was approximately 20 million per year, correct?

MR. WILLIAM HARPER: Right. I -- I -- and that -- that -- yes, that's right. And I was just trying to point -- what I -- what I've been trying to do here is point out what's some of the diff -- some -

- some of the differences were, and I understand the changes, yes.

MR. MATTHEW GHIKAS: Okay. And so 20 million per year over the three (3) year period of 2015 to 2017, that's, by my lawyer's math, 60 million?

MR. WILLIAM HARPER: Well, I'm not too sure if the -- if the actual results were all three (3) years included the deferral or -- or not. I -- I can't recall off the top of my head, but -- but if it did, your math would be correct.

MR. MATTHEW GHIKAS: Okay. Well, my instructions are is that it did --

MR. WILLIAM HARPER: Okay.

MR. MATTHEW GHIKAS: -- and so if we can do that, subject to check --

MR. WILLIAM HARPER: No, that -- that's fine --

MR. MATTHEW GHIKAS: -- that would be good.

MR. WILLIAM HARPER: -- subject to check, I -- I just -- I -- I'm -- that's right.

MR. MATTHEW GHIKAS: Okay. And that 60 million flows directly into the net income numbers, correct?

MR. WILLIAM HARPER: Yes, it would.

MR. MATTHEW GHIKAS: And now, the effect of the -- of the order regarding the depreciation treatment, which you also discussed at page 40 -- we don't need to go there, but the effect of that treatment was to direct Manitoba Hydro to capitalize the differential between ASL and ELG methodologies, correct?

MR. WILLIAM HARPER: It was to defer it. I -- I wouldn't use the word 'capitalized'.

MR. MATTHEW GHIKAS: Okay, defer and amortize? Thank you. And so my -- my --

MR. WILLIAM HARPER: Excuse me, I don't believe the direction from the Board -- the direction talked -- I don't think -- I believe the direction from the Board talked about the deferral and the amortization. It talked about what should be used for regulatory purp -- purposes, and how it should be charged to the other comprehensive income. It was Manitoba Hydro that then, based on how they had their report for financial purposes, undertook to defer and amortize it. But I don't think anything in the Board specifically talked about deferring and amortizing it.

MR. MATTHEW GHIKAS: And -- and following through on that, that also affects net income, right?

MR. WILLIAM HARPER: Yes, it does. But I just want to be clear on where the direction was coming from.

MR. MATTHEW GHIKAS: I -- I understand, and I appreciate the clarification. Now, Manitoba's Hydro's evidence is that that change represents 30 million -- it affects net income by $30 million per year. Would you accept that, subject to check?

MR. WILLIAM HARPER: I can accept that, yes.

MR. MATTHEW GHIKAS: Okay. And so over the three (3) years, again, by my math, that would be $90 million, subject to check? You can accept the math, probably, without subject to check.

MR. WILLIAM HARPER: Yes, I can accept the math.

MR. MATTHEW GHIKAS: Okay. I don't – I am a lawyer, so you never know.

So if we want to look at how -- what happens with that on your table on slide 6, we'd be looking over at the actual results. Now, there -- if we wanted to put these changes on an apples to apples basis, we'd either have to adjust the forecast or the actuals, and six (6) of one, half (1/2) a dozen of the other?

MR. WILLIAM HARPER: Yes, that would seem so. Yeah.

MR. MATTHEW GHIKAS: Okay. So I'm just going to change the -- work with -- off the actual results, here. So if -- we're starting at one eighty-five (185) in the net income line, and we adjust for -- downwards for $90 million over the three (3) year periods, and then another $60 million, we would be down to, by my math, 35 million. Is that correct?

MR. WILLIAM HARPER: It sounds like your math's about right.

MR. MATTHEW GHIKAS: And...

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: So the change from IFF14, then, to the actual results would be approximately $240 million, correct? The varia - the variance?

MR. WILLIAM HARPER: I'm sorry, I'm not too sure where you're getting your numbers from, but --

MR. MATTHEW GHIKAS: The two hundred

and seventy-six (276) forecast, IFF14, less the -- less the 35 million, where we end up at the actual results after deducting sixty (60), and ninety (90).

MR. WILLIAM HARPER: Right. Okay.

MR. MATTHEW GHIKAS: That takes us to about a $240 million negative variance?

MR. WILLIAM HARPER: That sounds about right.

MR. MATTHEW GHIKAS: Okay. And that would be about a -87 percent, by my math? Does that sound right?

MR. WILLIAM HARPER: It sounds right.

MR. MATTHEW GHIKAS: And if we were to look at IFF15, and start with the one hundred and thirty-nine (139), and we were to compare that to the 35 million in the actuals, we would be down 104 million, correct?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: And that would be, by my math, a -74 percent --

MR. WILLIAM HARPER: I'll take your math, subject to check.

MR. MATTHEW GHIKAS: Thank you. Okay. Now, including -- with respect to your comparisons, then, later on forecast to forecast, you've similarly made no adjustment for the accounting, correct?

MR. WILLIAM HARPER: No, I've -- I've taken the forecast as they were. That's correct.

MR. MATTHEW GHIKAS: Okay. And you'd agree with me that IFF16 was prepared following the directions of the Board? It was prepared on the same basis as these actual results were?

MR. WILLIAM HARPER: Well, I -- I don't know if it was prepared on the dir -- directions of the Board, because they'd use a twenty (20) year amortization as opposed to a thirty (30) year amortization, and it stopped the deferral in 2022/'23, so -- but it -- it was a -- it was prepared on a different treatment of those than what was shown in IFF14 or IFF15, I would agree with that.

MR. MATTHEW GHIKAS: Right. And if -- if we were to look at comparing IFF15 metrics to IFF16 metrics, for example, the deterioration that we'd be seeing, or the variance that we'd be seeing would be greater than otherwise shown if we were to account for those changes, correct?

MR. WILLIAM HARPER: Well, I -- well, I -- because I think -- thing is net income isn't one (1) of the -- one (1) of the metrics that I used, or one (1) of the metrics that Manitoba Hydro uses from a financial perspective. You'd have to work that through in terms of what that difference -- if you're -- if you're want -- if you're wanting do this type of act -- comparison, what -- what that meant terms of the impact on -- on the -- either the debt ratio or the EBITDA has no impact at all on the overall cap -- capital coverage, is because it doesn't impact on cash flows or -- or spending it all.

So you can work it through, but in -- for some of the metrics, it will have no impact. For some of the metrics, it -- it will have some -- it will have some -- some impact, but the metric for which it has the most direct impact is net income. But I think using those percentages and trying to suggest that's the materiality of the impact for the other metrics is incorrect.

MR. MATTHEW GHIKAS: No, we -- I'm leaving beside the math for -- for a moment, but just -- just sticking with net income for a moment, those -- the -- the forecasts that were prepared in the IFF16 and the IFF16 with update and interim were prepared on a different basis than the IFF14 and IFF15 on these two (2) issues of overheads capitalized and treatment of depreciation?

MR. WILLIAM HARPER: They were -- they

were prepared on difference in a lot of assumptions, yes.

MR. MATTHEW GHIKAS: Right, including those?

MR. WILLIAM HARPER: Including those two (2).

MR. MATTHEW GHIKAS: Now, if we were to look at slide 18, this -- you mentioned the debt ratio just now, and just to confirm, this slide doesn't reflect the treatment differences with respect to overheads capitalized and depreciation either, does it?

MR. WILLIAM HARPER: No, it does not.

MR. MATTHEW GHIKAS: Okay. And would you accept, subject to check, based on the response to PUB/Manitoba Hydro-1-1 that the cumulative impact of those accounting changes over the period until 2027 is 356 million?

MR. WILLIAM HARPER: The cumulative impact on what?

MR. MATTHEW GHIKAS: On retained earnings.

MR. WILLIAM HARPER: Retained earnings. Subject to -- subject to check, I'll accept that, yes.

MR. MATTHEW GHIKAS: If we can change to slide 6, please.

THE CHAIRPERSON: Sorry, is that an undertaking?

MR. MATTHEW GHIKAS: I just left it with them, subject to check.

THE CHAIRPERSON: Okay. That's fine. Thank you.

MR. WILLIAM HARPER: And it was PUB-1?

CONTINUED BY MR. MATTHEW GHIKAS:

MR. MATTHEW GHIKAS: It was PUB/Manitoba Hydro-1-1.

MR. WILLIAM HARPER: Yes.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Slide 6. And you -- you alluded to this earlier today, but when you do your comparison on slide 6, this again is looking at -- this is now forecast to actual, again, back in the 2015 to 2017 period. And when you did that comparison, you haven't made any adjustments for higher than normal water levels, right?

MR. WILLIAM HARPER: No, I -- actual

results are based on actual water flows.

MR. MATTHEW GHIKAS: Right. And the forecast, IFF14 and IFF15 would have been based on a -- a normalized water flow over decades of -- of experience.

MR. WILLIAM HARPER: It -- it depends on which years you're looking at, because the first two (2) years of each of those forecasts would have been based on water conditions at that point in time in the second year on -- on the median. So 2015 to 2017 would -- wouldn't have been based on -- on averages for all three (3) years in -- in those two (2) forecast.

MR. MATTHEW GHIKAS: Okay.

MR. WILLIAM HARPER: But it would have been based on a different assumption of -- of hydraulic flows, I'll -- I'll accept that.

MR. MATTHEW GHIKAS: Okay. And you'd agree with me that -- that the windfall that favourable water levels provided in this period is masking some of the deterioration in the underlying business?

(BRIEF PAUSE)

MR. WILLIAM HARPER: If you were to take -- take it out, the business would look different, but this is how the business looks because this is what actually happened. So I'm not to -- I -- I have a difficult -- with -- with the masking, because what you have here is -- is the actual results.

The -- like I said, out -- results would have been different if the water flows had been different, but the water flows were what they were.

MR. MATTHEW GHIKAS: Manitoba Hydro can't rely on a windfall from high water levels every year, though, can't it -- can it?

MR. WILLIAM HARPER: No, and when we look at the forecast going forward, those forecasts aren't based on assuming windfalls going forward.

MR. MATTHEW GHIKAS: All right. Now, perhaps the best way to -- to deal with this next question -- it's a -- a minor point, but it might be easiest if we look at slide 9, first of all, and then -- okay.

So now here we're getting into a ten (10) year period, comparing forecast to forecast, correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: Okay. Now...

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: The -- if we take IFF14 and 15, those were prepared before they announced twenty-one (21) month delay in Keeyask, correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: Okay. And IFF16 reflects the twenty-one (21) month delay?

MR. WILLIAM HARPER: Both in terms of revenues and in terms of costs, yes.

MR. WILLIAM HARPER: Correct. Okay. So if we -- if we can go to the GRA, Diana, Tab 2, page 25, this might just help us with the line of questions. And I didn't provide this to you, Mr. Harper. So I'd just -- I'm just looking for illustrative purposes, here. It might just help our -- our discussion.

This is Manitoba Hydro's application, and it -- in figure 2.21, it's talking about Keeyask net cash flow and net income. And so the bottom line there is net income, the impacts on net income associated with the introduction of Keeyask in 2021.

And really, what I'm putting this up here for is it just -- help us focus here. So what the impact of -- of Keeyask coming online is, you'd agree with me, a reduction in net income in and of itself? That's the effect it has? Other things equal, it reduces net income?

MR. WILLIAM HARPER: I believe so, yes, because when you bring it online, the cost you've been capitalizing now end up getting depreciated. There's interest attributed to those cost -- assets that are now in -- in service. And I assume that while there's some revenues coming from the fact that Keeyask is online, you're able to export those revenues, the revenues -- I assume that's what's underlying this. The -- the revenues don't offset those costs.

MR. MATTHEW GHIKAS: Right. And so if we're looking at your ten (10) year period, it falls -- and I should say, this is the revised -- this is showing the revised schedule in-service date, this graph here. And so your ten (10) year period goes from 2017 to 2027, correct?

MR. WILLIAM HARPER: That's correct, yeah.

MR. MATTHEW GHIKAS: Okay. And so if

-- if the original date was in play, that drop in net income would be shifted to the left, as it were. It would be occurring sooner, correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: Okay. And so over the ten (10) year period, if were taking an isolated snapshot of ten (10) years, you'd agree with me that if we're looking at a later in-service date, what that's effectively doing is pushing twenty-one (21) months of losses out the back end of that ten (10) year period?

MR. WILLIAM HARPER: Yes, you're -- you're shifting the curve, yes.

MR. MATTHEW GHIKAS: Okay. Thank you. And that -- that essentially has the effect of diminishing the forecast net income in that -- that ten (10) year period, correct?

MR. WILLIAM HARPER: If you move it -- if you move it -- if you move it to the left, it diminishes it, yes.

MR. MATTHEW GHIKAS: Yes. Right. So the original forecast is, relative to the other one, understated? The original forecasts would otherwise appeared higher had it -- had we -- had they accounted for the later date?

MR. WILLIAM HARPER: The -- the short-term impact of the delay on Keeyask is to have a favourable impact on -- on the financial statement. There -- there were a lot of other changes that took place between those two (2) financial forecasts, probably those other changes in capital spending that took place between those two (2) forecasts, and I guess my issue was, in part, was we seem to be -- and maybe one (1) big one, but we seem to be isolating one (1) -- one (1) particular --

MR. MATTHEW GHIKAS: Okay.

MR. WILLIAM HARPER: -- issue, here, when there's a lot of changes going on between different financial forecasts.

MR. MATTHEW GHIKAS: Okay. All right. So if we now go to -- switching gears, Manitoba Hydro's IFF16, with the interim and the update, let's move our discussion to -- to that, okay?

MR. WILLIAM HARPER: Okay.

MR. MATTHEW GHIKAS: Now, that -- let's see.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: The easiest thing

to do, I think, would actually be to go to page 29 of your -- sorry, page --

MR. WILLIAM HARPER: Yes, my evidence starts with that topic on page 28, so the chart's on 29.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Actually, looking at -- actually, it's page 32 that I'm interested in, here.

MR. WILLIAM HARPER: Okay. Sorry.

MR. MATTHEW GHIKAS: No, that's -- that's okay. I appreciate it.

So just before jumping into the -- the conclusion, here, maybe we can just deal with a few underlying drivers, which you've -- you've touched on in the -- the bullets at the bottom of that page.

But you'd just confirm for me that Bipole's cost in-between the time of IFF15, for example, and the preparation of IFF16 with update and interim, the cost of Bipole has gone up 400 million, subject to check?

MR. WILLIAM HARPER: I'll accept that, yes.

MR. MATTHEW GHIKAS: And Keeyask's costs have gone up 2.2 billion or 33 percent; subject to check?

MR. WILLIAM HARPER: That's fine.

MR. MATTHEW GHIKAS: And if we look at the ten (10) years out to 2027, domestic volumes are down 8 percent between IFF15 and 16 with the Update.

MR. WILLIAM HARPER: Domestic volumes are down, yes.

MR. MATTHEW GHIKAS: And export prices are down 23 percent between IFF15 and IFF16 with update?

MR. WILLIAM HARPER: I'll agree that they're down, yes.

MR. MATTHEW GHIKAS: Twenty-nine -- 29 percent, sorry. Subject to check?

And -- now, in that second paragraph of your conclusions there, you can see you're -- you're discussing -- that's where you discuss the update with --

MR. WILLIAM HARPER: Update with interim.

MR. MATTHEW GHIKAS: Update with interim, thank you. And so, first of all, you note that the capital coverage ratio that you calculated is deteriorated; correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: And that that ratio has deteriorated?

MR. WILLIAM HARPER: Yes, you -- you don't reach the targets.

MR. MATTHEW GHIKAS: And that the retained earnings have deteriorated?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: And as you put it, those three (3) measures are out of line with earlier forecasts; correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: Okay. And then you've got a "however" and you can just read through that. So, those two (2) factors in your -- in your caveat there on "however," those are the two (2) factors that allow you to conclude that there has not been a fundamental change in the financial outlook, correct?

MR. WILLIAM HARPER: I -- I think the word Manitoba Hydro used was "significant."

MR. MATTHEW GHIKAS: Okay. And those are -- those are the points you rely on?

MR. WILLIAM HARPER: Yes. Well --

yes, the -- the fact that with -- with -- with a cal -- tweaking with a minor revision to the prev -- to the previous rate plan, you can still -- you can still get back to the -- to the 75 percent in debt rate -- debt ratio target by twen -- by 2033/'34; consistent with the previous forecast.

MR. MATTHEW GHIKAS: So you can -- you can -- it takes two (2) years longer, effectively, to reach the same debt equity ratio now under the update with interim.

MR. WILLIAM HARPER: Yes, I think it's interesting to note that even IFF14 and IFF15 had different periods of time over which the 3.95 percent applied. So, I took -- as being no particular magic to how long that 3.95 would -- would last for. The question was, whether you could reasonably meet -- meet the target.

MR. MATTHEW GHIKAS: So the logic was not that it's already really long so we can just add another couple of years?

MR. WILLIAM HARPER: Well, I -- I didn't see two (2) more years as be -- as being that material given that in the previous IFFs we -- we, you know, the number had been moving around already.

MR. MATTHEW GHIKAS: Okay. So let's

look at the other aspect of your 'however', which is that retained earnings are brought, in your words, virtually within the range of the previous forecasts. Okay?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: Now, if you can turn over to Schedule 18, which is on the following page, and if you go down to the retained earnings line towards the bottom, and if we look under IFF14 --

MR. WILLIAM HARPER: Right. It's --

MR. MATTHEW GHIKAS: -- for example --

MR. WILLIAM HARPER: Okay.

MR. MATTHEW GHIKAS: -- retained earnings in 2034 are five billion five hundred and fifty-seven million (5,557,000,000)?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: Okay. And then that compares with four billion six hundred and nineteen million (4,619,000,000) in IFF16, with interim and update, correct? With the Manitoba Hydro-15 rate increase.

MR. WILLIAM HARPER: Right. It doesn't -- this does not incorporate the 3.95 percent for -- for the for the additional years that we just discussed in that paragraph.

MR. MATTHEW GHIKAS: Okay. And so that's $900 million lower, correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: And so in the case of IFF15, we have 7.4 billion in IFF15, as compared to 4.619 billion in update with interim, correct?

MR. WILLIAM HARPER: That's correct. Okay.

MR. MATTHEW GHIKAS: So that's a deterioration of over 2.7 billion?

MR. WILLIAM HARPER: Right, in -- yes.

MR. MATTHEW GHIKAS: Okay. And so you're virtually within the range, as you put it, the -- that's based on 4.6 billion being virtually within the range of 5.57 to 7.4 billion?

MR. WILLIAM HARPER: No. And that's the point I was making just a -- well, this last column is based on the HM15 plan, which, if you read, the 3.95 percent rate increases stopping in 2029, whereas the other plan discussed in the previous page had the 3.95 percent extending all the way through to 2033/'34. That's what gives you the additional revenues.

And when I looked at that particular

for -- forca -- I can't remember of the top of my head -- when I looked at the retained earnings arising out of that extended period of the 3.95 percent changes -- rate changes, that -- that's what brought the retained earnings up to within the range of the previous IFFs.

MR. MATTHEW GHIKAS: So you would have to have two (2) more years at three point nine five (3.95) to get it up into that ran -- or sorry, five (5) more years of three point nine five (3.95) to get it up into that range?

MR. WILLIAM HARPER: Yes. And that's what the other forecast called for, that's --

MR. MATTHEW GHIKAS: Okay.

MR. WILLIAM HARPER: -- that's correct. Or if you compare it with IFF14, that extended the three point nine five (3.95) all the way to thirty (30) -- to 2031. It would only be -- it would be a shorter period of time that you would have to have that three point nine five four (3.954).

MR. MATTHEW GHIKAS: But in the absence of those five (5) more years of three point nine fives (3.95s), you would be a billion dollars below the bottom end of that range?

MR. WILLIAM HARPER: Or three (3) years, depending on which IFF you're comparing with.

MR. MATTHEW GHIKAS: Okay. Now, you've concluded in your concluding passage on the previous page, as a result of those -- as a result -- even the recently updated IFF16 does not appear to present a fundamental change in the financial outlook of the Corporation. So that's your ultimate conclusion?

MR. WILLIAM HARPER: Yes, it is.

MR. MATTHEW GHIKAS: And when you reach that conclusion, you did it without performing any assessment of whether this acknowledged deterioration presents a fundamental change in the financial outlook from the perspective of the capital markets, correct?

MR. WILLIAM HARPER: No, I was just doing it with the previous forecast because the statement in Manitoba Hydro's application was it had been a significant change in outlook from the previous GRA, which was IFF14.

MR. MATTHEW GHIKAS: In order to know whether it's significant or not significant, Mr. Harper, you have to consider the question 'significant to whom right', right?

MR. WILLIAM HARPER: Right. Right. And within the context of the statement in Manitoba

Hydro's application, it was significant change from the previous out -- from the previous outlook in -- in the last GRA. That's -- that's the point that I was -- that's the statement I was taking to measure whether things had significantly changed or not.

MR. MATTHEW GHIKAS: Right. And you -- you weren't retained to opine on whether or not the -- the financial metrics and the business condition that Manitoba Hydro finds itself in, how that would be viewed by the capital markets, correct?

MR. WILLIAM HARPER: No, that -- that was more the retainer of Morrison Park.

MR. MATTHEW GHIKAS: And --and certainly, sir, you haven't worked for an investment bank, or have been accepted an -- an expert in cost of capital matters either, correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: Okay. And -- now, from a utility perspective, the -- it appeared for your CV, that none of your industry experience was in the treasury department of a utility, correct?

MR. WILLIAM HARPER: I've never worked in the treasury department of utility.

MR. MATTHEW GHIKAS: And your degree is in economics and not finance?

MR. WILLIAM HARPER: That is correct.

MR. MATTHEW GHIKAS: Okay. And I see your experience at the utility, as I read it, it was in that Department of Regulatory and Rates, as opposed to Finance, for example?

MR. WILLIAM HARPER: Well -- well -- actually amusingly enough my first five (5) years wasn't Finance, but the particular area I was working was not a directly financially related area. It had to do a cost of service. We just happen to be part finance branch.

MR. MATTHEW GHIKAS: Okay.

MR. WILLIAM HARPER: I just want -- wanted to clar -- clarify what you meant by your question.

MR. MATTHEW GHIKAS: No, that's fair enough. You were focused on the -- the regulatory aspect of things, rather than the running the business type of things.

MR. WILLIAM HARPER: Yes, I was not involved at all in the treasury function of the Utility.

MR. MATTHEW GHIKAS: Okay. Now...

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Right. Now, if we -- sorry about that -- if we turn to slide 9, for example. And just, very quickly, coming back to this EBITDA to interest calculation.

So in this -- in this context, it's averaged over a ten (10) year period, correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: Okay. And you'd agree with me that, you know, when you average a metric like this t removes any trend from the metric?

MR. WILLIAM HARPER: Yes, it does.

MR. MATTHEW GHIKAS: Okay. And -- and so the -- and favourable metrics in one (1) year would offset unfavourable ones in other years, and so on? Is --

MR. WILLIAM HARPER: I -- I think that's a bit different from the question of a trend. A trend assumes -- it means it's continually going the same direction, where if it's going up and down that's not a trend.

MR. MATTHEW GHIKAS: No. But -- but what it does is it prevents you from looking at when the low point is or when the high point is in that particular ten (10) year period, or example.

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: Okay. Now, as I understood your presentation this morning, Mr. Harper, your process for arriving at your ultimate conclusion was to look at the metrics as a whole, apply your judgement as you referred to, and look at whether some were going up and some are going down, versus whether they were consistently going down.

Did I summarize that correctly?

MR. WILLIAM HARPER: Well, I -- I think it was a matter -- the two (2) previous IFFs est -- established a range, and the question, in my mind then, was: Are the metrics produced by this particular IFF, when it's been revised to reflect the -- the, you know, the rate -- rate plan from -- from the last interim rate increase forecast, do -- do the results fall within the range or do they fall outside of the range?

If they all fall with -- within the range, then the answer seems to me to be fairly straightforward. If -- if the -- some of them start falling outside the range, that -- that -- particularly, in this particular case, what happened was some of them fell outside the range, but it was above the range; some of them fell outside the range, but they were below the range.

So, in my mind, you had somewhat of a balanced result. The -- the capital coverage was below, the EBITDA was -- was above, the debt-equity ratio was -- was -- was roughly in -- in line.

How do you jud -- judge those? And as you say, I'm -- I'm not a fin -- finance expert. I looked at it from the perspective of, to a large extent, let's give relative and equ -- equal weighting to all of them and say has there been a change.

When I saw Manitoba Hydro's direct testimony and the fact that they indicated where I should put the most attention, if I'm trying to look at these three (3), on the debt ratio. The fact that it fell within the range, sort of, almost added extra comfort to the -- to the conclusions that I was reaching.

MR. MATTHEW GHIKAS: Okay. So I think you've answered my question there. But what -- it -- you didn't apply in your analysis any assessment of which metrics were more important or less important than others, correct?

MR. WILLIAM HARPER: No, as you say, I'm not a -- I'm not a fin -- finance expert, and so I -- I don't -- I wasn't about to apply a judgment as to which one was more important and which one was less important.

MR. MATTHEW GHIKAS: Now, you did reach your conclusion that there hasn't been a fundamental change, without referencing Manitoba Hydro's absolute levels of debt, correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: And there's -- there's no mention of absolute levels of debt in your conclusion. Or, similarly, in Schedule 18 on page 33, where you summarize it, you don't include a line for absolute levels of debt, correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: I assume it wouldn't be your contention that the absolute amount of debt is unimportant to the financial well-being of the utility?

MR. WILLIAM HARPER: No, it isn't. And actually, I -- when I was looking at this, I was looking at the Manitoba Hydro's application in the discussion of the various financial metrics, that particular tab, there's lots of graphs on debt equity ratio, there's lots of graphs on EBITDA, there's logs of graphs on cash flow.

I don't recall there being a graph in there on -- on debt level, so to a -- to a large extent I took from that what I understood to be the financial metrics that Manitoba Hydro was using, which were those three (3) issues that -- act -- actually I don't think that chapter has much of a discussion on debt until you get to about the last page, if I can recall, subject check; I'm going from memory. But I didn't see it being highlighted in -- in that particular section of the application.

MR. MATTHEW GHIKAS: Well, I don't think we should get into weighting the relative importance on -- of things, in terms of how much pages you devote to them, based on your own evidence, sir.

MR. WILLIAM HARPER: Okay.

MR. MATTHEW GHIKAS: The -- the -- you would agree with me just -- aside from what you have said there, despite that, you'd agree with me that a prudent utility manager managers (sic) a -- a prudent utility -- a prudent utility management would require consideration, not just to the capital structure, but also absolute levels of -- of indebtedness, correct?

MR. WILLIAM HARPER: I'm going to say absolute levels of debt is something they're going to look at. I think the absolute level of debt is obviously going to be, to some extent, a function of the size of the utility and the total value of the assets that -- that utility has, and that things like the debt-equity ratio have -- have helped to put the absolute level of debt into some context.

MR. MATTHEW GHIKAS: Okay. And a high -- higher lev -- exposure -- higher levels of debt increase interest payments, other things being equal?

MR. WILLIAM HARPER: Other -- all other things being equal, yes.

MR. MATTHEW GHIKAS: Yeah. And high -- it -- it also increases exposure to interest rate risk, other things being equal?

MR. WILLIAM HARPER: If you were assuming the same debt -- debt management or debt retirement profile and you had higher levels of debt, then clearly you have more debt that you have to refinance each year, so yes.

MR. MATTHEW GHIKAS: And interest payments are a real call on cash flows, and an obligation even in a period of financial distress correct, yes?

MR. WILLIAM HARPER: Yes. And you would expect that the cost of borrowing could well be impacted by the financial position of the company?

MR. WILLIAM HARPER: Yes. I guess the financial position of the company would itself take into account a myriad of considerations, not just the absolute level of debt, but yes.

MR. MATTHEW GHIKAS: Okay. And will you accept, subject to check, that net debt, with the 3.95 percent rate path, with twenty (20) year debt terming, is $3.4 billion higher than the NFAT forecast?

MR. WILLIAM HARPER: I'll except that. I -- I think I'd be more interested in knowing what the difference was, relative to the -- say the net level debt at the last GRA.

MR. MATTHEW GHIKAS: Okay. Well, let's --

MR. WILLIAM HARPER: Yeah. But, you know, I'll -- I'll except that. The NFAT was a long time ago.

MR. WILLIAM GANGE: Fair enough. So would you accept, subject to check, that -- that the -- it is $1.8 billion higher than forecast in MH14?

MR. WILLIAM HARPER: I'll accept --

MR. MATTHEW GHIKAS: IFF -- IFF14.

MR. WILLIAM HARPER: I'll accept that, yes.

MR. MATTHEW GHIKAS: And you'd accept, subject to check, that it's $2.5 billion higher than

IFF15? Subject to check.

MR. WILLIAM HARPER: Sorry, this is which year you're looking at? I -- I just want to --

MR. MATTHEW GHIKAS: At -- at --

MR. WILLIAM HARPER: -- actually, I'm interested in going back and looking at the material that the counselor from -- from MIPUG had -- had given, which seemed -- seemed to me to actually contain those numbers. And so I was wondering whether that was a good context in which the --

MR. MATTHEW GHIKAS: If -- if you'd like to go there I could. I think it was MH93, was the --

MR. WILLIAM HARPER: Yes, it was.

MR. MATTHEW GHIKAS: -- was the exhibit.

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: If we could have that, Diana.

(BRIEF PAUSE)

MR. MATTHEW GHIKAS: Yeah, I don't believe that includes the model --

MR. WILLIAM HARPER: Yeah,

unfortunately --

MR. MATTHEW GHIKAS: -- that you've been using.

MR. WILLIAM HARPER: -- it -- it doesn't. There's so many scenarios out there that it doesn't include the two (2) you were trying to compare.

MR. MATTHEW GHIKAS: Yeah. M-hm.

MR. WILLIAM HARPER: I'm sorry, I'm just trying to some context around it but --

MR. MATTHEW GHIKAS: I -- I completely understand. And I had actually made a note of it myself when M. Hacault was -- was talking himself.

So I'll ask the question again, and you can take it subject to check, perhaps.

DR. BYRON WILLIAMS: And, Mr. Ghikas, I'm fine with this conversations through the Chair to you. If you want to just provide the sources to Mr. Harper off-line, just -- I think that'll make things move a little smoother, if that's fine with you.

MR. MATTHEW GHIKAS: That would be absolutely fine, Mr. Chairman. And thank you, Dr. Williams.

CONTINUED BY MR. MATTHEW GHIKAS:

MR. MATTHEW GHIKAS: So, subject to check, it would be 8 -- $1.8 billion higher than MH14 at the peak year?

MR. WILLIAM HARPER: Okay. And -- and this would be in comparison with the MH16 interim with the update at the three point nine five (3.95)?

MR. MATTHEW GHIKAS: Correct.

MR. WILLIAM HARPER: Okay. I'll take that, yes.

MR. MATTHEW GHIKAS: Thank you. And the same comparison. It is at -- but 2.5 billion higher than IFF --

MR. WILLIAM HARPER: Fifteen (15).

MR. MATTHEW GHIKAS: -- 15, subject to --

MR. WILLIAM HARPER: Check, yeah.

MR. MATTHEW GHIKAS: -- check?

THE CHAIRPERSON: I think you said, less than two point two (2.2). So is -- is it two point tow (2.2) or two point five (2.5)? Is it five (5)?

MR. MATTHEW GHIKAS: Two point five (2.5).

THE CHAIRPERSON: Okay.

MR. MATTHEW GHIKAS: Thank you, Mr. Chairman.

CONTINUED BY MR. MATTHEW GHIKAS:

MR. MATTHEW GHIKAS: All right. Now if we can go to slide 6, please.

So at slide 6, you'll see -- this is where your comparising -- comparing forecast to actuals again, right?

MR. WILLIAM HARPER: That's correct. And we see you've included a line for revenues, right?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: And there's a line for net income?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: And if we can go to slide 8, Diana, please.

And so this is comparing the forecast to forecast over a two (2) year period, correct?

MR. WILLIAM HARPER: That's correct.

MR. MATTHEW GHIKAS: And you'll see we have a revenues' line, correct?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: And there's a net income line, as well?

MR. WILLIAM HARPER: Yes. And that --

MR. MATTHEW GHIKAS: Now if we can go to slide 9, Diana.

And this is comparing it over a ten (10) -- a forecast over a ten (10) year period, right? Yes, Mr. Harper?

MR. WILLIAM HARPER: Yes. I'm sorry.

MR. MATTHEW GHIKAS: That's okay. And again we see there's a revenues' line at the top?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: And there's a line for net income?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: And in slide 10 -- this is comparing the forecast over the longer seventeen (17) year period, and, again, you have a revenues' line?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: And you have a net income line?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: Okay. And so if we can go to slide 12.

This is where we're beginning to look at the comparison of IFF14 and IFF15 with the current

IFF16 with update forecast. And you'd see that the lines for revenues and net income have disappeared, right?

MR. WILLIAM HARPER: Yes, it was a matter of how much I could actually squeeze on this slide, to be quit honest with you. And since I was focusing on these financial metrics, I thought they were the more important information to put on the slide.

MR. MATTHEW GHIKAS: I see. And if we -- we don't have to go there, if we -- if you want, but in your Schedule 18 on page 33, if you -- if you like, right, you'd agree with me you've summarized the key financial outlook, and there's no reference to net income there either, is there?

MR. WILLIAM HARPER: No -- no, there isn't. Again, it was -- it was a matter of how much information you can squeeze on a page.

MR. MATTHEW GHIKAS: Okay. Now, you indicated -- if we can go to slide 16, Diana. Sorry to bounce around.

You indicated earlier this morning that your source was Appendix 1.3 of the rebuttal of Exhibit MH-54, if I recall correctly, Mr. Harper.

MR. WILLIAM HARPER: I believe so,

yes.

MR. MATTHEW GHIKAS: Okay. And you'd agree with me that Appendix 1.3 also includes revenues and net income information?

MR. WILLIAM HARPER: Yes, I believe it was a full IFF, if I'm not mistaken, so it would include both.

MR. WILLIAM GANGE: And will you accept, subject to check, that the forecast revenues have declined 2.9 billion between IFF15 and 16 with update over ten (10) years?

MR. WILLIAM HARPER: Yes, I -- I -- it -- they would have declined just base -- based on the assumptions, and I'll accept your number, yes.

MR. MATTHEW GHIKAS: Okay. And subject to check, that would represent a 10 percent deterioration in forecast revenues over ten (10) years?

MR. WILLIAM HARPER: Yes.

MR. MATTHEW GHIKAS: And over that ten (10) year forecast net income went from positive 578 million in IFF15, down to negative 378 million in IFF16 with update?

MR. WILLIAM HARPER: I'm sorry, and where's the second number coming from?

MR. MATTHEW GHIKAS: Negative 378 million in IFF16 with update. Net income.

MR. WILLIAM HARPER: Net income, that -- I'm trying to remember -- trying to get -- understand what that number is supposed to represent. I'm sorry, is it the --

MR. MATTHEW GHIKAS: Ten (10) years.

MR. WILLIAM HARPER: Ten (10) year. Okay. I'm -- I'm -- okay, that -- I'll -- I'll accept that. I -- I don't have the numbers immediately in front of me, but I'll accept what you're saying.

MR. MATTHEW GHIKAS: And -- and mathematically that would be a 165 percent decline over ten (10) years?

MR. WILLIAM HARPER: Mathematically, I think yes.

MR. MATTHEW GHIKAS: Okay. And that decline that we would be looking at there, that would be before adjustments for the accounting changes on depreciation methodology and overheads capitalized that we talked about earlier, correct?

MR. WILLIAM HARPER: Yes. I believe so, yes.

MR. MATTHEW GHIKAS: Okay. And subject to check, the deterioration would increase to

$1.16 billion over the ten (10) years?

MR. WILLIAM HARPER: Subject to check, I -- I -- relate the number.

MR. MATTHEW GHIKAS: And -- and there would also be no dul -- no adjustment in that at all for the delayed service dating kiosk that we referred to previously, correct?

MR. WILLIAM HARPER: Wouldn't be adjustments for any of the other assumptions that have been incorporated in the forecast.

MR. MATTHEW GHIKAS: Okay. Thank you. Those are my questions, Mr. Harper. I appreciate your time. Thank you, Mr. Chairman.

THE CHAIRPERSON: Thank you, Mr. Ghikas. We will -- we'll take a break until 3:15. Thank you.

--- Upon recessing at 2:58 p.m.

--- Upon resuming at 3:18 p.m.

THE CHAIRPERSON: Okay, if we can resume. Ms. Steinfeld...?

CROSS-EXAMINATION BY MS. DAYNA STEINFELD:

MS. DAYNA STEINFELD: Thank you, Mr.

Chair, and good afternoon, Mr. Harper, it's nice to see you again and I'm pleased that every time you come back before for the Board it's such a happy occasion for you.

I'd like to start just with a question of clarification on your slide 21, please, Diana. And at the bottom of this slide we see the information about the Conawapa regulatory account; is that correct, Mr. Harper?

MR. WILLIAM HARPER: That's correct.

MS. DAYNA STEINFELD: And to summarize what I think was your evidence this morning, you are recommending to the Board that a thirty (30) year amortization period be used and -- and the main reason for that is because Conawapa was tied to the NFAT and -- and the Board's decision in that proceeding?

MR. WILLIAM HARPER: Well, I guess -- I almost use that more as an ancillary reason. I -- I think as I -- as I said in my presentation, I think the -- obviously putting $380 million into the financial statement in -- in one year is -- requires -- it requires some adjustment. It's a significant amount of money, therefore, you're looking at it from a rate smoothing perspective. It's a matter of judgment. Manitoba Hydro had proposed the thirty (30) years and it seemed -- it seemed reasonable to me.

And I was trying to rationalize rate smoothing is a matter of judgment, but what could you think about in terms of why it occurred and it wasn't the main reason but it seemed to be, in my mind, it rang as a reasonable way of looking -- looking at it. It isn't because -- it isn't because I'm trying to match cost with benefits or anything from that perspective. It's more -- it looked -- looked like a reasonable period over which to amortize it given how the cost arose in the first place.

MS. DAYNA STEINFELD: And just to pick up on your point about matching costs with benefits, can you just briefly explain to the Board what the $380 million here represents?

MR. WILLIAM HARPER: Well, in -- in my -- my understanding there have been costs spent to date on sort of the development and the planning of the -- of the Conawapa station, and that when -- when -- when the decision was -- when the decision was made by the Board and -- and then accepted by government, to my understanding, and implemented, you've got costs you've spent. You -- you can't continue to capitalize them because there is no station that's planned to come into service, and -- and therefore, normally from

-- from an accounting perspective they -- they would get written off. And my understanding is the accountants and strict accounting terms would say, you write them off, the net income in the year in which -- which occurs. That -- that then becomes a matter of, is that how you want to reflect it and treat it from a regulatory and rate setting perspective.

MS. DAYNA STEINFELD: So they are planning costs, but not costs associated with actually building the asset?

MR. WILLIAM HARPER: Well, you know, up to a certain point they -- they've been planning costs probably -- I don't -- I don't know whether a shovel was ever put in the ground for -- for -- for Conawapa. I suspect not but there were costs involved in -- in the planning, the design, moving forward towards the construction of the station.

And I take that all subject to check because I -- I sort of haven't been going through the -- reviewing the details of what -- what was -- what's the underlying 380 million. I just understood it was some costs spent to date.

MS. DAYNA STEINFELD: And -- and fair enough, Mr. Harper, but if -- if we assume largely or entirely there are planning costs, you would agree that there is no enduring value associated with the $380 million?

MR. WILLIAM HARPER: I think that's why they're -- why they're being written off, yes.

MS. DAYNA STEINFELD: So if there's no enduring value, is there a reason to spread it out over thirty (30) years other than rate smoothing?

MR. WILLIAM HARPER: No, I -- I don't believe so. It -- it is a matter of judgment unless you want to think about it from the context I -- I applied, but that isn't really a benefit matching perspective. So no, I think it's a matter of just this would be -- this would be a significant impact if you were to -- if you were to put it through all in one (1) year.

MS. DAYNA STEINFELD: And would another way to look at it be to look at how long that planning exercise lasted for and then use that as -- as the appropriate period to amortize the costs?

MR. WILLIAM HARPER: I -- I don't think, no, because you're looking at the Board was dealing with a plan as to how you're going to -- how you're going to address the needs of Manitoba over a future period of time and looking at alternative plans and the Conawapa was spent as -- money was spent as part of thinking that was the best way forward at the time.

And in the decision to not proceed with it, that's now view as -- that's the best way forward. This is part of the costs of implementing that best -- best way forward plan, is the way I would look at it.

MS. DAYNA STEINFELD: And if didn't take it all in one (1) year or write it off in a -- in a single year, would you expect that there would be negative net income in that year?

MR. WILLIAM HARPER: I would expect there'd be negative income that year, yes.

MS. DAYNA STEINFELD: But then, conversely, as -- in contrast to amortizing it over a long period of time if you had negative net income in the first year when you wrote it all off, would there then be subsequent additional positive net income in the following years?

MR. WILLIAM HARPER: Yes, there would be. It -- it would be a one time hit. I guess it would also be a one time hit on your ret -- retained earnings, which would impact on your debt/equity ratio as well.

MS. DAYNA STEINFELD: Okay, thank you, Mr. Harper. Let's move on to cost of service study.

And here just -- just for our benefit, let's go to slide 26 of your evidence.

And here, again, just to summarize, in your evidence this morning you identified certain refinements to the cost of service study that you said would have minimal impact on the results and one (1) of the examples on this slide is wind energy.

Is that correct?

MR. WILLIAM HARPER: Yes, and I -- I think -- and that -- that was just acknowledging that I think at the time that the cost of service study was -- study was presented, the view was that wind energy didn't have -- have any capacity benefit. It provided energy to the system, but no capacity benefit and that was the basis for the Board's recommendations as to how it should be treated.

Manitoba Hydro, in this application, has indicated that they now view there probably is some capacity benefit to it. Probably not a lot, but some and if you were to follow that cost/causation, would you say, well, maybe we should have reflected on and gone back and try to -- to propose maybe a different treatment that does -- that does recognize that capacity benefit.

But again, I think -- you're talking

about a very small amount of generation, fairly small capacity benefit. And I think a lot of complexity in terms of figuring out how you might actually want to appropriately implement it.

MS. DAYNA STEINFELD: So putting aside the areas where you say the impact would be minimal, you do identify other areas that you say the Board should look at?

MR. WILLIAM HARPER: Yeah. And I think it's a matter combination of minimal plus the complexity or the difficulty in actually implementing it. And maybe that comes in -- yes, it's a matter of not only minimal impact but what's the complexity of trying to impact it -- implement it. I think, you know, even if an impact is minimal, if you can change it by changing two -- if you can impact it by -- if you can implement, excuse me, by changing two lines of computer code, the cost of the implementation is pretty small.

MS. DAYNA STEINFELD: Thank you, Mr. Harper. And -- and one of those areas where you -- you do think the Board should refine the cost of service study is with the radial lines or what we might also call nontariffable transmission?

MR. WILLIAM HARPER: Yes, that's

correct.

MS. DAYNA STEINFELD: And there -- your evidence is that, essentially, by definition nontariffable transmission does not give rise to export revenues?

MR. WILLIAM HARPER: Well, by -- by definition nontariffable transmission facilities aren't used in -- for -- for exports and, therefore, the -- yes, that -- that's right. They aren't caused, or help facilitate exports.

MS. DAYNA STEINFELD: And in this proceeding Manitoba Hydro acknowledged that fact, that nontariffable transmission is not used to facilitate exports.

Are you aware of that evidence?

MR. WILLIAM HARPER: Yes, I am.

MS. DAYNA STEINFELD: And while Manitoba Hydro agrees that that may call into question how that area is treated in the cost of service study, the evidence from Manitoba Hydro was that the impact of making the change would be de minimus.

Do you agree with that?

MR. WILLIAM HARPER: If -- I -- I don't have any reason to dispute that. Like I said, I think actually inputting this recommendation is -- is pretty -- is pretty simple and would -- would -- would be consistent with -- with -- with the general principles aligned with the Board.

MS. DAYNA STEINFELD: So while that might be an area that like wind energy would have a minor impact because it would be relatively simple to implement, your recommendation is that the Board should do so?

MR. WILLIAM HARPER: Yes, that's correct.

MS. DAYNA STEINFELD: And just to clarify the point that you made on your evidence about generation outlet transmission, here as you indicate, Manitoba Hydro says that they have performed the review that you suggest.

Your concern is that there's no way to test that; that the evidence of that review hasn't been provided?

MR. WILLIAM HARPER: Well -- the evidence of that review hasn't been provided and probably more importantly, in reviewing -- in looking at that review is the criterion, the basis they used for making the decision consistent with the principles that the Board set out in its cost of service decision 164/16.

If the two are the same, then yes, the results are probably reasonable and everything's fine. If there's a difference in the criteria -- which I don't know if there was or not -- then -- then I think one would have to look at it a little bit more closely. But I don't know at this point in time and that was my point.

MS. DAYNA STEINFELD: Mr. Harper, is your recommendation that that evidence or analysis be provided to this Board in the next GRA filing?

MR. WILLIAM HARPER: That -- that would be one -- one way of addressing the issue from my perspective, yes.

MS. DAYNA STEINFELD: Is there another way that you would suggest would be appropriate?

MR. WILLIAM HARPER: No, I think that's the easiest way.

MS. DAYNA STEINFELD: And you also ident -- have identified in your evidence, areas of additional study. And just to summarize as you explained this morning, those are the allocation of common costs, the service drop allocator, and the treatment of primary and secondary distribution lines.

Is that correct?

MR. WILLIAM HARPER: That's correct.

MS. DAYNA STEINFELD: And while you've identified that that further study should be completed, the potential impacts of the results of those studies would also be minor in terms of the result of the cost of service?

MR. WILLIAM HARPER: Well, I think the Board has directed that further study should be completed on that. The question was put to me as to what the impact would be and I think on the service drops and the distribution, it's likely to be matter -- there's -- there is a lot of common costs, and that's the one that's the biggest uncertainty, in my mind, as to what the impact of that would be.

Manitoba Hydro says they're very satisfied with the -- with their current allocation. If -- if all at the end of the day they do is confirm that that's rea -- reasonable. That's fine. But if they fundamentally went in and tried -- and looked at -- looked at it and decided different allocation method was appropriate, then that could change because there's a lot of cost there, and they're going to all the functions.

MS. DAYNA STEINFELD: And -- and similarly, is your recommendation that those three (3) areas of additional study be completed and filed with the next General Rate Application?

MR. WILLIAM HARPER: Yes, I think Manitoba Hydro has committed already to looking at the service drop by the next application and I guess my -- my thought was that if we could wrap all three (3) of them up we could put this to bed, if I can put it that way.

MS. DAYNA STEINFELD: Fair enough, Mr. Harper. I'm sure you're alone in this room in wanting to put the cost of service study to bed. I think it's interesting.

If we turn to -- if we move on from the cost of service study and turn to your slide 32. I don't propose to go into your evidence on marginal cost in any further detail, but just a point of clarification on this schedule that you've reproduced here.

You're comparing the marginal cost to the average revenue of each class. Why is average revenue and not the energy rate in that comparison?

MR. WILLIAM HARPER: Oh, because I think average was the same comparison that Manitoba Hydro used in its org -- original application in tab 8 and I was just trying to replicate the same process that they did.

If you'll recall in my conversation during my presentation when I was talking about the conservation rate, I did make specific reference to the end rate for -- for residential.

The other -- other interesting problem is is when you get outside of rate class that just have an energy rate, you then have to somehow figure out what you're going to do with -- with -- with the demand charges as well and whether you're going to roll that in somehow with the energy rate and look at the two (2) of them, and how you're going to do that. It becomes somewhat -- somewhat complex.

MS. DAYNA STEINFELD: Do you have a view, Mr. Harper, as to which is the more appropriate comparison between average revenue and the energy rate?

MR. WILLIAM HARPER: Well, I think it's the purpose. You're using it for -- for the purpose you're using it for which is comparison with cost of service results which is all costs then probably this comparison is reasonable.

If you're trying to use it for purposes of rate design and designing energy rates then -- then then you want to be looking at the -- at the end use energy rate. As I said, it becomes a little bit more tricky when you start trying to use marginal cost to design a -- larger customers rates also have a demand charge.

MS. DAYNA STEINFELD: Thank you. We can move on from this issue as well. Let's turn then to your slide 27 and -- and I'd like to spend some time talking to you about the calculation of the revenue to cost coverage ratio.

And in your evidence you've told this Board that Manitoba Hydro's approach to calculating the revenue to cost ratios is reasonable; correct?

MR. WILLIAM HARPER: Well, I said on that -- I went through -- I went through the three (3) pieces and on -- and on that I believe it's reasonable, yes.

MS. DAYNA STEINFELD: And if we can maybe just quickly flip to your slide 24.

Just to take this make a step, here you've indicated that your reading of Order 164/16 is -- is that the Board's determination was that cost causation is the sole principle that should be used in establishing the appropriate cost of service methodology?

MR. WILLIAM HARPER: Yes, that -- that was one of the things I took from the Board's Order.

MS. DAYNA STEINFELD: And is it also your understanding from Order 164 of '16 that the Board determined that export revenues should be allocated on class shares of generation and transmission?

MR. WILLIAM HARPER: Yes, it's my understanding, yes.

MS. DAYNA STEINFELD: And I can take you to the reference if that's helpful, but if you recall, was it also your understanding that part of the Board's reasoning was that the large projects in that area were justified based on the use of exports to lower the costs of the assets?

MR. WILLIAM HARPER: I don't think that was quite my -- my understanding was more the fact it was just transmission and generation that were used to support exports. We -- we needed the generation to produce the power. We needed the transmission to get to the border and across the border and so those -- those were the facilities that were used to -- to --- to support the exports and, therefore, that's how the matching should be done.

MS. DAYNA STEINFELD: And just to be fair to you, Mr. Harper, perhaps we'll turn to PUB Exhibit 42-5 which is Board counsel book of documents, volume 5 and page 55 of that document.

And if we just scroll down to the middle highlighted section there, Mr. Harper, I take your point that the primary reason related to the cost/causation of the assets that are giving rise to the revenues, but we also see here in the middle of this paragraph comment from the Board on the economic justification of the projects and -- and the use of export revenues to lower the cost of new generation and transmission assets.

Do you see that there?

MR. WILLIAM HARPER: Yes. I -- I see the Board's statement here, yes.

MS. DAYNA STEINFELD: And so with -- with those points in mind, do you accept and -- and Mr. Bowman has put this position forward in this proceeding that it would be consistent with Order 164 of '16 to treat export revenues as a reduction to class costs?

MR. WILLIAM HARPER: I think -- I guess that's one reasonable that -- as I said in my presentation, that's one reasonable way of doing it. I -- I view export revenues as being an extreme example of sources of revenue that can come from other -- from other activities other than selling power to -

- to -- to domestic customers.

Most utilities have miscellaneous revenues coming from pole rentals, a whole host -- host of things. Most of them don't have one category that's the size and magnitude of -- of export revenues here, but it -- it's of a similar ilk. You've got assets they're using and it's a matter of how -- how you want to treat it. And like I said, I find the treatment is mixed across two different cost -- cost of service studies and -- and -- and so therefore, I don't -- I don't think there's one right way of doing it and one wrong -- wrong way of doing.

As I said, I think there's a -- what's more important is that you do it the same way all the time so you aren't looking at numbers from one to the -- one to the other and some of the changes -- due to changes in the -- in the way you calculate it.

MS. DAYNA STEINFELD: And, Mr. Harper, I may -- I may come back to some of those points but just picking up on what you said at the end there that in your evidence you say that a reason for your assessment that Manitoba Hydro's approach to calculating the ratio is reasonable is because it's consistent.

Is that a fair summary?

MR. WILLIAM HARPER: Yes, I think that -- that's a fair summary.

MS. DAYNA STEINFELD: And would you agree with me that Order 164 of '16 introduced significant changes to the cost of service study methodology in, for example, the area that we're looking at now, that the treatment of export revenues would be one example?

MR. WILLIAM HARPER: Yes, I would.

MS. DAYNA STEINFELD: And so would it fair, Mr. Harper, that given the change in the cost of service study methodology resulting from the Board's review, wouldn't now be an appropriate time to implement a new method of -- of calculating the ratios?

MR. WILLIAM HARPER: Well, I guess -- I guess maybe if you think about it this way. If you've changed the methodology -- if you want to change the way you calculate, timing the two so they coincide, if -- if you're going to both then it's probably better to do them both at -- at the same time, I would agree with that, yes.

MS. DAYNA STEINFELD: And maybe just for -- to put some context on our discussion, Diana, if you could flip ahead to page 57.

And, Mr. Harper, this chart here is just showing the -- the two (2) different methods of calculating the revenue to cost coverage ratios. The yellow column that's on the left side, is the methodology that Manitoba Hydro uses where export revenues are added to the numerator as an addition to revenues. And the column to the right of that is the methodology that Mr. Bowman has endorsed where export revenues are used as a cost reduction.

Do you accept --

MR. WILLIAM HARPER: -- use a numerator, yes.

MS. DAYNA STEINFELD: -- that? Just a -- I'm not going to get in to detail with -- but just to put some context on that discussion, you -- you've indicated already that there are -- you don't -- you don't have a view as to which is preferable.

Do you have a view as to which methodology is more technically correct in a cost of service study?

MR. WILLIAM HARPER: No, I don't. Actually the -- no, I don't. Like I said, I've seen it done both ways. I -- I think the -- may be the important corollary to all of this discussion is that if the way you calculate the simple ratio can change the numbers like up to 3 percentage points, if -- or 3 or 4 percentage points, maybe this says something about the zone of reasonableness you're used to applying and looking at how you want to interpret the results.

MS. DAYNA STEINFELD: That's a wonderful seaway because that's exactly where I was going to take you next was the zone of reasonableness so let's go there.

And you've already had a fairly lengthy discussion about this issue with Mr. Hacault and others. Is your evidence that the zone of reasonableness should be 90 to 110 percent as I believe Manitoba Hydro has suggested, or, are you suggesting that the Board should just be flexible beyond the 95 to 105?

MR. WILLIAM HARPER: I think my -- my -- my evidence was more they should be flexible and since there were two (2) numbers in play, I picked the other number that's most commonly used as -- as -- which is the 90/110. I think -- like I said, I think -- I think the issue of flexibility I think is probably what I was speaking to more -- or thinking about more in my evidence then holding down on a particular number.

And like I said, I think that would be -- that would be for a, hopefully, a short period of time till this is all put to bed.

MS. DAYNA STEINFELD: Right, so what you've zeroed in on on this issue is that there are still certain outstanding cost of service issues, and -- and that's what makes it appropriate to have flexibility around the zone of reasonableness?

MR. WILLIAM HARPER: Yes.

MS. DAYNA STEINFELD: But we've already discussed, Mr. Harper, that some of the issues you've identified as outstanding are, in your words, minor; and others are also minor but would be more simple to implement.

So on the whole, the outstanding issues, this would be fair to say, are -- are minor in impact?

MR. WILLIAM HARPER: Like I said to you earlier, the only exception I draw on that is -- is the issue, the com -- common cost allocation which -- which the Board directed Manitoba Hydro also look at. In my mind that's somewhat of a question mark because I don't know what -- what -- what they're going to do on that and the num -- all those involved are fair -- are a fair bit larger than when we're talking about radial lines or wind energy.

MS. DAYNA STEINFELD: And so on -- on balance then would it be fair to say that the outstanding issues -- resolving those outstanding issues, the impacts would likely be negligible, aside for --

MR. WILLIAM HARPER: Well, I -- total --

MS. DAYNA STEINFELD: -- costs?

MR. WILLIAM HARPER: -- excuse me, I should of let you complete -- completed your question. I apologize.

MS. DAYNA STEINFELD: I was simply giving the accommodation to you that you've made that common costs may have --

MR. WILLIAM HARPER: Yeah, that's -- that's the one area that is uncertainty to me, yes.

MS. DAYNA STEINFELD: So putting aside that area, the remaining outstanding issues, the impacts of resolving those issues would likely be negligible in terms of the results?

MR. WILLIAM HARPER: Well, we -- we -- yeah, you know, I know what -- what you mean by neg -- by negligible. It's -- you may be talking about a percentage point at the end of the day or something like that, yeah.

MS. DAYNA STEINFELD: And so, Mr. Harper, I'm -- I'm hoping that you can help the Board understand how they should reconcile the fact that resolving the majority of the currently outstanding cost of service study issues may lead to minor impacts in terms of the results with your evidence that there should be flexibility and the zone of reasonableness?

How do -- how do those things sit together?

MR. WILLIAM HARPER: Well, I think what I was saying is that there is a zone of reasonableness once you've established your methodology. And we're getting close to having established it. We haven't done precisely and, you know, the Board has a choice to use whatever zone of reasonableness range it wants but if we -- we go down the path, and assuming they continue with the 105 percent, well then, there's still -- there still -- we aren't too sure it's 105 percent of what until we finish this exercise and that's where I was talking about a bit of flexibility.

You aren't too sure what your 105 percent or 100 -- 100 -- 95, 100 percent around, then maybe you need a bit of flexibility in the -- in the percentages themselves.

MS. DAYNA STEINFELD: Would it be appropriate for that flexibility to be something less than Manitoba Hydro's proposed range, given that you've suggested that it might be a 1 percent impact to resolve these largely minor issues? Are we talking about --

MR. WILLIAM HARPER: Yeah.

MS. DAYNA STEINFELD: -- 94 percent to 106 percent?

MR. WILLIAM HARPER: No, I -- I just -- all -- all I was trying to highlight was the fact that we aren't quite there yet, and so some of the range would be the reason why I think we're talking to -- about -- about a shorter period of time than if we can complete these studies by the next GRA. This is not something that is going to last for -- for ten (10) years. Hopefully it lasts for two (2) years, if I can put it that way.

MS. DAYNA STEINFELD: And Diana, if -- if we could please put up Manitoba Hydro to Coalition number 15, and here, Mr. Harper, this is -- turning, we can pause here on the preamble for now, but as you've discussed already today, that your view is that the cost of service study is -- is one (1) input, and there are other considerations that the Board should take into account in setting rates?

MR. WILLIAM HARPER: I think that was the Board's view, and I -- I was just reiterating it. If -- if we decide we're going to do a cost of service just on a cost causation method -- basis, then that would be my view as well, yes.

MS. DAYNA STEINFELD: And perhaps now, Diana, if we could scroll down to the response, and we can just read the last sentence there and then scroll over to the next page. So this would include not constraining the outcome of public policy considerations, that -- there is no next page.

Well, we'll -- we'll go from memory, perhaps, here, Mr. Harper. But what I --

MR. WILLIAM HARPER: What number was it? I've probably got a copy.

MS. DAYNA STEINFELD: It's -- it's 15, but what I have you saying in this information request is that other public policy considerations that you identify are fairness in cost of service. Does that sound familiar?

MR. WILLIAM HARPER: Well, I don't think that -- I don't know -- that doesn't sound familiar, because I think cost of service is what --

is what you're using to define the revenue to cost ratios, and what you're applying the revenue to cost ratios to. If --

MS. DAYNA STEINFELD: So I think here, we have the next page, now, and the -- it's the second full paragraph, or the third paragraph on this page here, Mr. Harper, that I'm referring to. And so perhaps you can clarify what you meant by this sentence. Here is where you say:

"Fairness and cost of service is one (1) of the considerations that the Board takes into account in determining the rates to be charged to Manitoba Hydro's domestic customers."

MR. WILLIAM HARPER: Right. And I go on to say:

"It is in this context that the zone of reasonableness comes into play."

More or less, it's -- I think from a rate-setting perspective, fairness is often -- there are many definitions of fairness. From a rate-setting perspective, fair -- fairness is -- is often -- is most freq -- frequently interpreted as being customers are paying their -- their appropriate share of costs, which takes us to the cost of service study and -- and the zone -- and the zone of reasonableness.

And so really, it's the -- and that's where I'm saying, when you use your cost of service studies and you look at the results of those, and use that as your interpretation of fairness, that's when the zone of reasonableness come -- comes into play.

MS. DAYNA STEINFELD: Okay. So I think -- this is an area that I needed a little bit of help on in your -- in your evidence. But when you say that the cost of service study should not constrain other pol -- public policy considerations, fairness is another public policy consideration, but is, in fact, tied to the cost of service study?

MR. WILLIAM HARPER: As again, I said maybe I'm -- we're having maybe -- I think we may be saying the same thing, but differently, because there's different interpretations of -- of fairness, and this is often what happens, because some -- some people could interpret it as fairness is saying, I -- I've -- I've got space heating. I haven't got any choices. The rates are going up too much. I can't pay. This is unfair.

That might be one (1) way that they could interpret fairness. That isn't the cost of service definition of fairness, but it is with -- well, like I say, fairness has got a number of interp -- terpretations to it, which is -- and I think is -- and some of those other interpretations deal in with those public acceptance and public policy considerations. So I think we have to just be care -- how we're using -- excuse me -- careful how we're using the term fair -- fairness. It gets thrown around with a lot -- out a lot of clarity, sometimes.

MS. DAYNA STEINFELD: Understood, Mr. Harper, and -- and I think it has been used in different ways in this proceeding. But what you're telling the Board is that they should look at the cost of service study, and the output from that study, and the question of whether or not classes are paying their "fair share" in concert with other relevant objectives?

MR. WILLIAM HARPER: Right. It -- it's one (1) of the input in concert with other relevant factors that then decides what level of rates am I going to set for each customer class overall?

MS. DAYNA STEINFELD: And if we stay with the fairness objective for a moment, are there fairness considerations that support or justify the residential revenue to cost coverage ratio currently being under the approved zone of reasonableness?

MR. WILLIAM HARPER: Well, I guess, again, from a strict cost of service perspective, and I guess it depends on how you do the calculation, to be quite honest with you. You know, I think it -- I think it -- and maybe we'll go -- go back to that previous one, because I think it can be either over or under the ninety-five (95), depending upon which way you do the ratio.

MS. DAYNA STEINFELD: Certainly. So Diana, that's Board counsel book of documents Volume 5 at page 57. Is this the -- the page you were referring to, Mr. Harper?

MR. WILLIAM HARPER: Yes. Actually, I thought it was -- maybe I -- I was going a bit from memory. But yes, you know, so that actually, they're both under, but as a matter -- from -- and maybe I got my -- my numbers mixed up, but I'm trying to remember. I thought was ninety -- ninety-five three. I've probably got the two (2) numbers reversed in -- in my mind when I was thinking about it.

But -- but I think yes, if you're looking at -- strict from a cost of service perspective, you -- you would say there is a -- and if you wanted to apply the zones of reasonableness that the Board currently had -- currently -- last approved, then you would say yes, there -- they're normally under. And that's one (1) consideration I would have to take into account when I was -- when I was decide -- deciding -- approving rates and deciding what level of rates those revenues are going to generate from each customer class.

MS. DAYNA STEINFELD: And in your view, Mr. Harper, is it purely a -- a public policy objective that would justify the residential class underpaying its costs if we accept the ninety-five (95) to one-o-five (105) zone of reasonableness?

MR. WILLIAM HARPER: Well, I -- I -- again, I think it depends what you mean by -- by public policy, because there -- there are other issues around gradualism and rate -- rate stability that -- that come into play that, as I said before, one could interpret as public policy or not. And it depends what else is going on at the same point in time, so I -- I don't think there's a clear answer to that.

MS. DAYNA STEINFELD: And your evidence is that at this point in time, what the Board should be taking into account is the fact that Manitoba Hydro is requesting a 7.9 percent increase?

MR. WILLIAM HARPER: Yes. I -- I

think that's one (1) thing that should be front and centre.

MS. DAYNA STEINFELD: And so just to be clear, it -- it's your current recommendation to the Board that no adjustments be made at this time to address class revenue to cost coverage ratios that are outside of the zone of reasonableness?

MR. WILLIAM HARPER: Actually, I think you're probably -- didn't make a specific rec -- recommendation in -- in my report because the decision in the end doesn't hinge just on what the revenue to cost ratios is. It hinges on that and a number of other considerations as -- as well, one (1) -- one (1) of which is the fact if -- if I have -- if I have a higher than average rate increase for res -- residential customers.

And as I've suggested, maybe we need a bit more time to look at some of these other issues like low income and electric heat rates. That's going to obviously impact on the -- those particular customers more than the average rate increase. So there's a number of issues that have -- have to -- have to be balanced.

MS. DAYNA STEINFELD: And thank you for that clarification, Mr. Harper. What you've said in the evidence in this proceeding is that there would have to be compelling justification to impose even higher rate increases than what's proposed on any particular customer class? Is that -- is that a fair summary?

MR. WILLIAM HARPER: Yes -- no. I -- I think we're starting off at -- at a pretty high rate. If the Board accepts the 7.9 percent, a pretty high rate increase for everybody to -- to begin with, and -- and sort of what -- one would have to think -- think about what the -- one would have to think that one had good -- good reasons to move it higher for any particular customer class.

MS. DAYNA STEINFELD: And we can -- we can go to the particular information request if it would be helpful, but you did clarify in response to a question from Manitoba Hydro that in order to be sufficiently compelling, the justification for differentiated class rate increases would need to align with a number -- more than one (1) -- rate-making objections -- objectives, sorry. Is that -- does -- do you recall that reference?

MR. WILLIAM HARPER: Yeah. No, I -- I -- I think I -- I was just -- I was just trying to give some sense that you would want to have some compelling reason for -- for doing so, as opposed to just a one (1) off reason. That's right.

MS. DAYNA STEINFELD: So I'd like to unpack that a little bit. Let's -- let's stick just to the issue of -- of differentiated rates, or interclass adjustments in order to meet revenue to cost coverage ratios.

Do you agree that doing so would, at least in theory, meet the rate-making objective of covering in the revenue requirement?

MR. WILLIAM HARPER: Well, as -- as long as you are -- as long as in -- in your rebalancing, you're coming, you know, wherever you go down, you go up somewhere else, sort of comes out in the balancing, and then yes, you've met that -- you -- you've met the median revenue requirement objective, yes.

MS. DAYNA STEINFELD: And would doing so also meet the objective of simplicity?

MR. WILLIAM HARPER: Maybe -- maybe not so much so. You know, I -- I think it's much more simpler -- but probably more so for customers to understand if everybody's getting hit the same.

MS. DAYNA STEINFELD: And we've already spoken about fairness in terms of covering your costs, or paying your fair share. So would differentiated rates meet that objective?

MR. WILLIAM HARPER: Yes. Yes, they would. Like I said, the -- the -- that -- that would be one (1) input you -- you would use in the process.

MS. DAYNA STEINFELD: And would differentiated rates meet the objective of avoidance of undue discrimination?

MR. WILLIAM HARPER: I -- I -- one -- one has to decide how one's going to define undue discrimination. And -- and I -- I don't think so, necessarily, no. I -- I think undue discrimination is taken as a -- in my mind, is taken as a fair -- fairly extreme -- extreme test.

If you're talking about rates as being discriminatory, that's a pre -- that's a much more serious consideration than saying they're just unfair.

MS. DAYNA STEINFELD: Fair enough, Mr. Harper. And what about stability and gradualism?

MR. WILLIAM HARPER: Well, again, I -- I think depending upon the level of diff -- differentiation, that -- that does con -- that -- that would create problems in terms of both those areas.

MS. DAYNA STEINFELD: And if you spread out the -- the differentiation over a period of time, so if you took a five (5) or ten (10) year period to try to bring a class within the zone of reasonableness, would that address the concerns that you've raised around gradualism and stability?

MR. WILLIAM HARPER: It -- it would to some extent, yes, and that's frequently what -- what would hap -- happens in other areas where -- particularly if you have a large adjustment, you -- you want to make.

MS. DAYNA STEINFELD: And so turning back to your evidence around interclass rate adjustments requiring sufficiently compelling justification, if two (2) or more rate-making objectives were met, in doing so, would -- would it then, in your view, be justified?

MR. WILLIAM HARPER: Well, again, I -- I don't think it's a -- I don't think it's a form -- I don't think it's a formulaic box where you take -- I've got one (1) on this side, and two (2) on that side. I -- I think in -- if -- if it was -- when -- we wouldn't need the -- we could put it in a box and turn a handle, and out would come the answers sort of thing. I think there's a matter of judgment in -- in weighing the imp -- the implications of each of those.

MS. DAYNA STEINFELD: Thank you, Mr.

Harper. I -- I'd like to spend just a little bit of time on the evidence you've given on alternative residential rates. And -- and perhaps just before we get into that specifically, I'd like to pick up on a discussion you had with the Chairman earlier.

And perhaps, Diana, and just for reference, if you could put up transcript page 31.

(BRIEF PAUSE)

MR. WILLIAM HARPER: You're going to make me do something I never do, which is read my own testimony, yes?

MS. DAYNA STEINFELD: I'm not, actually.

MR. WILLIAM HARPER: Okay, good.

MS. DAYNA STEINFELD: This -- this is just so that I didn't have to make Diana go on CanLII and pull up a Court of Appeal decision. But if we --

MR. WILLIAM HARPER: Okay.

MS. DAYNA STEINFELD: -- scroll down a little bit here, I'm sure, Mr. Harper, you're familiar with this quote, which is defining the Board's mandate to set just and reasonable rates that are in the public interest. And again, this quote is from the

Manitoba Court of Appeal decision.

But what it says is:

"The Board has two (2) concerns when dealing with the rate application, the interests of the utilities, ratepayers, and the financial health of the Utility."

You're -- you're familiar with that quote?

MR. WILLIAM HARPER: I'm not familiar with the quotation, but I'm very familiar with the -- with the print -- with the principal, yes.

MS. DAYNA STEINFELD: And so earlier today, you had a discussion about the principal of public acceptability, and whether or not that goes to the rate structure, or the level of the rate increase. In your view, is it a valid consideration for the Board when considering the interests of the Utility's ratepayers when determining just and reasonable rates?

MR. WILLIAM HARPER: I'm sorry, if what's a --

MS. DAYNA STEINFELD: So it -- when looking at -- when the Board is looking at what a just and reasonable rate is in the context of a given rate application, is public acceptability a valid consideration when considering the interests of Utility's ratepayers?

MR. WILLIAM HARPER: Well, I -- I think it is, but within this context, and that is the fact that the Board is looking at the revenue requirement to see if the expenditures are prudent, are they reasonable, and are they, you know -- are -- are they justified? And I think in going through that exercise, they're -- in my mind, that's part of what's trying to go through and come -- and -- and determine on whether or not they're acceptable -- publicly -- pub -- public acceptable.

At the end of the day, I -- I don't think if you were to -- I -- I don't think I'm saying anyway that if you were to poll Manitobans, and they -- and consensus came back and said, The rate increase shouldn't be more than 5 percent, that -- that would be a hard guideline this Board should -- should be -- should be applying when it looks at a rate -- at a rate application if -- when they look at the rate application, they view that, you know, the cost and assumptions, and they are -- justify an increase of 6.8 percent or something.

MS. DAYNA STEINFELD: Thank you for that clarification. Let's turn to your slide 34 and

I'm starting here with the Manitoba Hydro alternative rate design, electric heat rate.

And, Mr. Harper, in your evidence you outlined some concerns that you have with this rate design; correct?

MR. WILLIAM HARPER: Well, with -- with -- with this rate option. We haven't even gotten into the design of the rate yet. We've been getting more into the principle of, if you would have to design a rate that, however, you wanted it to look like ended up collecting lower revenues from -- from electric heat customers, the non-electric heat customers.

MS. DAYNA STEINFELD: And I -- I take that correction and perhaps I went too far in calling it a design.

But is one (1) of your concerns that this rate option would distort the price signal for non-electric heat customers?

MR. WILLIAM HARPER: Well, it would distort the relative price signal between the two, if -- if you know, so -- and if you're trying to send -- you can't send the exact right signal because the rates are based on -- on -- on the average costs that are approved in -- in the revenue requirement often.

So, but it would distort the relative prices between the two (2) if the view is that the marginal cost for electric heat customers is higher but somehow you've designed rate in the end where the price signal they're seeing is lower than for the other half of the class.

MS. DAYNA STEINFELD: And is part of the problem that winter marginal costs are -- are higher than summer marginal costs?

MR. WILLIAM HARPER: Yes, and that -- that's -- that -- we haven't seen the facts precisely on that. But that's my -- my assumption, if I understand how Manitoba Hydro operates. That -- that -- that's part of what would lead to the marginal cost for electric heat customers being higher is that their -- their usage in -- in the wintertime, by virtue of the fact their space heating customers is higher.

MS. DAYNA STEINFELD: So if I can try to summarize, is it your view that applying marginal cost pricing to a non-electric heat tail block would shelter electric heat customers from the appropriate price signal?

MR. WILLIAM HARPER: You -- you said applying a marginal cost base price to the non-electric heat tail block?

MS. DAYNA STEINFELD: Sorry. Right, that if you applied marginal cost pricing to a non-electric heat tail block, you would be sheltering electric heat customers in that rate design.

MR. WILLIAM HARPER: Well, since the marginal costs are now less than the average revenues, if I was to do that, I'd actually be collecting less revenue from the non-heat customers. And the question is, where I get from? If it's going to stay within the class, I -- then they're going to have to increase the rates for heating customers.

So, I'm not too sure -- and if that seems to be directionally going the opposite way as to what you were suggesting in your question.

(BRIEF PAUSE)

MS. DAYNA STEINFELD: And Mr. Harper, you just mentioned that now particularly with the update that Manitoba Hydro has provided on its marginal costs, that current residential marginal costs are below energy rates.

MR. WILLIAM HARPER: Are -- are below the average energy rate that was approved by the Board for August 1st, 2017, that's correct.

MS. DAYNA STEINFELD: Would that support a declining block rate?

MR. WILLIAM HARPER: No. If -- if you take that very narrow interpretation, yes. Yes, it would. You'd have to -- but then you'd have to think about what other messages is that sending in the overall context.

MS. DAYNA STEINFELD: And can you just expand on that a little bit for me --

MR. WILLIAM HARPER: Well, I think --

MS. DAYNA STEINFELD: -- the nature of your concern.

MR. WILLIAM HARPER: Well, I think the concern is there is that, DSM is still very much an active -- activity of Manitoba Hydro. It's going to be an active activity of Efficiency Manitoba. I think I've got the name correct -- or Manitoba efficiency, I can't remember that's what it is and that, you know, and so that, to some extent, having that sort of rate design at the same point in time that you're trying to promote DSM, that's sort of -- it's sort of a mixed message to -- message to customers. And maybe the right marginal -- cost for customers are seeing just -- if I look at the rate structure my bill -- more -- you know, I'm getting a benefit when I use more. At the same point in time I'm seeing somebody advertising telling me I should sign up for this program that will help me reduce my energy use.

I think when -- like I said, rate design is a tool that sort of -- sort of supports a number things. I don't -- I don't think you want to do it so you're sort of sending mixed messages to customers.

MS. DAYNA STEINFELD: And I think I know the answer to this, Mr. Harper, but you've provided your assessment in your evidence of various alternative rate designs or options and you've identified some concerns with what has been presented before the Board.

Is your preferred rate design option an across-the-board uniform rate increase?

MR. WILLIAM HARPER: Well, that's not a -- again, we're mixing terminology here. That's not a rate design option at all. You can have an across-the-board rate increase for all customer classes and then design any particular rate you want to recover the revenues from that class.

So, I guess if you're asking me about -- so and if it is --

MS. DAYNA STEINFELD: And you would --

is your preferred option to take an across-the-board rate increase and leave the rate design exactly as is?

MR. WILLIAM HARPER: For -- for the immediate future, yes. I think if -- if the Board decides it wants to pursue some -- some of these particular issues that's something that I think can be done in a reasonable period of time and that -- then move forward from there.

MS. DAYNA STEINFELD: And you have in your evidence talked about some next steps and, in particular, for low-income rate design. So perhaps it would be helpful to turn to your slide 37.

And maybe just before we get into the details of this, Mr. Harper, you mentioned earlier today some initiatives that have been taken through the Ontario Energy Board.

And I'm wondering if you might be able to provide a little bit more detail on that. One of the things that you mentioned is that the Utility now has to conduct public outreach before the application is -- is filed with the Board; is that correct?

MR. WILLIAM HARPER: Well, I think there's two (2) things. One (1) is the -- since is for the distribution utilities I think -- right -- there's been a new direction from the Board that in filing their application, they're supposed to clearly demonstrate how -- what the outcomes that are supposed -- are going to be in terms of what the Utility's going to be doing and how those outcomes align with customer expectations and that they've done a reasonable job of identifying what the customer expectations are.

So what they're doing aligns with what the -- with -- with what their cus -- with what their customers want.

MS. DAYNA STEINFELD: And --

MR. WILLIAM HARPER: And then after that, I said that's sort of before they file their application, then -- then after they file their application, currently there's a process whereby it's almost like town halls are held with -- with sort of in -- in the community to sort of present the application and -- and -- and get feed -- and get feedback on that. And actually, Board staff attends and presents the results of the feedback to the Board as -- as part of the process.

MS. DAYNA STEINFELD: And in terms of the pre-application consultation, are you -- are you familiar with how the distribution utilities have executed that requirement?

MR. WILLIAM HARPER: Some -- some -- some of them use surveys, you know, in terms of -- of survey forms. Firms sur -- survey their customers. Some of the very smaller ones will actually meet -- meet -- meet with customers; that's obviously not practical for a large Utility and most of them act -- actually use surveys to -- to survey their customer.

MS. DAYNA STEINFELD: And the post-filing town hall that you mentioned, is that hosted by the Utility and Board staff as an attendance, or it hosted by the Board?

MR. WILLIAM HARPER: Well, I would say jointly is the best way -- is the best way to describe it. Presentations are made at it by both Board staff, in terms of the process, and by the Utility, in terms of what -- what the application consists of, and -- and what they're looking for.

The -- the Board establishes certain requirements in terms of the publication of notice about the town halls taking place. So I'd say it's a joint initiative.

MS. DAYNA STEINFELD: And if you don't know the answer to -- to this that's -- that's fine, but if you do, I think your information is appreciated.

Do you know, if the requirement of conducting that prefiling consultation is not met, what the outcome is? How does the Board address that?

MR. WILLIAM HARPER: Well, I -- I guess the Board addresses that by considering the -- the reasonableness and the justification for the expenditures overall. And this often goes to the capital pro -- programs 'cause that's often what's -- what sort of the -- the -- sort of the unique thing about utilities, in terms of what their -- what are the particular programs utilities are proposing, in terms of its programs.

And -- and to some extent, if there hasn't been the level of, sort of, interaction that's been -- will go -- go to the point of view of to what extent had these capital programs been justified as being required and necessary.

(BRIEF PAUSE)

MS. DAYNA STEINFELD: So, Mr. Harper, you said it's largely in the context of capital program approvals that that process is --

MR. WILLIAM HARPER: Well, you know I'll be quite honest with you, I -- I'm not -- I'm not sitting in the back rooms with the Board when -- when they're making -- when -- when they're making their -- their decisions. I have -- I'm trying -- trying to recall, but I think where I've seen it, sort of, reflected most readily in the wording of the decisions has been around areas of capital programs.

You know, it may influence their thinking elsewhere, but -- but that's were I -- I've seen it evi -- more -- more evident.

MS. DAYNA STEINFELD: And in terms of your evidence today on -- on public acceptability, in your view would it be appropriate for there to be similar requirements in a rate case?

(BRIEF PAUSE)

MR. WILLIAM HARPER: And the reason I'm pausing and struggling is -- is this is much -- much easier to do with a distribution utility that has -- that has a smaller sur -- has -- has a smaller serv -- service area. As we -- as utilities get bigger -- and that's why some of these particular surveys -- when you get to the size of all of Manitoba -- I'm strug -- what I'm -- what I'm struggling with is the pract -- is what sorts of approaches would -- would be practical to -- to apply and...

MS. DAYNA STEINFELD: Thank you, Mr. Harper. And -- and I appreciate that you're not behind the scenes, and so I appreciate you providing the further explanation that you've been able to provide.

Let's -- let's now take a look at slide 37. And this is where, in your evidence, you discussed rate design considerations for low income rates. And what you say here is that further research is required. I think in your response -- and we can bring it up if it's helpful -- but in your response to the PUB-Coalition 23, you've identified some specific next steps.

And am I correct that one (1) of those next steps is having the Board clarify the target group, in terms of a low-income rate design?

And maybe, Diana, if -- just to help Mr. Harper, if we could pull it up, and just scroll down to the response under, I believe it's 23B. And I think just at the bottom of this page. Sorry, just up a little bit, Diana. That's perfect.

So this is where, Mr. Harper, you discuss a more focused rate design, and who -- who it should be aimed at.

MR. WILLIAM HARPER: And I think I was -- I don't think -- but I think if I look at the paragraph above it, this focused issue was spoke -- was speaking more about space heating customers, in terms of, you know, what -- you know, what's the -- what's the group there -- you know, what's the group there? There's been some discussion about space heating customers in nongas areas as being the ones that are really affected.

Clearly, there is an issue. You know you can -- you take a Venn diagram and cross over the two (2), obviously low-income customers with space heating is -- you can put -- put them in non -- you know, in a sep -- separate grou -- group again.

So -- and there's been a lot of dis -- discussion and references to low income in different groups, and so it's a matter of, you know, you -- are you trying design something for all these different groups, or are the groups that one thinks one should give priority to, in -- in terms of moving forward, that would help focus the eff -- efforts.

MS. DAYNA STEINFELD: And you said earlier, Mr. Harper, that the devil is in the details, so your -- as I take it, your recommendation to the Board is that the Board should indicate how the rate design should be focused, and then the details can move forward from there.

MR. WILLIAM HARPER: I -- I guess, I -- to the extent the Board can, in terms of what -- what it considers the priority area, the priority customer groups, to start off with, if it has any particular views, in terms of we've talked about. One (1) -- one (1) of the big issues is it is -- is it a proportional approach, or is it sort of fix -- fixed approach, so that everybody's getting the same discount; there's pluses and minuses on each, as I talked about in -- in my presentation.

And so, you know, people can go away and study both, but obviously they can go much more quickly if it is a focus on one (1) one of those two (2) part -- one of those two (2) particular approaches.

MS. DAYNA STEINFELD: And I believe you've also identified in your evidence as a next step, holding the stakeholder committee to establish the requirements of a focused rate option, once you've determined who the priority groups are?

Is that fair?

MR. WILLIAM HARPER: Yes, that's fair. And I think -- 'cause if you're talking about -- if you're talking about trying to des -- design rate in an implementation process for billing, clear -- clearly Man -- Manitoba Hydro has -- has a stake. There are issues about bill -- billing systems and issues like that.

There are also issues, in terms of how are you -- the application process itself, and how readily will that be able -- able to be followed through and, sort of -- sort of, accepted, or people being able to apply. I'm wording this rath -- rather awkwardly, I apologize.

And so it -- it might -- might be useful to have people involved from one (1) or two (2) social agencies that -- that are familiar with those sorts of issues, but -- you know, so -- so that one can, like I said, and -- sort of mirroring off the thought of what happened when -- when I was working on that OESP working group, where there were stakeholders from a number of the relevant con -- constituencies, sort of, trying to make sure that -- sort of, that when -- when they're thinking through the process that -- that the issues that they knew were -- were relevant were also raised and discussed at the time.

MS. DAYNA STEINFELD: And is it your view, Mr. Harper, that those are next steps that are required to build on the stakeholder process that has already happened in Manitoba? By which I mean the Bill Affordability Working Group.

MR. WILLIAM HARPER: Yeah, 'cause I -- I think the Bill Affordability Working Group, and if you look at the report, was talking about a number of rate designs at a fairly high level, And I think they're -- they're -- themselves identified issues around -- you know, there are implementation issues with this, definition issues with that. So I think it's a matter of buil -- of build -- building on that, and taking it the next step, in terms of, sort of, putting more definition around that, yes.

MS. DAYNA STEINFELD: And so -- and just so I'm clear, what you're suggesting to the panel is that there should be a further stakeholder process with the relevant groups at the table including, potentially, government social agencies who would examine more closely exactly those implementation issues, and how to move forward?

MR. WILLIAM HARPER: Yes.

MS. DAYNA STEINFELD: Okay. And is there also a further next step, beyond a stakeholder process, around research to determine public acceptability, or is that part of the same stakeholder process, in your view?

MR. WILLIAM HARPER: Well, I think this group, around the table, themselves are going to be identifying issues, and I think I flagged as one -- one (1) of the issues is that they -- and go out and do it whether it be it a -- through focus groups or whatever else but this -- this particular issue in terms of trying to understand export, well, will -- will customers understand this?

The best way to do it, maybe to get together a group -- group of customers and walk through and say which of these two (2) approaches -- do you -- if I was -- if I was to send you a bill that looked like this, as opposed to like that, what -- what would be your understanding of the bill, or would you understand how it was done, or would -- would you have concerns, or would -- would it create concerns for you?

MS. DAYNA STEINFELD: So a stakeholder process that you're suggesting could include the holding of focus groups that would then feed into the results of that committee.

MR. WILLIAM HARPER: Yes, yes.

MS. DAYNA STEINFELD: Okay.

MR. WILLIAM HARPER: I don't see it

being a next step, I see it being part of the same process.

MS. DAYNA STEINFELD: Okay, thank you. And you spoke about this a little bit already today but just so I'm clear, are there options for low income assistance offered by the Utility beyond a low-income rate that you've seen in other jurisdictions? Are there other ways of getting that affordability beyond a low-income rate itself?

MR. WILLIAM HARPER: Well, I -- I guess the working -- you know, and I guess the working group itself is identified the fact that, you know, DSM pro -- programming for low -- low income customers can help address affordability for low income customers, and that's one -- one of the recommendations that I believe came out of that group in terms of trying -- trying to strengthen certain of those programs.

You know, while -- while it's not a sort of making things more affordable, issues around I think -- also making things more manageable in terms of whether it'd be strengthening things like the Neighbours Helping Neighbours program or sort of forgiveness of arrears or things of that. I mean, that doesn't help things in -- in the longer term, but

-- but it does -- does help customers through -- through a particular bump if I could put it that way.

And I think those are other considerations that came out of the working group as well. So, I think there are other ways. I think at the end of the day the question was, as you know, the idea of a low income rate was another leg on the stool, if I can put it that way, or -- or another way of approaching it. But I think the working group did deal with other ways of trying to assist low-income customers with bill affordability.

MS. DAYNA STEINFELD: You also spoke, Mr. Harper, about the Ontario program that you've had some -- some involvement in and I understand -- and you can correct me if I got this wrong -- but that was an initiative that came to the Ontario Energy Board from government and then the Ontario -- through the Ontario Energy Board there was a working group in which you participated to an extent.

Have I got that right?

MR. WILLIAM HARPER: Yes.

MS. DAYNA STEINFELD: So if those are the -- the first two (2) steps, what -- what came after that? So is the working group still meeting or has there been an outcome from that process?

MR. WILLIAM HARPER: Well, the program -- the program was implemented. It was actually refined and the -- and the amounts that were made available to low-income customers were actually increased in 2017 as part of the Fair Hydro Pro -- Hydro Plan that the government did.

So, the plan's up and running right now and there's a -- if you go to the Ontario Energy Board website, there is a schedule that there that shows for -- basically, it depends on your level -- level of income and how many people are in your household, what your monthly discount will be every day. Actually, there's a -- application forms available of -- available online and about three (3) different ways one can actually apply for the program.

MS. DAYNA STEINFELD: Just turning to my last area of question, Mr. Harper. I think we're all in agreement in the room that if -- if there is a program of -- of some kind in the way of an alternative rate design and it has a revenue impact that there has to be some basis for recovering the revenue.

And I take your evidence to be that it -- it shouldn't be limited to just the residential customer classes; is that right?

MR. WILLIAM HARPER: That's correct. I really see no -- this -- this isn't a cost of service refinement, it's a -- it's -- it's something broad -- it's something broader than that. And so I don't see any reason for -- I don't see any reason for restricting it just -- just to residential.

And if you think about the broader you apply it, the less impact it has on each individual party who has to contribute to it.

MS. DAYNA STEINFELD: And as -- essentially spreading out the impact, the primary reason that a commercial and industrial customer should pay for an alternative rate design that only benefits the residential class?

MR. WILLIAM HARPER: Well, I think you have to watch because it doesn't benefit the residential class, it benefits a subsegment of the residential class. And for a residential customer that isn't low income, there really isn't much difference between them and the commercial customer or the industrial customer. None -- none of the three (3) of them can -- can participate in the program or get a benefit from the program.

MS. DAYNA STEINFELD: And I'm going to maybe put you on the spot a little bit, but are there rate-making principles that would support that kind of systemwide recovery approach?

And we can put up your side --

MR. WILLIAM HARPER: No, no, I'm thinking about it.

MS. DAYNA STEINFELD: -- that has the principles if that's helpful.

MR. WILLIAM HARPER: -- The rate-making principles are pretty broad and open to wide range of interpretations. So, you know, one (1) -- one (1) person could look at them and say, yes; another person could look at them and say, no is what -- is what I was struggling with at the end of the day.

I -- I can tell you that prior to the -- prior to the Fair Hydro Plan, there were two (2) what you would call -- for want of a better word -- subsidy programs in place in Ontario. One -- one was rural rate assistance which -- which has been in place since the late '70s or the early '80s which basically underwrote the rate for residential and some general service customers and small rural areas that were higher cost service areas because we do have density-based rates in Ontario. And the cost of that was spread over all customers on the system.

And similarly with the Ontario Energy Support Program was introduced, and it was funded through ratepayers. The cost of that was spread over all ratepayers on the system.

MS. DAYNA STEINFELD: So broadly interpreted, it's supported by public policy; is that fair?

MR. WILLIAM HARPER: Yep. Well, and -- like I said, in both cases that -- particularly the rural rates, I mean, that -- that was a choice of the Utility in terms of how it wanted to -- how it wanted to proceed to re -- recover those costs.

MS. DAYNA STEINFELD: And if -- if we assumed that the Board did want to embark on a path of moving the customer classes within the zone of reasonableness, am I right that recovering the costs of an alternative rate design from all customers would be at cross-purposes from adjusting the revenue to cost coverage ratios; that it -- it would exacerbate the problem in terms of some classes falling outside of the zone of reasonableness?

MR. WILLIAM HARPER: I'm -- I'm not too sure if it would -- if it would exacerbate it at all to the extent that if you were -- and again, one would have to think through if this was a cost, how your -- because it would then be incorporated to some extent in the cost of service study. It was part of the revenue requirement and it may -- and it may be spread over all customer so it -- it may naturally take -- take care of itself, depending upon how one wants to decide on the cost of service study to -- to allocate those costs.

So I don't think it might -- I don't -- well, depending on how it -- that was treated on the cost of service study as whether it exacer -- exacerbated things or not.

MS. DAYNA STEINFELD: And just so I have the point, what you're saying is that -- that that would then be a cost at -- that would then have to be flowed through the cost of service study.

And so how -- how the revenue to cost coverage ratios were impacted would depend on the cost of service study treatment?

MR. WILLIAM HARPER: Yes.

(BRIEF PAUSE)

MR. WILLIAM HARPER: Excuse me, if I can just follow-up on that. Or alternatively it's -- the whole thing is managed outside of the cost of service study as a separate rate rider in which case it has no impact on the revenue to cost ratios at all because it's all managed outside of the cost of service study. That would be -- that would be another approach of what could take to it.

MS. DAYNA STEINFELD: And just so I understand, the first answer that you gave, can you explain why it could be considered a cost that would need to be treated through the cost of service study?

MR. WILLIAM HARPER: Well, I -- I guess the question -- that's why my second response to you, actually, because at the end of the day if you have to recover the money then the question is, you have to charge it out to customers.

And you know one might initially -- well, that initial thought might be, well, that -- well if it's a cost that's recovered from customers, it goes into the cost of service methodology, but that's what I did my follow-up response to you was that in some cases one could alternatively consider, it's not a cost, it's not part of the cost of service study. This is just an additional rate rider we apply to everybody of, say, .1 cent a kilowatt hour in order to recover the money we need to fund this particular initiative.

MS. DAYNA STEINFELD: And so if we took your second option that you've just explained, the rate rider option, wouldn't that then recover more revenue from certain customer classes which would then exacerbate the problem of those classes contributing more than their fair share of revenue?

MR. WILLIAM HARPER: If you were to include that rate -- rate rider, yes. It depends then of -- again, how you calculate your revenue cost ratios.

MS. DAYNA STEINFELD: Thank you, Mr. Harper. Mr. Chair, those are my questions for this witness.

THE CHAIRPERSON: Thank you. Ms. Steinfeld. Dr. Williams, any re-examination?

DR. BYRON WILLIAMS: Yes, and a few questions following up the able cross-examination of My Learned Friend Ms. Steinfeld.

RE-EXAMINATION BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: Just for clarification purposes, you had near the end of your conversation with Ms. Steinfeld, the discussion of the OESP which I think is the Ontario Electricity Support Program, Mr. Harper?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And you referenced some changes in 2017?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And in terms of the Ontario Electricity Support Program now, for clarification purposes, who is funding it?

MR. WILLIAM HARPER: As of 2017 it's a tax -- it's a taxpayer-funded program.

DR. BYRON WILLIAMS: Okay. And you will recall very -- quite a while ago, in your conversation with -- with My Learned Friend Ms. Steinfeld, there was a discussion of -- of an output from the cost of service study putting residential customers at the boundary of 95/105 or slightly below that.

You recall that?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And Ms. Steinfeld put to you some regulatory principles including stability and gradualism?

MR. WILLIAM HARPER: Yes, I recall.

DR. BYRON WILLIAMS: And mathematical -- well, Mr. Harper, you're aware that the Bipole III project is coming online very soon?

MR. WILLIAM HARPER: Yes, I am.

DR. BYRON WILLIAMS: And mathematically, Mr. Harper, are you aware of the implications that Manitoba Hydro has estimated for the residential class of Bipole III coming online?

MR. WILLIAM HARPER: Yes -- yes, I am.

DR. BYRON WILLIAMS: And what are they?

MR. WILLIAM HARPER: Well, I think the -- do you want the specific --

DR. BYRON WILLIAMS: I don't need the specific direction.

MR. WILLIAM HARPER: -- cause I looked up -- directionally what happens is the revenue-to-cost ratios for the smaller customer classes go up; that would be residential, general service small non-demand. By the time you get to general service medium it's about breakeven and then the larger customer classes, their revenue-to-cost ratios go -- go down.

DR. BYRON WILLIAMS: And would the same implication flow from Keeyask, sir?

MR. WILLIAM HARPER: I would think directionally, you would get the same implications from Keeyask when it comes into service, yes.

DR. BYRON WILLIAMS: Now the one

regulatory principle that My Learned Friend did not put to you in that conversation, Mr. Harper, was efficiency?

MR. WILLIAM HARPER: Yes, that's correct.

DR. BYRON WILLIAMS: And you've done a comparison in terms of the average revenue from different class -- classes as compared to their marginal costs?

MR. WILLIAM HARPER: That's -- that's correct. With revised marginal costs that Manitoba Hydro has produced, yes.

DR. BYRON WILLIAMS: And directionally, sir, let's assume on an embedded cost basis one is trying to move the -- the residential class up, notwithstanding the implications of Bipole III and Keeyask.

In terms of the efficiency principle, what kind of message would that be sending, sir?

MR. WILLIAM HARPER: Well, and I think I indicated in -- in my presentation that if by moving them up you were -- and particularly if you were trying to apply those recovery to a larger volume customers that would be inconsisting -- inconsistent because you'd be increasing -- if they're already at about 125 percent, you'd be increasing their percentage further.

DR. BYRON WILLIAMS: And finally, Diana, if you can just pull up -- and, Mr. Harper, you'll recall a conversation with My Friend in terms of insight into the Ontario Energy Board and their consultation processes?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: In particular with distribution companies?

MR. WILLIAM HARPER: Yes.

DR. BYRON WILLIAMS: And, Diana, if you can pull up just from Coalition 32-1, tab 5, an excerpt from Toronto Hydro. And just scroll down to Section E24.

And, Mr. Harper, I'll just give you a second to look at that.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: And you see, sir, that Toronto Hydro in terms of their consultation progress -- program undertakes focus groups, online workbooks accessible to all customers, facilitator workshops with commercial and industrial users and, finally, a statistical telephone survey?

MR. WILLIAM HARPER: Yes, and this is the -- I -- I was involved in reviewing this particular aspect of Toronto Hydro's application but I would strongly suspect that this was in direct response to the Board's directive as to the type of outreach they should be doing to customers.

DR. BYRON WILLIAMS: Thank you. And I thank you for those -- for that opportunity to do re-examination.

THE CHAIRPERSON: Does the Panel have any questions? No?

Okay, Mr. Harper, thank you very much for all -- for all your work and for attending -- sorry, attending today and your assistance to the Board. Thank you.

MR. WILLIAM HARPER: Thank you very much.

THE CHAIRPERSON: And we're happy that good things happen when you come here and I'm sure that if you ever want a nice conversation, Ms. Steinfeld loves to talk about cost of service methodology and good things will come from that as well.

Ms. Steinfeld...?

MS. DAYNA STEINFELD: Mr. Chair, if I may, this morning I indicated that the schedule for tomorrow may -- may change and Mr. Simonsen will correct me if I'm wrong but I believe the schedule is such that we will be starting at 1:00 p.m.

MR. KURT SIMONSEN: That's correct, with presentations.

THE CHAIRPERSON: Thank you, we're adjourned until one o'clock tomorrow. Thank you.

(PANEL STANDS DOWN)

--- Upon adjourning at 4:30 p.m.

Certified Correct,

____

Cheryl Lavigne, Ms.