MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO'S APPLICATION
FOR APPROVAL OF NEW ELECTRICITY RATES
FOR 2010/11 AND 2011/12

Before Board Panel:
Graham Lane - Board Chairman
Robert Mayer, Q.C. - Board Member

HELD AT:
Public Utilities Board
400, 330 Portage Avenue
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Pages 7083 to 7229

APPEARANCES

Bob Peters		)Board Counsel
Anita Southall	(np)	)
Patti Ramage		)Manitoba Hydro
Marla Boyd		)
Byron Williams		)CAC/MSOS
Myfanwy Bowman	(np)	)
Antoine Hacault		)MIPUG
Michael Anderson	(np)	)MKO
William Gange		)RCM/TREE
Delanie Coad	(np)	)SCO
Denise Pambrun		)City of Winnipeg
Gavin Wood	(np)	)Independent Experts

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--- Upon commencing at 9:32 a.m.

THE CHAIRPERSON: Good morning, everyone. Welcome to Mr. Chernick and Mr. Wallach. Do we have any further exhibits or undertakings that have been completed to be filed, Mr. Peters?

MR. BOB PETERS: No, I think Manitoba Hydro still is working on some, and we have no further undertakings this morning at this time.

MS. PATTI RAMAGE: We have nothing this morning. I just mentioned to Mr. Williams offline we might want to check the exhibit numberings of CAC. Our records indicate there's two (2) Exhibit CAC-28s, and they're different documents. So it might be something to check on the break though just in terms of housekeeping matters and re-assign that number.

MR. BYRON WILLIAMS: I think I understand the issue, Mr. Chairman, which is one (1) that we had originally considered as being identified for identification was subsequently marked as an exhibit and I omitted that. Now, my recommendation to the Board, because I did refer a number of times to the twenty-ninth document as CAC/MSOS-28, and I'm -- I'm wondering if --

MR. ROBERT MAYER: 28A?

MR. BYRON WILLIAMS: Yeah, something like

-- something like that. So what I would suggest is that the -- the first document, which is the very short document that was handed out in the cross-examination of Professors Kubursi and Magee, be marked as 28A. And then that will preserve the -- the one as Exhibit 28.

THE CHAIRPERSON: Okay. Mr. Singh and Mr. Peters will check it out over the break and we'll just confirm. Good morning, Mr. Gange.

MR. WILLIAM GANGE: Thank you, Mr. Chair. There is one (1) other preliminary matter that arose during the -- my cross-examination on April 15th of the Hydro Panel. And at that time, the fuel switching report that was subject to Directive number 17, there was an indication that that would be provided to the -- or that -- that the report was concluded and that it would be provided to the Hydro board for -- for review and -- and approval at the May meeting.

And that -- that the expectation was that when we came back for this series of -- of hearings that -- that that fuel switching report would be available. I wonder if we could get a status update on that.

THE CHAIRPERSON: Ms. Ramage...?

MS. PATTI RAMAGE: We will have to take an undertaking. I -- I don't have the status off the top of my head.

THE CHAIRPERSON: Very good. They'll come back in due course.

--- UNDERTAKING NO. 166: Manitoba Hydro to provide the status of the fuel switching report

MR. WILLIAM GANGE: Thank you, Mr. Chair. Before I introduce Mr. Wallach and Mr. Chernick I -- I just want to bring to the attention of the Board that Randall McQuaker, executive director of Green Action Centre, Carolyn Garlich, policy committee member, and Colin Crolly, board president of the Green Action Centre, are all in attendance with us today.

You have met Mr. Chernick previously. I will run through qualifications. My intention is to do a very brief qualification for Mr. Chernick and Mr. Wallach. Mr. Chernick has been qualified by the Board twice previously. Mr. Chernick, this is -- or Mr. Wallach, this is the first time that you've met him, but I -- well, and then if -- if there's any controversy, perhaps we could go further in -- into their qualifications. But given that this might be a long day, I would like to -- I would like to shorten the proceedings as much as possible.

THE CHAIRPERSON: I don't think you'll get any opposition on that front.

MR. WILLIAM GANGE: Mr. Chernick, I'll start with you.

THE CHAIRPERSON: We should -- might as well swear the witnesses.

MR. WILLIAM GANGE: Swear -- swear both of them in, yes.

THE CHAIRPERSON: Mr. Singh.

MR. WILLIAM GANGE: Thank you, Mr. Singh.

RCM/TREE PANEL 2:

PAUL CHERNICK, Sworn

JONATHAN WALLACH, Sworn

MS. PATTI RAMAGE: Mr. Chairman, just on Mr. Gange's note, if -- and I'm not sure if I heard correctly, Mr. Gange, but if you want to jump straight to what you're qualifying the witnesses as, we could probably skip that section just to make up some time.

MR. WILLIAM GANGE: Thank you. And I -- thank you, Ms. Ramage, we'll -- we'll -- we'll do that.

EXAMINATION-IN-CHIEF BY MR. WILLIAM GANGE (QUAL):

MR. WILLIAM GANGE: Mr. Chernick, you've

been asked to provide expert testimony with respect to revenue allocation, rate design and demand-side management in -- in these hearings.

Is that correct, sir?

MR. PAUL CHERNICK: Yes.

MR. WILLIAM GANGE: And that's the expert test -- that's the area of -- of expertise of -- of Mr. Chernick.

THE CHAIRPERSON: And Mr. Wallach...?

CONTINUED BY MR. WILLIAM GANGE:

MR. WILLIAM GANGE: And Mr. Wallach, you've been asked to provide an assessment of risk management and -- and to review the material that's been provided with respect to risk in this factor, that's issues that you've testified on previously in other hearings, sir?

MR. JONATHAN WALLACH: Yes, I have.

THE CHAIRPERSON: Okay. We'll ask for comments.

Mr. Williams...?

MR. BYRON WILLIAMS: We have no objections to the qualifications as framed.

THE CHAIRPERSON: Mr. Hacault...?

MR. ANTOINE HACAULT: I'm just trying to

get the mic going, Mr. Chair. Likewise, we have no objections to the qualifications as presented.

THE CHAIRPERSON: Ms. Pambrun...?

MS. DENISE PAMBRUN: No objections, Mr. Chair.

THE CHAIRPERSON: And Ms. Ramage...?

MS. PATTI RAMAGE: No, Manitoba Hydro has no objections. I thought that would move that a little quicker.

THE CHAIRPERSON: And I don't see --

MR. WILLIAM GANGE: Thank you.

RULING (QUAL):

THE CHAIRPERSON: I don't see anything coming from Mr. Peters, so we're under way.

MR. WILLIAM GANGE: Thank you. Mr. Chair, and counsel for the parties, you are aware that we have, as ex -- RCM/TREE Exhibit number 6, the written testimony of Mr. Chernick, and RCM/TREE number 7 is the written testimony of Mr. Wallach. Mr. Chair, I do not intend to review the -- the direct testimony.

We're going to summarize the -- the -- the testimony of each of these witnesses so that -- because you have it -- you have -- you know what their position is and -- and I'll try to get as quickly as possible to -

- to the -- the parties for cross-examination.

EXAMINATION-IN-CHIEF BY MR. WILLIAM GANGE:

MR. WILLIAM GANGE: I'm going to start with Mr. Wallach and -- and then I'll move to Mr. Chernick and then I'll open the floor to the parties for -- for both of the panel members.

Mr. Chernick -- or pardon me, Mr. Wallach, the -- the purpose of your review was to provide consideration of drought-related financial risk. Is that correct, sir?

MR. JONATHAN WALLACH: That's correct.

MR. WILLIAM GANGE: And -- and can you comment on -- on how you approached that -- that concept?

MR. JONATHAN WALLACH: Sure. My testimony focuses on Manitoba Hydro's consideration of drought-related financial risk, both in terms of the Company's overall exposure to drought-related financial losses and in terms of the effects of long-term contracting on the Company's risk exposure. My testimony also evaluates the Company's strategies for accommodating or mitigating drought-related financial risk.

Just to be clear, by financial risk I mean the risk that future financial performance will be much worse than expected due to uncertainty in the key factors

that drive financial performance. And as this Board has long recognized, the key risk factor for the Company's financial performance is water flow and variability.

While water flow poses the greatest financial risks to the Company, other risk factors, such as export and import price volatility, also carry significant risk. So although my focus is on drought risk, my testimony also addresses the Company's assessment of other significant risk factors in combination with drought risk.

Finally, I just want to say that my assessment of the Company's risk practices is based on a review of relevant Company documents, as well as the three (3) reports by ICF, KPMG, and the Board's independent experts. I also read the so-called public document by the New York consultant, but I didn't give it any further consideration, since it consisted largely of undocumented, unsubstantiated, and ultimately unverifiable assertions.

MR. WILLIAM GANGE: Thank you, sir. Can you please comment on the difficulty that you faced in conducting a detailed evaluation of the Company's risk assessments, or the risk analysis, that was provided in the reports of ICF, KPMG, KM, and the NYC?

MR. JONATHAN WALLACH: Certainly. I -- I

think my frustration came through in my pre-filed testimony, but, frankly, I was unable to conduct any kind of detailed evaluation, since all of the public documents in this case were heavily redacted, and since I was denied access to any of the allegedly confidential materials that had been removed from those documents.

I have to say, in my thirty (30) years in this field, I don't believe I've ever encountered such a broad standard for confidentiality or the type of blanket denial of access to confidential material as was applied in this case. In my experience, standard practice has been to provide full access to confidential material to any intervenor in a case willing to sign a confidentiality agreement.

For example, I'm working on a case right now regarding Nova Scotia Power's fuel adjustment mechanism and, in that case, I signed a confidentiality agreement that gives me access to a secure website where Nova Scotia Power posts such confidential material as individual plant costs and operating performance data, the costs to comply with the mission's requirements, forecasts of fuel prices, and material regarding the company's fuel price hedging strategies.

That agreement also gives me access to a secure data room at NSP's offices, where I can review

commercially sensitive material such as individual fuel contracts and hedge agreements as well as individual bid results from fuel supply solicitations.

Un -- unfortunately, in this case, no provision of any kind was made for access to confidential data, and so I was unable to assess key findings and conclusions in either the Company's filings or in the three (3) independent studies.

Just as an example, without access to confidential data, I could not independently verify ICF's or KPMG's claims regarding the risk-mitigating attributes of the three (3) new long-term contracts, nor could I evaluate KPMG's modelling estimates of the financial risk associated with those contracts.

MR. WILLIAM GANGE: On the basis of the material that you were able to review, what conclusions and findings do you have?

MR. JONATHAN WALLACH: All of the risk studies presented in this case seem to agree that the Company could suffer severe financial losses, primarily because of its almost sole reliance on hydraulic generation to serve domestic load and to support export sales. The studies show that an extended drought would deplete accumulated retained earnings in a matter of a few years and that, in the absence of compensating

measures, earnings would likely remain depressed for several years after the end of a drought.

Where these studies differ is in their estimates of the magnitude of the potential threat. In the Integrated Financial Forecast for 2009, the Company estimates a $2.4 billion earnings loss by the end of a five (5) year drought and, in comparison, the KPMG study estimates that earnings loss would be twice as much as estimated by the Company if a five (5) year drought coincided with a period of high fuel and market prices.

In this case, KPMG estimates that retained earnings would be completely wiped out in about three (3) years and would stay strongly negative for almost a decade after that.

MR. WILLIAM GANGE: Could you also comment on -- on this issue: Could firm export sales increase Manitoba Hydro's risk exposure?

MR. JONATHAN WALLACH: Well, in theory, firm export sales from hydraulic generation could magnify the Company's drought-related financial losses. In a severe drought the hit to earnings would come first from a cessation of short-term non-firm exports, and then second from an increase in cost to serve domestic load with replacement imports and thermal generation.

Now a firm export sale would add a third

loss factor since, like domestic load, the firm export obligation would have to be met with more expensive sources of power to replace the lost hydraulic generation. And earnings losses could be even greater if those firm sales are supported by new capital investment, since such investments would increase fixed costs and, thus, loses, when export revenues fell short of cost during a drought.

Now in terms of the new contracts with Northern States Power, Minnesota Power, and Wisconsin Public Service the Company, ICF, and KPMG all argue that these contracts offer economic benefits that are likely to outweigh their financial risks. And in fact KPMG offers some analytical support for those claims with a simulation analysis that shows that the preferred resource plan with the new contracts is less risky than an alternative resource plan without them.

While these arguments are generally plausible, I have no way of validating them without access to the confidential provisions of the new contracts or access to the model data that KPMG used to analyze those contracts.

MR. WILLIAM GANGE: Do the KPMG results indicate that the Company's risk exposure is reasonable?

MR. JONATHAN WALLACH: Not necessarily.

Ultimately the Board should be concerned, not just with whether these new contracts amplify or mitigate financial risk, but more broadly with whether the financial risks associated with the Company's preferred resource plan are tolerable or manageable.

And, in particular, the Board's focus should be on whether the almost sole reliance on hydraulic resources threatens the financial stability of the Company and unnecessarily increases the risk to consumers of -- of unreasonable rate increases. From this persepect --

or, excuse me, from this perspective the KPMG results are troubling, since they indicate that the Company would likely need to increase borrowings or dramatically increase rates to recover from a drought that is accompanied by high fuel and market prices.

Now these results may raise our collective anxiety levels, but they offer little guidance about how realistic those fears are or how we should respond to them. Before we can formulate a response we need to know, not just how large losses could be, but how likely it is that losses would be that large or even larger.

And in this sense the Company recognizes that its current approach to risk modelling falls short. And has -- the Company's stated that it's in the process

of developing a new model that will provide a more complete picture of the likelihood of potential drought-related financial losses.

MR. WILLIAM GANGE: Besides the risk model, should the Company change any other aspect of its risk evaluation process?

MR. JONATHAN WALLACH: Yes, along with changing its approach to risk modelling I recommend that the Company also revise its approach to risk assessment in the resource planning process.

Currently as -- as far as I understand it, the Company evaluates risk exposure at the back end of the planning process. By this, I mean, the Company first develops a preferred resource plan by comparing the performance of resource alternatives under expected conditions. And then once the preferred plan is formulated its financial performance is evaluated under adverse conditions. While this approach may give you a sense of how risky the preferred portfolio is, it offers little guidance about how to reduce that portfolio's risk.

So instead of this after-the-fact consideration of risk exposure I recommend that the Company more fully integrate risk assessment within the long-term planning process itself. And with an

integrated approach the Company would evaluate potential resource portfolios both -- both on the basis of their expected long-term costs and in terms of the risk that long-term costs will be greater than expected.

By looking at the tradeoffs between expected costs and potential risk exposure the Company could determine whether drought-related risks would be mitigated at reasonable cost by diversifying into non-hydraulic resources such as energy efficiency, wind, or efficient thermal generation.

In other words, an integrated approach to risk management -- to risk assessment would provide the capability for identifying preferred resource portfolios that minimize long-term cost at sustainable risk levels.

MR. WILLIAM GANGE: And you've just mentioned that the -- the potential for mitigation. Why is it that addition of these addi -- alternative resources to the resource portfolio might reduce portfolio risk?

MR. JONATHAN WALLACH: Well, for example, a wind resource might offer three (3) risk-mitigating attributes. First of all, unlike hydraulic generation, wind resource offers annual output that is fairly stable and fairly predictable from year to year.

So when -- if you were to add a wind

resource to your portfolio, a portfolio which is heavily weighted towards hydro and, therefore, has an overall portfolio output which varies widely from year to year, by adding the wind resource what you're doing is you're dampening the -- the overall variation from year to year of -- of the output from that portfolio.

The second risk-mitigating attribute is that if your wind resource happens to be a contract to purchase power from a wind facility, what you've probably done is offloaded the capital cost risk associated with that facility onto the developer of the facility.

And, finally, a wind facility -- or the wind resource offers more planning flexibility than -- than a hydro alternative in the sense that it has a shorter lead time and -- and can be -- it's -- it's modular, so it can be more closely sized to your needs so that the -- the planning flexibility offered by the wind resource mitigates the risk associated with uncertainty in your forecasted requirements.

MR. WILLIAM GANGE: Thank you, Mr. Wallach. I'm now, Mr. Chair, going to move to Mr. Chernick. Mr. Chernick, any updates to your direct evidence?

MR. PAUL CHERNICK: Yes, I -- I don't think it's necessary to go over my direct evidence

itself, but I think it might be useful to respond to three (3) developments since the time that I filed that -- that evidence.

First of all, there's Hydro's rebuttal evidence. There's one (1) point in a Hydro undertaking that I'd like to comment on. And then there's the change in Hydro's proposal for the residential rate design between the original filing that I discussed in my -- or -- and assumed in my direct evidence and its current proposal.

MR. WILLIAM GANGE: If we can start with the rebuttal evidence.

MR. PAUL CHERNICK: Okay. I -- I have five (5) topics, I guess, that I -- I wanted to -- to deal with in terms of the rebuttal evidence. The first has to do with the cost of service study. And -- and this is a -- basically a procedural issue. Hydro suggests that --

MR. ROBERT MAYER: Sir, do you have a page in the rebuttal -- Hydro's rebuttal evidence so we can --

MR. PAUL CHERNICK: Oh, I -- I can look that up. I -- I haven't noted it, but I can certainly do that.

(BRIEF PAUSE)

MR. PAUL CHERNICK: Page 38 of the rebuttal. I had asked the -- the Board to give specific instructions to Hydro regarding the cost of service methodology and the Company's response is basically that the Board shouldn't issue any instructions regarding the cost of service methodology because Hydro is involved in an external review of cost of service methodology and recommendations will be forwarded in due course.

Unfortunately Hydro has a long history of delay in various processes by referring analyses to indefinite study periods. This has been true even when the Board has required filings by a -- a specific date. For example, the study of fuel switching is now about two (2) years late.

And this is just not reasonable behaviour for a regulated utility. If the Company can take any issue it wants and sort of hide it under the carpet by saying, Oh, we're working on that, we've got an expert looking at it, we'll be back to you some day, and then -- and then we have to take it to our Board, and then maybe we need other consultations, and it's never right for a decision, never right for review by the Board until the Company says it is.

That really would undermine the Board's -- has undermined the Board's regulatory authority. So on the cost of service study issues the Board should set a deadline and -- and on many of these issues, I think, the Board should simply set a deadline and tell Hydro that the decision making process will proceed at that point, whether Hydro has finished its byzantine review process or not.

For the cost of service study specifically, the Board should, in its order in this case, say that these issues will be taken up and determined to the best of the Board's ability in Hydro's next general rate application. And if Hydro hasn't figured out its position, then the ultimate order in that case would be based on the evidence presented by other parties. That's the way it works in all the other jurisdictions I'm aware of that have regulated utilities and I don't see why it shouldn't work that way here.

The second subject which comes up at page 41 of the rebuttal has to do with the access of the parties to spreadsheets. And this is a -- a subset of the -- of the issue that Mr. Wallach raised, about confidentiality and the -- the Company in this case, specifically withholding information that is -- is either very helpful or essential in the review of -- of their

work.

As with the cost of service study the Company asks the Board to give it some un -- indefinite amount of additional time to think about something having to do with whether it can put its spreadsheets into emails, onto a website, onto a CD, or otherwise provide them to Intervenors.

We've demonstrated in this proceeding that Hydro has presented results in its exhibits that are not consistent with the inputs to those exhibits. The Company has made errors or had had little adjustments embedded in their calculations that they didn't mention to the Board, maybe they've just forgotten about and have overlooked the errors the Company was presumably not aware of until we pointed them out.

But in order to do that, in order to find those errors, we had to take their PDF documents, essentially manually copy the data into spreadsheets, and then try to reverse engineer Hydro's computations and say, Well, it looks like they're doing this, it would make sense if they were doing this, do the calculation we think that they should be doing and see if it matches.

If it doesn't match, we then have a number of possibilities: that Hydro had an error in their formulas; that they had some other adjustment that they

didn't mention -- both of those have turned out to be true in -- in various cases; that we made a mistake, and so we have to go back and -- and look at that; that there's some assumption about the number of hours, the number of -- of, say, holidays that affect on and off peak hours, for example, the effect of -- of going on and off daylight savings time, all kinds of little things that -- that might make two (2) calculations right, or approximately right, but different. We have to try and figure out whether there's some factor like that that's contributing to these problems or -- or whether it's one (1) of the other causes.

And then it's just a colossal waste of time and effort on the part of the other parties, which in -- ultimately means it's a waste of the costs that are borne by Hydro's customers. And, you know, we -- we get paid for -- for doing all of these reverse engineering projects, but I would much rather save us the time and aggravation and save the consumers the money.

As part of Hydro's rebuttal on this point, the Company raises the issue of intellectual property rights and third-party proprietary rights related to the Corporation's data and electronic spreadsheet models. Now, that strikes me as being simply a -- a red herring, a distraction in this case, for at least four (4)

reasons.

First, most of the spreadsheets in question represent only arithmetic computations and contain no intellectual property. And the question is: Which columns were they adding up? What constants were they multiplying by? What adjustments did they make that aren't mentioned in the tables themselves? It has nothing to do with any intellectual property in -- in some clever computational algorithm.

And, secondly, even if there were some situations in which Hydro had done something clever, it's -- it's absurd for the Company to be asserting the right to hide its so-called intellectual property from the customers who paid for the development of that property.

Third, very few of Hydro's spreadsheets represent anything that would be like a potentially saleable product in which there would be any value to intellectual property. I can't imagine anyone else paying Hydro to get the live version of their proof-of-revenue co -- computation, for example. Every utility has different rates, different data inputs, and is going to undertake that relatively straightforward, although labourious, calculation using their own parameters, and there's nothing in Hydro's analysis that -- that would be a saleable piece of intellectual property.

And, finally, if Hydro really had some realistic hope of turning some particularly clever spreadsheet into a marketable product, it could provide the spreadsheet subject to confidentiality agreement. As Mr. Wallach noted, utilities all over North America do this on a regular basis, prohibiting the use of -- of that clever programming outside the realm of Manitoba regulation and preventing -- and -- and prohibiting the -- the provision of the spreadsheet to non-signatories.

I would very much like to see the Board order Hydro to prepare all of its exhibits that are computational in nature for its next rate case in spreadsheets that can be provided to the parties with all formulas intact. If there are notes in the margins of those spreadsheets, as the Company has suggested, that would be embarrassing in some way that -- or that would expose truly confidential business information, like contract pricing, the Company should prepare spreadsheets that don't have that information. They've got -- they will have time between now and their next filing to put together a clean set of spreadsheets and provide them to facilitate the review of -- of their work.

As -- as sort of a side issue in the discussion of live spreadsheets, Hydro sort of reformulates the -- the question as one of electronic

filing, by which I take it they're referring to a process in which the official version of documents provided to the Board would be filed electronically rather than a hard copy and that there would be some control over the official versions of -- of the electronic documents.

That may be something that -- that should be pursued, but it's not the same as providing spreadsheets in the live and -- and useable version. I've received spreadsheets on discovery and as parts of filings by email. I've downloaded them from websites, both public and, as Mr. Wallach pointed out, confidential. I have received them on CDs. And before that, I received them on floppies delivered by express mail and sometimes even by postal mail.

Any of those will do. You don't have to have a fancy electronic interchange system in order to provide a spreadsheet that other parties can work with so everyone understands the calculations and they don't have to guess at what Hydro might have been thinking.

The third issue comes up on page 42, rate design for general service classes, the -- and -- and really, I guess, on top of page 43, Hydro complains about the difficulty of administering declining block rates for general service customers -- excuse me, inclining block rates for general service customers.

And just as Hydro says, Well, we don't know what to do about the cost of service study, we don't know what to do about providing spreadsheets, Hydro doesn't know what to do about implementing inclining block rates for general service customers even though the Board has ordered the Company to move towards inclining block rates on a general basis.

And perhaps Hydro's confusion on this point arises from its assumption that inclining block rate would be the sort of complex rate that they proposed in -- but have since withdrawn in the energy intensive industry rate proposal.

That complexity is not necessary to start the process of implementing inclining block rates. And if there are too many general service customers to implement inclining block rates for all of them simultaneously because you're concerned about the number of questions you're going to get in the first year or two (2) of the program, then you can phase it in, start with the largest customers and work your way down.

In terms of being able to deal with setting some kind of baseline for thousands or tens of thousands of customers. Pacific Gas and Electric establishes a historic baseline for each of its millions of residential customers to determine whether they're

eligible for a discounted rate. And the number of customers that Hydro would have to deal with to implement inclining block commercial rates would just pale in comparison.

Hydro also complains about its ability -- the ability of its billing system to handle a rolling baseline, which by the way, was just a -- an example that I had thrown out. That would be a reason to use a fixed baseline, to do the calculation once, give each customer a baseline that -- that their inclining block will be driven by and leave that fixed, and at some point in the future look at it again and see whether there is some need to update it, but it doesn't have to be a continuous process. I know that utility billing systems often interfere with things even that the utility would like to do.

I -- I think the major thing that Hydro is lacking in terms of getting started with inclining block general service rates is the will to do so. Any change should be phased in gradually so that customers understand it and can react to it before the rate impacts are major. And so there -- there shouldn't be any important rate effects for customers in the first few years, the first few steps of an inclining block rate design. But it's important to get started so that you

can go through those years of minimal impact, minimal effectiveness, and start to get to the point where you're really giving significant price signals to customers at the margin.

MR. ROBERT MAYER: Mr. Chernick, on that point, Hydro, on Board orders, did start to implement inverted rates with respect to residential customers. We have had, as a Board, several presentations, several objections, some of which the Board considers legitimate, from full-service electricity users who have no other option but to heat their homes with electricity.

As a result, the Board's last order was stop the inversion process so we can look at this because the -- the differences are significant. The difference between what - for example, I realize I get awful personal about this because I happen to be one of those customers who has -- who has no access to any other reasonable method of heating in a place that requires heating substantially longer than people in Winnipeg are required to heat their homes. That's become a problem with this.

And I realize at the beginning when RCM/TREE first made that suggestion there was also a suggestion that there be a separate trigger point for fully electric and standard electric heating, but I

should tell you that it hasn't gone as smoothly as you suggested it might.

MR. PAUL CHERNICK: Sorry about that. I think it hasn't gone as smoothly as I suggested in part because the Company never got to the point of proposing, let alone implementing, any -- any accommodation for electric heating customers. And I suggested what I -- in the previous case, what I thought was a perfectly reasonable approach of simply having a larger first block for heating customers in the -- in the winter months.

And the Company has been throwing up its hands and saying, Well, we can't be absolutely certain that we can identify the heating customers accurately and therefore we -- we can't do anything along those lines. There's another situation where a good idea is just stopped because Hydro won't do anything about it.

Now, it turns out, part of my presentation this morning was going to deal with the -- the disappearance of the inclining block rate. And if you'd like, I can go into that now.

MR. ROBERT MAYER: I hadn't realized it was coming. It seemed the ideal time to raise the --

MR. PAUL CHERNICK: Okay.

MR. ROBERT MAYER: -- question when you talked about going further with the -- with block -- with

the inverted rate into other classes.

MR. PAUL CHERNICK: Right. And -- and I -- you know, and I am suggesting that for the general service rates that the initial differences be quite small so that you don't have big rate effects and customers can be educated as to the effects. And any rough spots can be worked out when the impacts are still manageable.

So would you -- would you like to -- to talk some more about the residential rate side now, or --

MR. ROBERT MAYER: No, I don't want to interrupt your presentation, sir, just proceed, I --

MR. PAUL CHERNICK: I --

MR. ROBERT MAYER: The -- the fact that I know that it's coming is -- I'll wait it with bated breath.

MR. PAUL CHERNICK: Okay. That -- that can be my encore. Okay. The -- the -- the next subject that Hydro's rebuttal takes me to task for is on page 44 at -- and -- and this is really a -- of their rebuttal. And it's really a -- a tempest in -- in a teapot. But I -- I include in my testimony some recommendations about what might eventually be done with the additional revenues that would be collected if rates move to cov -- recover all marginal energy and demand-driven costs.

And obviously this is a -- a -- an issue

for some future -- probably far future, determination since we're not moving in that direction very fast at the moment. But if you reach the point where the phase in of marginal costs start to be constrained by the revenue requirement, the Board would have to consider how any excess revenue should be utilized.

And that certainly could involve consulting the government as appropriate. I think there's probably more that the Board could do within its purview than -- than Hydro has -- has indicated in its rebuttal. There's a lot that can be implemented through electric rates, including, as you heard yesterday, assistance to low-income customers.

But as I said, those are issues that the Board would have to take up some years in the future. The final issue in terms of the rebuttal is the Company's defence of its DSM program, starting on page 45 of the rebuttal.

And just to recap the action so far, in my direct I showed that Hydro was spending less and aiming for lower energy efficiency savings as a percentage of -- of sales, energy use, than the leading jurisdictions, even in the short-term, and was planning to phase down those levels of effort dramatically after 2011.

I also pointed out that Hydro's own

external review, the Dunsky report had faulted Hydro's program designs in several areas and pointed out that Hydro hobbles some DSM measures and programs that do not pass the so called RIM or No Loser's test.

Hydro's responses had a -- a number of -- raised a number of -- of interesting and, in some ways disturbing, points. The first was -- the first excuse for their much lower numbers was that, quote, "Any region having a higher conc -- concentration of industrial load," unquote, will have less energy efficiency. Now the rebuttal provides no support for this assertion. In many energy efficiency plans, and achievements for that matter, the percentage sales reductions are greater in the commercial and industrial sector than in the residential sector.

And within commercial and industrial, small commercial customers are notoriously difficult to reach and require a -- much more effort on the part of the -- of the utility or implementing agency.

And, furthermore, the -- even if Hydro were correct, that potential is somewhat lower in the industrial class than in the other classes, then it -- looking at the data that they provide in Table 1 of their rebuttal, which shows the mix of -- of classes across four (4) or five (5) jurisdictions, if you -- if you even

assumed that there was no potential in industrial in it for any of the utilities listed and then said, Okay, so assume that the potential comes entirely from the other -- the -- the achievements in the other jurisdictions, come entirely from the other two (2) classes, and applied that to Hydro, then you would still get Hydro's savings ratio as a percentage of sales should be something like 84 percent of Vermont's because they have a little more industrial, but it -- it's not dominant.

Well, scaling down the Vermont savings by 16 percent, bringing it down to 84 percent, would be 2.2 percent a year, which is about three (3) or four (4) times what the Company's projecting in the -- in the near future, or -- or was at the time of my direct testimony. And the same is true for Minnesota, for Connecticut. You wind up with numbers in the 1.3 to -- to 2 percent range, all much more than the .6 percent that Manitoba Hydro is projecting, even in the first few years, and certainly much more than they're projecting, or were projecting, after 2011.

They make the same claim about any region having a higher concentration of space and -- and heating load, that there's a lower savings and -- and hence, lower spending rates. Now, it's not clear why that should be, given all the opportunities for improvements

of insulation, improvements of building shell, reducing the infiltration rates, converting electric resistance to ground-source heat pumps, and other space-heating and water-heating measures. It's just an assertion for which the -- the Company provides no basis whatsoever. Again, the potential in space and water heating would have to be unbelievably tiny to bring the Hydro numbers into some reasonable relationship to the -- to the goals of the other utilities.

Hydro also claims that -- that targets just are not appropriate and that you -- that, really, the only reasonable way to project or to aim for savings is to start with Hydro's estimates of the effects of their program designs. But Hydro brought in some outside reviewers who looked at their program designs and said, These are not so good. There's a lot of room for improvement here, and you're using the -- this RIM test to -- as a -- as a reason for not being more aggressive in your -- in your programs. The external benchmarks are helpful in showing just how tepid Hydro's results are compared to industry leaders.

The fourth point that they raise is that Hydro offers comprehensive programs but other utilities don't. Looking at the list of things they claim other utilities don't provide in their -- their efficiency

programs, I think they may have misinterpreted some -- some program designs. But if those utilities actually achieve savings much higher than Hydro does without exploiting significant parts of the market, then Hydro could do even better with its comprehensive breadth of offerings and deeper, more effective savings, which are the kinds of -- of complaints that I think the Dunsky report raised.

Hydro goes on to say that the DSM test isn't really restricting its ability to pursue energy efficiency opportunities because it's implemented a number of programs that do not pass the RIM test. Well, that doesn't demonstrate that the RIM test isn't interfering with the effectiveness of their programs. It means that they're still willing to do some programs, to some extent hampered in ways that we don't really know because we don't know exactly what decisions were made based on the RIM test. And Hydro's position that if we have anything that passes the RIM test, therefore, we're paying no attention to the RIM test, conflates two (2) very different issues.

The Hydro rebuttal focusses on the Multi-family Housing program and the criticisms of that program in their consultant's report. And they say that -- they basically make the point that, Well, our program must be

successful because about 60 percent of multi-family buildings have adopted one (1) or more measure from one (1) or more programs.

Of the nine (9) programs, the average participating building appears to participate in only two (2), which could be a small amount of -- of common area, fluorescent lighting retrofit and a lighting controller for the parking lot, for example, leaving lots of other things, that could be done, undone.

Again, Dunsky and his collaborators were saying, You should be doing a better job with this class, not, You should be throwing lots of programs out and hoping that people will pick up little bits and pieces. Unfortunately, Hydro's responses on the DSM issues do not demonstrate a commitment to maximizing the benefits of energy efficiency for customers.

And, finally, on DSM I'd like to point out that the 2010 smar -- Power Smart plan, which came out after my direct evidence was filed, actually reduces savings goals for 2011 through '13, but then increase 2012 and -- excuse me, 2014 and '15 goals a little bit. And then again the goals drop off a cliff once you get a few years out. So this is not a long-term plan or commitment for energy efficiency. It's a short-term sort of halfhearted effort.

CONTINUED BY MR. WILLIAM GANGE:

MR. WILLIAM GANGE: You also mentioned that you wanted to comment on an undertaking, and the reference is Manitoba Hydro Exhibit number 137, which was Manitoba Hydro Undertaking number 130, which arose out of the -- the cross-examination on April 15th. The -- the undertaking was that Manitoba Hydro was to advise of the criticism that Manitoba Hydro has of Mr. Chernick's testimony in regards to allocation of substation costs. If you could comment on -- on Exhibit number 137?

MR. PAUL CHERNICK: Yes.

(BRIEF PAUSE)

MR. PAUL CHERNICK: In -- in that undertaking response Hydro asserts that:

> "Customer density is a significant driver of the costs of poles and wires."

And that statement is just completely implausible on its face. The number of customers in a given area between two (2) points along the street, for example, does not increase the cost of poles, does not increase -- increase the cost of wires.

Now if those customers are larger, or each

of -- if you say, Well, we have three (3) small customers along the road and we're gonna re -- then have fifteen (15) customers of the same size, well, then you may need larger wires. You might need poles more often to support your larger wires. That kind of thing is plausible, but that's a load effect, that's not a -- not related to customer number.

Having more customers in a given area does not increase your cost. Your costs are driven by load, and to some extent by the -- the area that you need to span, which does not have to do with the number of customers. It has to do with the location of the furthest customer that you're willing to extend the system to.

MR. WILLIAM GANGE: You also mentioned in -- in the introduction that you wanted to comment upon the change in Hydro's proposal for the residential rate design. And can you comment on the disappearance of the inclining block proposal for residential rate design?

MR. PAUL CHERNICK: Yes, I -- I have a subtle feeling that the Board might be interested in this subject. The original Hydro filing in this case proposed to decrease the basic charge in two (2) steps and increase the tail-block, which then was over nine hundred (900) kilowatt hours a month. And that proposal has

disappeared from Hydro's current proposal for the final rates.

I recommend that the Board implement the rate change contemplated in the original Hydro proposal re -- for the -- the second year. Now we didn't get a first year step, so we would be starting with the second year. You'll only have half of the total effect that -- that Hydro was proposing originally, which would be to reduce the basic charge about 17 percent compared to the first year interim rates and increase the energy charge above nine hundred (900) kilowatt hours by 5 percent compared to the charge under nine hundred (900) kilowatt hours. So the differential between the first block and the second block would be about 5 percent.

Now since nobody pays rates entirely in -- in the second block and nobody -- and every residential customer pays the basic charge the -- the break-even point would be considerably higher than nine hundred (900) kilowatt hours, that is at which the net bill would go up. And -- and nobody's bill would go up by 5 percent as a result of that.

In the longer term the -- the Board should be aiming to reduce the basic charge to -- at least down to the four eighty-five (485) range that Hydro originally sought in this case and keep it at -- at those -- at

those relatively low levels and use the additional revenues to further increase the tail block rate towards marginal cost.

Simultaneously, the break point between the blocks should move down from the nine hundred (900) proposed by the Company to roughly six hundred (600) kilowatt hours so the non-heating customer -- so that more non-heating customers will be in the tail block rate at the margin and get the conservation incentive.

MR. WILLIAM GANGE: And then, Mr. Chernick, if you could comment on heating customers. How would this -- how would rates -- how should the rate design affect heating customers?

MR. PAUL CHERNICK: Well, the -- the solution would be to increase the size of the first block for the existing heating customers in the winter months so that their average rate paid in the winter months is about the same as what the non-heating customers are paying in those months.

And you could either do that by having the same block size in -- in each month or you could shape it somewhat with November and March being a smaller block and December through February being larger, depending upon how fancy you wanna get with that and how much -- there's a trade off there between, sort of, smoothing the

effect over the -- the course of the year and making the -- the rate design more complex and potentially confusing.

MR. ROBERT MAYER: I think you'll have to add into that bit of a problem is the equ -- rate equalization material -- or legislation that exists. If you start putting -- if you -- if you limit the larger block to certain months, the farther north you get, the broader those months have to be as opposed to if -- where the vast majority of customers are within the Perimeter Highway.

The heating periods -- well, not so much this year, but generally speaking, the heating periods are -- are much shorter in Winnipeg than they are in Churchill or Tadoule Lake. Well, let's not deal with Tadoule Lake because they're doing diesel. Larger in Churchill, Flin Flon, The Pas, and Thompson than they would be here.

(BRIEF PAUSE)

MR. PAUL CHERNICK: What I hear you asking is how do we deal with the fact that the heating loads are different in different parts of the province. And, therefore, an average-sized home with -- of a given

vintage with a given level of energy efficiency is going to use more electricity for heating in the north than in the south and use it in more months.

In -- in terms of the months I think that's less of problem because while it -- it's a -- as I said, in terms of -- of how you shape the winter block, whether the -- the customers have a larger block than necessary in one (1) month and a smaller one (1) in another month is less important in terms of their bill impact certainly than the total amount of -- of first block energy they're allowed during the winter.

(BRIEF PAUSE)

MR. PAUL CHERNICK: The...

(BRIEF PAUSE)

MR. PAUL CHERNICK: The legislative issue that you've raised is a -- is an interesting one (1) and one (1) where you might want to go back to the government and ask them to -- to change that in a specific way to allow for higher allowances for heating use in the -- in the north to give the Board the -- the discretion to apply that.

That is done in -- in some states, for example in California, which has a wide range of climate zones from the subtropical to the -- the near arctic up -- up in the mountains. There are rate designs that vary depending upon which zone you're in.

MR. ROBERT MAYER: That would be an interesting concept since it was we in Northern Manitoba who got tired of paying higher rates than Winnipeg when all the power came from Northern Manitoba, to now go back and suggest that now not only do we want rate equalization, now we want rate preference, might be seen by the rest of the people inside the perimeter as being a little much.

MR. PAUL CHERNICK: Well, I wouldn't put it that way. I -- no, and seriously, what I would suggest that the -- that the legislation allow would be that the Board be allowed to set rates geographically, taking climate into account so that average rates -- excuse me -- yes, average rates paid in the various climates would be comparable.

Now with an inclining block rate you've pointed out the average rate paid over more kilowatt hours in the north would be higher than in the south. Well, I -- I assume the government is interested in energy conservation, would be supportive of inclining

block rates. Inclining block rates would cause a problem.

It's a fairly straightforward solution to say, Okay, you have to have to have comparable rates, but that could mean a different rate design that produces comparable rates given differences in climate, which is something people can't do anything about. And that -- that would then give you enough flexibility to say that, as you go further north, those blocks can increase.

CONTINUED BY MR. WILLIAM GANGE:

MR. WILLIAM GANGE: Hydro has, in the past, said that they don't have the data to identify heating customers. How would -- how would you deal with that issue?

MR. PAUL CHERNICK: Well, I think you can do a pretty good first cut of -- of doing that by just looking at the -- the bills of customers over the last couple of years, and looking at the difference between their winter bills and their summer bills and assume that anyone who's using more than twice as much in the winter months than the summer months is a space-heating customer.

Anybody that you've missed for some reason, like they happened to be away in December and

January over the last couple of years and, therefore, their bills didn't look so high, I'm sure, you know, there -- you can set up a mechanism for them to come back and say, Oh, no, no, we really are space-heating customers and -- and then, perhaps piggy-backing on the Power Smart mechanism, have -- have somebody go out and -- and actually take a look at the building, confirm that they are electrically heated, do an audit, prescribe efficiency measures for them and simultaneously also get them on the rate that they're allowed to be on.

MR. ROBERT MAYER: Mr. Chernick, there seems to be some suggestion that there may be some people in the south who are heating their indoor swimming pools and, although that may be technically heating, it's not space heating by anybody's definition.

What is wrong with an application? I mean, if you -- if you're concerned that somebody might be -- might be using heat in another way, since Hydro has to send out bills to everybody in any event, the -- an application for the increased changeover rate, or changeover number, and if they -- so you certify that you're in fact using electricity to heat your house. If they've got a question, come out and see me. I mean, you can look in my house.

And I just don't understand why this is

becoming a problem. If I tell you I'm space heating, call me a liar and come on over and see me. You may want to prosecute me if -- if I've sworn an affidavit to that effect but, quite frankly, I don't understand why we have to get -- make it all that complicated.

MR. PAUL CHERNICK: I don't think it is that complicated in -- in most places. Many jurisdictions have heating rates but, in many cases, when units were built, they were -- the -- the utility determined that they met their standard for being an electrically heated building, and they were flagged that way in the billing system, and they may have been there for forty (40) years, and in -- in the meantime they may have put in gas but they're still flagged that way. And there's a clearly defined set of electrically heated buildings. The -- and the -- to the extent that the utility stumbles upon something that's -- that's incorrectly designated, they change that.

You could also -- it -- it sounds to me like -- like you're -- you're suggesting that it might be easier to just let people self-certify as being heating customers in the first place and then verify, and I think that might also work fine and you could use the building data tests that I suggested as a -- as a screen for the ones who have self-certified. Periodically, the -- the

Company could -- could do a -- a -- sort of a batch run through to see whether in fact they look like they're behaving like space-heating customers, and if somebody's not, if they're a large customer but they're -- they're using a lot of electricity summer and winter, well, then you can go out and find out what's going on. And if they -- if they don't cooperate or in fact they don't have electric space heating, then you can take them off the rate.

Either of the things work. It's my understanding that the Company also has some kind of imperfect list designating who's a space-heating customer now. So with all of those approaches available, I -- I don't see why it's so difficult. But as I pointed out in -- earlier in my direct, there are a lot of things that don't seem to be that difficult in other places that Hydro finds difficult.

MR. WILLIAM GANGE: That concludes the direct examination of both Mr. Wallach and Mr. Chernick, Mr. Chair.

THE CHAIRPERSON: Thank you, gentlemen. Thank you, Mr. Gange. We'll take our break. And then when we return, Mr. Williams.

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

--- Upon resuming at 11:11 a.m.

THE CHAIRPERSON: Okay. Mr. Williams...?

MR. BYRON WILLIAMS: Yes.

THE CHAIRPERSON: Wise if we waited for Ms. Ramage.

MR. BYRON WILLIAMS: Mr. Chairman, while you're waiting, and I've notified Mr. Wallach, but apart from Mr. Wallach's evidence, I will be referring to the yellow book of documents that was handed out as part of a CAC/MSOS exhibit last week.

(BRIEF PAUSE)

THE CHAIRPERSON: Okay, Mr. Williams, we have it so you can begin.

CROSS-EXAMINATION BY MR. BYRON WILLIAMS:

MR. BYRON WILLIAMS: And good morning, Mr. Chairman and Mr. Vice-Chair. Mr. Wallach, if you can turn to page 9 of your evidence starting at lines 24 to 26. Do you have that, sir?

MR. JONATHAN WALLACH: I do.

MR. BYRON WILLIAMS: And -- and you -- you made this point this morning, but I thought it was

worth going over in just a bit more detail. But do you recall making a statement about seeing how realistic our fears are or something to that effect? Do you recall that comment, sir?

MR. JONATHAN WALLACH: I do recall that, yes.

MR. BYRON WILLIAMS: And the point you make, sir, is -- is when we're looking at risk from the perspective of Manitoba Hydro it's important to look at the severity of outcomes, but it's also equally important to look at the probability of those outcomes.

Would that be fair, sir?

MR. JONATHAN WALLACH: That -- that's a fair characterization.

MR. BYRON WILLIAMS: And as you point out at the start of this paragraph at the bottom of page 9, you point out, I'll suggest to you, two (2) limitations in the existing Company and KPMG analyses. The first being that they do not indicate how likely these potential severe financial losses might be and, secondly, that they don't indicate to what extents -- extent losses might even be worse than that -- what is forecast by these analyses. Is that fair, sir?

MR. JONATHAN WALLACH: That's also a fair characterization. I should point out that both those

reports acknowledge the limitations of the -- of the stress testing or scenario analysis that they're undertaking and they discuss -- at least the KPMG Report discusses alternatives.

MR. BYRON WILLIAMS: And as we move forward together on -- looking both at Manitoba Hydro's risks as well as its resource plans, the point you're making is that there's an opportunity to take a more probabilistic look at -- at potential outcomes.

Would that be fair?

MR. JONATHAN WALLACH: That's correct, and -- and, in particular, to take a look at those issues with respect to the resource planning process and to -- again, as I -- as I said in my direct evidence this morning, not to think of it as something that you do at the back end, but you incorporate it as part of the resource planning process so that you are taking account of the stochastic issues as you are assembling your preferred resource portfolio.

MR. BYRON WILLIAMS: And, sir, I have your point about resource planning and -- and the importance of incorporating stochastic analysis prior to -- to entering into these processes. I just want to nail you down that in terms of the assessment of risk of well those -- those stochastic methodologies are equally

important, correct?

MR. JONATHAN WALLACH: Yes, and that's -- it's -- it's inherent in -- in the assessment of risk that you want to look at uncertainty and -- and the -- the stochastic nature of -- of your, you know, key input factors. And -- and so what I'm suggesting is that you do that as part of your risk assessment, and that your risk assessment be part of your resource planning process.

MR. BYRON WILLIAMS: And just directing your attention to page 10 of your evidence for just one (1) moment because I do not think you covered this in your oral evidence this morning. Starting at line 6 going down to line 19.

Without asking you to elaborate, in my first question I'll ask you to confirm that you do make reference to some of the recommendations of professors Kubursi and Magee in terms of rate increases and/or other measures to increase retained earnings.

You -- you make a reference to those?

MR. JONATHAN WALLACH: I -- I do, yes.

MR. BYRON WILLIAMS: And in terms of guidance to the Board in acting on any of those recommendations, again without asking you to elaborate, I'll give you that chance in just a second, you suggest

that it would be premature for the Board to do so at this point in time for two (2) reasons.

Would that be fair, sir?

MR. JONATHAN WALLACH: Yes, two (2) related reasons.

MR. BYRON WILLIAMS: And I have your point about how they're related and perhaps I'm simplifying it too much, but let's put them together as one (1) then.

The related reasons are, first of all, you -- you think that one should look at Manitoba Hydro's new risk model and the guidance that it gives us in terms of the likely magnitude of expected losses, the likelihood of more severe losses, and the extent to which forecasted losses would fall within tolerance limits, all within the context of looking at the broader resource plan.

Would that be fair, sir?

MR. JONATHAN WALLACH: Yes. And -- and again, it -- it's part and parcel of this notion of whether you're doing your risk assessment at the back end or integrated with your ongoing process. And so if you're doing it at the back end then your options for what to do about a scenario that's too risky are much more limited and, in fact, limited to perhaps what the KM report recommends, which is to try and increase your

retained earnings buffer.

MR. BYRON WILLIAMS: And I thank you for that because I -- I think you've enhanced my -- my concept of -- of that point you were making.

Perhaps you can turn to page 22 of your evidence. On the way there you might take a peek at page 21 and -- just for -- for context.

Do you have those two (2) pages, sir?

MR. JONATHAN WALLACH: I do.

MR. BYRON WILLIAMS: And at a high level without ask -- oh, I can't say that anymore, Mr. Mayer. At a -- at a preliminary level, Mr. Wallach, what you're doing on -- on these two (2) pages, the discussion on page 21 and 22, without asking you to elaborate but just to confirm, you're looking at some of the relative merits of stress tests versus more probabilistic Monte Carlo simulations. Would that be fair, sir?

MR. JONATHAN WALLACH: Yes, it would.

MR. BYRON WILLIAMS: And the point you make, directing your attention to page 22, lines 8 to 15, you suggest that Monte Carlo simulations offer a number of advantages over sensitivity analysis with respect to the quantification of risk exposure. Would that be fair?

MR. JONATHAN WALLACH: That -- that's -- that would be fair, yes.

MR. BYRON WILLIAMS: And collect -- collectively those three (3) bullet points there between lines 11 and 16, sir, I wonder if I could ask you, rather than dir -- controlling you through it, give you a bit of rein to just elaborate on -- on what you mean by those three (3) bullets, sir?

MR. JONATHAN WALLACH: Certainly. I think just to put it in comparison to sensitivity analysis, with the sensitivity analysis what you're basically doing is picking a point -- you have a -- an input variable which is stochastic in nature. And what you're doing with sensitivity analysis is you're attempting to pick an extreme point on the probability distribution associated with that stochastic variable and model the effect of using that extreme value as an input to your modelling.

The problem with that approach is that you don't really have a sense of how extreme your assumption is. You haven't really thought about or -- or considered what that probability distribution looks like. And you don't gain any information from that process about what the effects would be from picking other points on the distribution for that stochastic variable.

In contrast, something like a Monte -- Monte Carlo simulation, what you would do is you would

model that variable explicitly as -- as a stochastic variable with a predefined distr -- probability distribution. And you would allow the model to randomly select points on that input distribution to define a future, to define a forecast of whatever outcome you are -- you're modelling.

And as a result, when you do Monte Carlo sim -- simulation is you get from modelling a stochastic variable as a distribution of inputs, you get a distribution of outputs, a distribution of outcomes. And that allows you to identify not only what the expected value of the outcome might be but also what -- what the distribution of those outcomes might be and, therefore, what the -- what the likelihood of any particular outcome might be.

MR. BYRON WILLIAMS: I thank you for that and we'll come to the third bullet, which is predefined tolerance limits in just a second. And this is -- that was very helpful what you've shared with us, Mr. Wallach. Now in the discussion that you just gave, you spoke of one (1) -- one (1) variable. And I'm -- I'm going to make the conversation perhaps a little more complex.

But let's stick with that one (1) variable for a moment again, but let's stay with water. And I'll suggest to you and -- and if you disagree you'll let me

know, but water's a factor -- the hydrology and water flow, certainly some analysis has suggested that it has a -- exhibits traits of auto-correlation or serial correlation. Are you familiar with that, sir?

MR. JONATHAN WALLACH: I am.

MR. BYRON WILLIAMS: And so, for example, if we're looking at a -- a utility such as Manitoba Hydro, we don't just want to look at the risk or -- or we don't just want to look at one (1) year, we -- we want to -- we -- I'll suggest to you we want -- might want to look at a -- a longer period of -- of time.

Would that be fair, sir?

MR. JONATHAN WALLACH: Yes, and you would perhaps -- water flow is -- is -- is the most complicated, probably, of the -- of the input variables to model stochastically. I would suggest that -- that what the Company does in its SPLASH modelling might be a -- a reasonable approach in -- modified in that what you would do with a Monte Carlo simulation of water flow is you might pick from a distribution of -- of first-year flows or from a distribution of historical flows over the ninety-seven (97) or ninety-eight (98) years of data that the Company has on water flows.

And once you've made that selection off that distribution, then that defines the successive

years' flows based on the historical record, which is essentially what the SPLASH model does, but it does it for -- it -- it goes -- goes through every first year of the historical record, rather than randomly selecting from the distribution of that record.

MR. BYRON WILLIAMS: And just to make sure I have your point, though, while you've indicated that water flows are particularly complex within -- in the context of our discussion, that same Monte Carlo-type process could certainly be done to it, sir?

Is -- is that your point?

MR. JONATHAN WALLACH: Yes.

MR. BYRON WILLIAMS: Now, we've -- again, we've been on one (1) -- one (1) variable. I'll suggest to you as well that the -- the type of stochastic approach you can -- could be used, employed on a family of -- of variables as well, taking into account or giving insight into the -- their -- their joint relationship.

MR. JONATHAN WALLACH: Yes, and that's the -- the power of having a Monte Carlo simulation model, so that you can multip -- I'm sorry, you can model multiple stochastic variables and model their combined effect on -- on the outcomes of your modelling.

MR. BYRON WILLIAMS: And the caution you offer in terms of stress test is that by fixing a

variable, or fixing more than one (1) variable, you lose insight into the probabilistic nature of the outcome that flows from that type of stress test?

MR. JONATHAN WALLACH: Yes, although you can certainly stress more than one (1) variable in -- in a -- in a sensitivity analysis but, again, you're faced with the situation of you're -- you don't have any information as to the likelihood of that outcome and so it's -- it's hard to interpret what that outcome signifies.

MR. BYRON WILLIAMS: And just in the third bullet on page 22, line 14, you make reference to predefined tolerance limits and you express them as a confidence level, or at least in one (1) of the examples. And I wonder if you could just elaborate on that point for a moment, sir.

MR. JONATHAN WALLACH: Well, let me just point out that these are examples that I'm giving and that would require, you know, considerable thought and -- and deliberation as to what --

MR. BYRON WILLIAMS: I'm not asking for recommendations, just --

MR. JONATHAN WALLACH: -- sort of tol -- tolerance -- I understand. So the -- the examples I give here are, for example, you can look at the -- at -- for

example, if you're -- what you're looking at is -- is reduction to earnings, and that's your distribution of outcomes, you can look at what your earnings loss might be at the, you know, 95 percent probability level on your -- on your distribution of outcomes and say, Well, there's only a 5 percent probability that the earnings loss would be worse than that. And whatever that dollar amount is, if that's tolerable then you're within your -- your risk tolerance limits.

The alternative is to look at the worst outcomes beyond some probability level. So, for example, you could look at how bad your earnings loss could be, on average, beyond 90 percent probability, and that would give you a sense of -- of -- you would be measuring risk there, in -- in essence, as based on the -- the average of the 10 percent of your worst outcomes.

MR. BYRON WILLIAMS: And maybe we'll -- we'll try and give this some more right-in-our-face examples, sir. I'm just going to ask you to turn to the yellow -- yellow book of documents, page 1.

MR. JONATHAN WALLACH: I ha -- I have that.

MR. BYRON WILLIAMS: What a coincidence. And you'll -- you'll see before you, and I'm not going to ask you to discuss it yet but I'll -- what is -- I'll

suggest to you Figure 6.1 from the evidence of Professors Kubursi and Magee. Do you see that, sir?

MR. JONATHAN WALLACH: I -- I do.

MR. BYRON WILLIAMS: And I want to be clear here. I'm not asking you to comment -- we're -- we're at a conceptual level here. I want to talk about the -- how one might use this tool. So I'm not asking you to comment on their data inputs or the reliability of their probability distributions or the integrity of their integrated model or the fact that this is one (1) year as oppo -- opposed to a number of years. So leave that all aside, sir.

And let's assume that this is a -- the product of a Monte Carlo simulation where all factors are allowed to move randomly. We've got a thousand simulations. For the purposes of risk mitigation and -- and resource planning, could you elaborate further, sir, using this figure on -- on how -- how you would use it as a tool?

MR. JONATHAN WALLACH: Well, with the two (2) examples I gave before, one could look at the -- the earnings -- well, this is revenue. It's not really earnings lost but, in this case, so you would look at how low your revenues might be -- or your net revenues might be at -- in -- in this case, it would be at the 90

percent confidence level because it's -- you're including the -- the 5 percent tail at the upper end.

And, alternatively, you could look at, as I was saying, the -- the outcomes that are at the lower end of the tail beyond the 90 percent point. Well, what's shown here is outside of the 90 percent confidence interval, which would really be the outcomes that are -- that are beyond the -- the 95 percent probability, the 5 percent worst outcomes.

MR. BYRON WILLIAMS: And I'm -- I'm going to follow up on -- it seems to me there's two (2) parts to that response. I'm going to follow up on the second part first, your focus on the -- the 5 percent tails. If one captured the -- the -- when one looked at the tails, I -- I'm looking for a bit more elaboration on how one could use it.

But presumably you could look at -- at what's out in the tail and assess what combination of risk factors would result in a bad year.

That would be one (1) plausible insight that you might get from this -- this kind of examination, sir?

MR. JONATHAN WALLACH: Well, just looking at this graph as it is, I -- what I -- all I could really tell you is, for example, under the conditions that were

applied, the input parameters and -- and the modelling that was done, that, for example, the average of your 5 percent worst outcomes would be something on the order of a net revenue amount of, let's say, $50 million, but it's a pretty aggregated result.

And so that -- what -- all I can say is that the combined effect of my stochastic distributions, my stochastic modelling of -- of input variables results in this distribution of outcomes. It would be a little tougher to identify and say, Oh well, you know, it was the distribution for variable 'X' that drove this particular outcome.

MR. BYRON WILLIAMS: I guess what one could do is if -- if one had results from an extreme stress test, one could test that against such a -- a figure as this and -- and gain insight into -- into -- let's say if the stress test wasn't on the -- on the figure, that would give insight into the likelihood of that stress test, correct?

MR. JONATHAN WALLACH: Generally speaking, yes.

MR. BYRON WILLIAMS: Mr. Wallach, I -- I thank you for your patience. I'll reflect on -- on that.

I think that, Mr. Chairman, I should be done by the break, but I -- I may reserve the right just

to come back afterwards. So I may come back to you on that, Mr. Wallach, but for right now that's that. Good morning, Mr. Chernick.

MR. PAUL CHERNICK: Good morning.

MR. BYRON WILLIAMS: I will only be referring to your evidence. And we've had discussions in the past on -- on issues like price elasticity and inverted rates, so I'm not going to revisit those.

MR. PAUL CHERNICK: I appreciate that and I'm sure everyone else does as well.

MR. BYRON WILLIAMS: Where I want to take you first of all is to page 13 of your evidence.

Do you have that, sir?

MR. PAUL CHERNICK: Yes.

MR. BYRON WILLIAMS: And you had a bit of a discussion about substation costs this morning. Do you recall that? If -- if not, don't worry about it, sir.

MR. PAUL CHERNICK: Okay.

MR. BYRON WILLIAMS: I -- I'll jump right to the point.

MR. PAUL CHERNICK: Thank you.

MR. BYRON WILLIAMS: Page 13, lines 11 through 14, you talk a lit about -- bit about substations peaking and the -- and suggesting that it's driven by non-residential loads. Do you see that, sir?

MR. PAUL CHERNICK: Yes, a group of substations.

MR. BYRON WILLIAMS: And I wonder if you could just elaborate slightly on -- on your comments in this area.

MR. PAUL CHERNICK: Well, in general, if you see a substation peaking early in the morning, like seven o'clock, that's generally being driven by either residential load because that's when people are up and taking their showers and -- and making breakfast and maybe they're -- the -- you know, the radio's on and the teenagers are blow-drying their hair and -- in which case the shower would probably be on for a long time. And -- and it could also be driven by an industrial load because many industries start early in the morning.

If, on the other hand, you see peaks later in the day, let's say ten or eleven o'clock, well that's not the breakfast rush. The people who have left the house for the day have -- mostly left. They've gone off to work, they've gone off to school. It's probably not being driven by the start-up of the industrial equipment.

It's very likely to be a commercial -- commercial loads of computers and photocopiers and -- and the -- and perhaps the -- the lunch places starting preparation for -- for the day and so on. And obviously

that can vary, you know, for individual situations but it's pretty un -- unusual to see residential peaks in the late morning like that.

MR. BYRON WILLIAMS: Okay. Thank you. I'm going to have a brief discussion with you about DSM. And that portion of your evidence starts at page 42, sir. So if you could turn there.

MR. PAUL CHERNICK: Thank you. I have it.

MR. BYRON WILLIAMS: And I'm not referring you to a specific reference on any of these pages at this point in time. This morning you spoke on a number of occasions about the work of the external evaluator, Mr. Dunsky, in terms of Manitoba Hydro program design.

You recall that, sir?

MR. PAUL CHERNICK: Yes.

MR. BYRON WILLIAMS: And I wonder if you can comment from the perspective of best practices in demand-side management, in terms of the importance and the role of external evaluators. And we're going to start with design, but then I'm going to elaborate on that in --

MR. PAUL CHERNICK: M-hm.

MR. BYRON WILLIAMS: -- in subsequent

questions -- questioning. Okay, sir?

MR. PAUL CHERNICK: Well, in terms of -- of program design and -- and I think the related issue of process evaluation, which is not checking whether the numbers worked out, but rather how well the process works, it's very important to have independent eyes on the -- on -- on any program administrator's program. And that's true both for utility driven programs and for those that are being directed by state agencies or -- or contractors.

And the reason for that is that the -- it's hard for anybody to evaluate their own work. And especially when you're thinking about the way you do your work, it may seem to you that this is the way that it has to be done; this is the obvious way to do it; how -- how could you possibly do it any better than this? But when you bring in somebody from outside who's looked at how other people do similar things, whether it's how you organize your office workflow, or how you run a -- a conservation program, it's very helpful to have that kind of review to say, Well, you do this, but you don't do these other things; or, You -- you address people in various scattered ways, and you never sit them down and go through all of the things that they could do.

And that -- that's the kind of critique

that an outside reviewer could apply in terms of how you manage your office staff, or how you manage your conservation program and your relationship with -- with potential participants.

So it's -- it's very helpful to have people come in from outside to review everything from sort of the high level concept of what's in a program to how the programs interact with one another, how customers come into the utility portfolio and how they're handled, and whether they have to go through different processes for different programs, or whether the process is very smooth and transparent for them, and then whether they are places along the line where participants are getting lost from the program, or opportunities are being lost because the program isn't flexible enough or responsive enough to -- to capture them.

MR. BYRON WILLIAMS: And let's just stay with that idea of having an independent eye or someone from the outside. And I -- I wonder if you can comment in terms of the utility of employing that same concept. In terms of the assumptions that a -- a utility makes, in terms of its lifetime and unit savings from various demand-side projects.

MR. PAUL CHERNICK: You -- you mean in terms of the kilowatt hours saved per lighting fixture

replaced and -- and that kind of detail?

MR. BYRON WILLIAMS: Exactly.

MR. PAUL CHERNICK: There are two (2) -- there's -- there's been a lot of work over the last twenty/twenty-five (20/25) years on estimating savings. There have been very sophisticated studies involving metering of end-uses and tracking exactly how various pieces of equipment operate in practice, and you can learn from what other utilities have -- have learned from -- from their studies along those lines.

And one (1) of the things that's usually done on an independent basis, and it's not by somebody hired by the -- the utility or administrator, but a -- an outside third party, well, who may be paid by the utility, but is being selected and directed largely by some independent group -- that may be a -- a group of consumer stakeholders, the equivalent of your organization and -- and of RCM and the var -- industrial groups and so on -- might all have a hand in approving the -- the outside contractor, so that there's some sense that there's real independence. Or maybe someone selected by the Board, or the Board staff, or by a government agency that's responsible for overlooking -- overseeing the -- the process.

And then you have both these process

evaluations, which go through and talk to participants and people who didn't participate, find out why they didn't participate; people who started out in the programs and then dropped out and never did anything, or did very little, and so on. And you also have the impact evaluation, which looks at everything from billing records to the assumptions about the hours of use of lighting, how those are derived, how those are -- are mapped from the information recorded in the field. It's -- this is a -- a corner store which -- they say they're open sixteen (16) hours a day, six (6) days a week, and twelve (12) hours on Sunday, and therefore we make the following assumptions about their lighting.

Work through that whole process and see whether the calculations that are being done, the assumptions that are -- are being made about the effectiveness of the measures, are reasonable.

MR. BYRON WILLIAMS: Going to the -- the big picture, in terms of -- and I -- I have your point on process in terms of the -- the inputs and the --

MR. PAUL CHERNICK: Well, see, it's -- it's called "impact evaluation."

MR. BYRON WILLIAMS: Impact evaluation.

MR. PAUL CHERNICK: Ultimately, we don't -- we don't really care about the input so long as the --

MR. BYRON WILLIAMS: The results.

MR. PAUL CHERNICK: -- the estimates coming out are accurate, but those inputs, as -- as you've put them, things like number of hours of use or kilowatt hours saved per -- per compact fluorescent, and -- and that sort of thing, those -- obviously, if you get those wrong, you're going to get the wrong answer in terms of the -- of the impact, in terms of the gigawatt hours and the megawatts.

MR. BYRON WILLIAMS: And going to the utility of an independent outcome assessment, I wonder if you can elaborate on -- on why it matters.

MR. PAUL CHERNICK: Well, one (1) reason it matters is that nobody believes it when you review it yourself. I mean, you may be a very honest person, but your self-assessments may not necessarily jibe with what other people are thinking, and they -- they may not be the best source for you to improve your own performance.

And large organizations, utilities among them, sometimes develop a bit of group-think, in which everyone believes something because everybody else around them believes it. and it's very helpful to have somebody come in from outside and be in a position to question the -- the assumptions, and to look at what other people believe and ask, you know, to the extent that your

beliefs are different than what others believe, whether there's a reason for that to be true, whether you have a better estimate, whether your conditions are different, or whether, perhaps, you're overstating or understating some important factor.

MR. BYRON WILLIAMS: Thank you for that, Mr. Chernick. In terms of your discussion of Manitoba Hydro DSM programming, I hope I was taking accurate notes, Do you recall suggesting something to the effect, in terms of looking forward at Hydro's DSM programming that they're spending less and aiming lower in terms of their targets?

MR. PAUL CHERNICK: Oh, yes. That was true both in the 2009 and -- and now in the 2010 plan.

MR. BYRON WILLIAMS: And also a statement to the effect that they -- suggesting that they may not have demonstrated a commitment to maximizing benefit for customers, that would be consistent with your recollection?

MR. PAUL CHERNICK: Yes, I think that was in the context of their -- their responses in rebuttal indicated a sort of a complacency with their approach and a lack of concern about issues raised by their own independent review, and by comparison to -- to other utilities.

MR. BYRON WILLIAMS: Now, I want to direct you in your evidence to -- to two (2) specific lines. And then I'll -- I'll have a followup. So, first of all, on page 46, lines 20 and 21.

And, Mr. Chernick, I'll ask you to confirm for the purposes of context without elaborating yet, you say that Hydro may req -- require more encouragement from the Board if it is ever to become a leader in energy efficiency.

That's a statement that's in your evidence, sir?

MR. PAUL CHERNICK: Yes.

MR. BYRON WILLIAMS: And turning to page 9 -- 49, lines 14 to 16, you make a recommendation that the Board should require Hydro to increase its efficiency investments and achievements.

You made such a recommendation, sir?

MR. PAUL CHERNICK: Yes.

MR. BYRON WILLIAMS: And I don't know how much Mr. Gange has told you about our -- our regulatory environment, and I'm certainly not asking for a legal opinion, but are you aware that the -- whether or not the Public Utilities Board, in terms of its regulatory environment, is a rates for service regulator, it sets rates?

MR. PAUL CHERNICK: Yes, that's its primary responsibility.

MR. BYRON WILLIAMS: And so my -- my question, sir, in terms of requiring Hydro to spend more, or encouraging them to spend more --

MR. PAUL CHERNICK: M-hm.

MR. BYRON WILLIAMS: -- I'll suggest to you, and you don't have to accept this suggestion, that there may be some limits in what the Board can require them to do. So what I'm looking for my clients from you, is some advice on -- on how we can -- some innovative ways that -- that you've seen in -- in the years of regulators encouraging utilities to -- to do what -- what you suggest must be done?

MR. PAUL CHERNICK: One (1) lever that regulators have is obviously the purse strings. And utilities have -- have certainly been penalized in the past in terms of say their re -- allowed return based upon poor performance. With a provincial utility you wind up with -- in a peculiar kind of position where you -- you have to ask, Well, who are you penalizing if you reduce the return? And -- so that -- it's -- it's a more complicated situation.

On the other hand, the -- the Utility does report to somebody, to -- to a board, ultimately to the

government, which may take particular notice if this Board were to impose some kind of financial penalty, for example, not allowing some portion of -- of recovery of management compensation on the grounds that the company's not being managed very well. It might be a very small amount of money but might make headlines and might cause some rethinking about whether it's -- it would be a good idea to address the issues the Board's raising.

Another approach which has been used in -- by regulators is to issue an opinion that is very specific about the deficiencies of the Utility's behaviour in some particular way; and -- and this is included in energy -- energy efficiency in some cases.

And I -- I'm thinking particular about a situation in the mid 1980's with the Massachuset Department of Public Utilities and Boston-Edison, where Boston-Edison had basically been refusing to do any significant amount of energy efficiency until it was satisfied with cost recovery and -- and various other items. The Utility was sort of in a snit about not having recovered all of its cost for the failed nuclear project.

And their Department of Public Utilities wrote an order highly critical of the -- of the Utility, imposed a small financial penalty -- a significant

financial penalty, but -- but nothing that -- that was gonna drive the company to its knees. And in the order said, And we will be forwarding copies of this report to each of the members of the Board of Directors of Boston-Edison to try and get past the management that was interfering with the process, and move the company in a more progressive direction.

I don't know whether it was the financial penalty or the -- the unusual step of the department mailing out its -- its order to the board members, but most of top management of Boston-Edison was gone within a year or so, and the company's attitude towards energy efficiency, towards DSM, improved dramatically over the next couple of years.

MR. BYRON WILLIAMS: Through your counsel, Mr. Chernick, on that specific point, Mr. Gange, I wonder if you're -- if you would be prepared to undertake to -- to just provide that -- that specific board, even the -- the number or the identification, or alternatively the order it -- itself.

MR. PAUL CHERNICK: Actually, I -- I do have the order since I am a packrat. I have documents in my office that other people have a hard time finding. And if you give me a minute, I may be able to find you the -- the docket number.

MR. BYRON WILLIAMS: We -- we could perhaps do that over the --

MR. PAUL CHERNICK: Okay, fine.

MR. BYRON WILLIAMS: -- the lunchbreak would be -- would be fine.

Lastly, Mr. Chernick, subject to a review of my notes over the break, directing you attention to 48 of your -- page 48 of your evidence, lines 4 to 7, just so you have it there in front of you.

First of all, Mr. Chernick, without asking you to elaborate, one (1) conclusion in your evidence is that the existing cost of service methodology of Manitoba Hydro overstates the costs of serving residential customers in a -- in a number of specific ways.

Would that be fair?

MR. PAUL CHERNICK: Yes.

MR. BYRON WILLIAMS: And your recommendation to the Board is that -- that those issues should be corrected. And that until they -- a new cost of service methodology is adopted the Board should not shift cost responsibility onto -- onto residential customers, correct?

MR. PAUL CHERNICK: Yes.

MR. BYRON WILLIAMS: Okay. Mr. -- Mr. Chair, if -- subject to my review of my notes, those are

my questions.

THE CHAIRPERSON: Very good, Mr. Williams. We seem to be in relatively good shape from a time perspective and we've got some matters to discuss, so we're gonna come back at 1:15. We'll see you back then.

--- Upon recessing at 12:00 p.m.
--- Upon resuming at 1:17 p.m.

THE CHAIRPERSON: Okay, folks. We'll get going now. Just before we begin, Ms. Ramage, if you wouldn't mind -- before we resume with Mr. Wallach and Mr. Chernick, the Board would appreciate Manitoba Hydro's position on what date this Board will be receiving Manitoba Hydro's responses to all outstanding undertakings. Perhaps Manitoba Hydro could provide its list of undertakens -- undertakings given, exhibit filed in response, as well as a summary of the outstanding undertakings.

--- UNDERTAKING NO. 167: Manitoba Hydro to indicate its position on the date the Board will be receiving Manitoba Hydro's responses to

all outstanding undertakings, and provide its list of undertakings given, exhibit filed in response, as well as a summary of the outstanding undertakings

THE CHAIRPERSON: Our next request is -- is more specific and we would like to know when Manitoba Hydro will file all the detailed scenarios requested in the Board's pre-asked questions. The pre-asked questions, seeking twenty (20) year IFS -- IFFs, must reflect the updated capital cost of generation -- generating stations and transmission, export revenues, foreign exchange, for -- forecast changes, if any, et cetera, for not only the preferred but also alternative development options. We're also hoping that the alternative IFFs, along with the baseline, would include Manitoba Hydro's assumptions.

When, Ms. Ramage, if you could answer now, does Manitoba Hydro expect to file the material?

MS. PATTI RAMAGE: Yes, Mr. Chairman. I'm just pulling up a -- trying to pull up an email that -- to make sure we're all working from the same page. There is a twenty (20) year IFF that will be going to

audit committee, which I believe is June 7th. I don't want to be -- I think it's next week, but we're -- let's say June 7th for the purpose of discussion and if approved by audit committee it would go to our board, which is June 23rd. So that would be the target date for those -- for the IFF that's been produced.

Now, can I -- I -- I'd have to review the transcript to see exactly what the expectation is in terms of what's in that IFF. I'm trying to find an email I sent to Mr. Peters. And that is that it -- it will incorporate the new capital cost estimate.

The other changes to the forecast, for example, domestic revenues, would be reflected in the fall IFF. So that's -- that's what going to audit committee.

THE CHAIRPERSON: Ms. Ramage, as you know, this hearing, at least the public part of it, is probably presumably going to be wrapping up in July. So --

MS. PATTI RAMAGE: M-hm.

THE CHAIRPERSON: -- I think it's probably best that Manitoba Hydro understand that in the absence of the new comprehensive twenty (20) year IFFs based not only on the baseline preferred, but also the alternative development plans, the Board may feel it

necessary to table it's own version with assumptions listed.

--- UNDERTAKING NO. 168: Manitoba Hydro to indicate when it will file all the detailed scenarios requested in the Board's pre-asked questions

THE CHAIRPERSON: Ms. Ramage, our next request goes back to the issue of events that have already happened. We're wondering when we would learn of Manitoba Hydro's financial statements for its fiscal year 2010 and '11. Can they be filed now either -- I realize they haven't been tabled in the legislature, but it can be filed in some form now?

MS. PATTI RAMAGE: Again, I understand these are going to audit committee. And -- and then they would go on to the board. If there is a -- if there's a question of urgency in terms of June 23rd, I think the best way to go, if the Board could indicate that, and then we would -- we would have to take that back to Mr. Brennan and have him communicate with the powers that be to see if that process can be, if we can accommodate that, an earlier release to the Board in confidence.

THE CHAIRPERSON: Yes, that's happened in the past and I would definitely put a light of urgency to it.

--- UNDERTAKING NO. 169: Manitoba Hydro to indicate when the Board will learn of Manitoba Hydro's financial statements for fiscal year 2010/'11 and advise if an earlier release of these in confidence can be made to the Board

THE CHAIRPERSON: Ms. Ramage, going further, in light of Manitoba Hydro's recent announcements we would like Manitoba Hydro to file unredacted copies of all export contracts with this Board on a confidential basis if necessary and a redacted summary for the public record.

We'd also like to know, I know you probably cannot answer that right now, but when can we expect them to be filed?

MS. PATTI RAMAGE: That's something I'd have to take under advisement. I -- I do understand that Mr. Cormie is -- has been working on -- or has -- will be

working on, not has, some form of a redaction with the counterparties at some point. And I'm not sure the status of that and who that is intended for but that -- that would be part of that kind of a process.

But, ultimately, I would have to get instructions in terms of what's going to happen. The parties should be aware that those contracts are under terms of confidentiality with counterparties. So under any circumstance, counterparty consent has to be obtained to release them to anybody.

MR. ROBERT MAYER: Ms. Ramage, the -- I read a decision by one (1) of the public utilities commissions in the states that dealt with two (2) of the contracts already and have approved them.

THE CHAIRPERSON: In any case, Ms. Ramage, we would like you to look into that particular matter and give us a complete answer because we are expecting to receive those contracts so that we can assess them within --

MS. PATTI RAMAGE: If I could just --

THE CHAIRPERSON: -- our needs in this particular matter.

MS. PATTI RAMAGE: Just replying to Mr. Mayer's comment. I think what he's referring to is the Minnesto -- Minnesota regulator's approval of last year's

NSP agreement. It's not the -- the recently announced agreements.

THE CHAIRPERSON: I believe you are correct. I've read the same one. But, in any case, I've laid out what the Board's expectations are.

--- UNDERTAKING NO. 170: Manitoba Hydro to file unredacted copies of all export contracts with the Board, on a confidential basis if necessary, and a redacted summary for the public record, and advise when these will be filed

THE CHAIRPERSON: The other thing is -- with respect to these questions, and I have one (1) more, we'd really like to get a response early next week and not let it go into the week following. So the sooner the better I think would be best.

The final question I have right now is, Ms. Ramage, the Board has been expecting for some time now a filing from Manitoba Hydro in respect to Diesel Order number 134/10. The questions are:

Has Manitoba Hydro finalized the matters

with INAC?

MS. PATTI RAMAGE: I'm not sure when you say "the matters," but if it's -- if we're referring to -- well, I guess there's a couple of things. And we've kept -- attempted to keep the Board advisors or directors, Mr. Singh, apprised of the status of this. But Manitoba Hydro understands that the agreements have been signed. We have still not been provided true copies. We have been requesting them and there is also a question of the -- I think there was a Board expectation of payments to be made by INAC and Manitoba Hydro is -- has -- has been making and is attempting to get a final position from INAC on exactly what they're doing so that we can take next steps.

MR. ROBERT MAYER: Ms. Ramage, if I recall correctly the -- there was outstanding capital issues from 2004 to date, I -- I think those are the proper dates, and some of it had to do with at least one (1) spill cleanup and the position that INAC was taking on that.

And it -- my -- it was my understanding that Hydro's position was that if they couldn't convince INAC of the righteousness of Hydro's position you may be coming back to the Board to adjust rates to build back in cost recovery for those -- for those spillages and the

other capital items that you weren't able to resolve with INAC.

So, I mean, if INAC ain't payin' up and we have to come back because we can't issue final -- we can't -- we're dealing with interim rates now and have been dealing with interim rates since long before the Chair found his way onto -- onto this seat. And at some point in time we have to bring some kind of conclusion to the issue.

I recognize that the fact that we were promised these documents when Mr. Anderson still used to visit us with some regularity and said they were signed on that day, November, whatever day it was, and we haven't seen them. We've seen some of the communication. I personally spoke to Mr. Anderson at -- at Mountain Equipment Co-op. He said, Oh yeah, we've got all the documents, we'll send them to you. That was quite a while ago.

In any event, either we -- there should be an application to make the orders permanent or to vary the interim orders respecting -- respecting rates. But we -- we ha -- the Board had really hoped that this decision would at least wake up some of the parties, one being INAC, to where we thought we were going but as -- as long as the thing remains sol -- stalled, everybody

can just forget worrying about the issue except the Board and Manitoba Hydro who's now watching its rates decline for general service in the diesel communities.

If -- if you've got a better solution than we have I don't know -- we'd be pleased to hear it.

MS. PATTI RAMAGE: I think in general terms we're working on the -- with the same concerns and on the same track. And -- and I think what I was trying to communicate is that Manitoba Hydro is -- has -- has issued correspondence to INAC saying is -- essentially, is this it? Because if it is it's time to make a decision.

THE CHAIRPERSON: So perhaps before we get out of next week, if we could get an update. There was a number of matters in our last order to do with diesel that went beyond direction and also talked to intent and recommendations and things of that particular nature but it would certainly be nice to finalize the rates and allow the communities and everyone else to move -- move on.

--- UNDERTAKING NO. 171: Manitoba Hydro to advise the Board if the matters have been finalized with INAC in regards to Diesel Order

Number 134/10

THE CHAIRPERSON: With that --

MR. WILLIAM GANGE: Mr. Chair, I wonder if I could interrupt you. Cou -- I -- I raised the question of Directive 17 and the fuel switching report. I wonder if you could give that same admonition to -- to -- to Hydro to -- to respond to that or to give us some sort of direction in terms of getting that -- getting that out to us before this hearing ends. It -- it -- it was intended by -- by RCM/TREE to -- to focus on that report as part of their intervention in this hearing -- and -- and we've -- we've been frustrated in that attempt.

THE CHAIRPERSON: Sounds reasonable to me, Mr. Gange. Perhaps Ms. Ramage could take that under consideration too. When she responds on the other issues she could cover that one (1) off. Thank you.

I'm sorry, Mr. Williams, for eating into your time a little bit but we're back to you now.

MR. BYRON WILLIAMS: I think I'm done. I'm just awaiting -- I think Mr. Chernick was going to provide us with the -- with the case citation.

MR. PAUL CHERNICK: Yes, I was and -- yes, I was. And that -- the case that we were talking

about before the lunch break was the Department of Public Utilities docket number 85-271.

THE CHAIRPERSON: Does that do you, Mr. Williams?

MR. BYRON WILLIAMS: We're -- it was Massachusetts, sir?

MR. PAUL CHERNICK: Yes.

MR. BYRON WILLIAMS: Okay. I -- that certainly satisfies me with that additional insight.

THE CHAIRPERSON: Thank you. We'll move on now to MIPUG and Mr. Hacault. Mr. Hacault, welcome back.

MR. ANTOINE HACAULT: Thank you, Mr. Chairman, Vice-Chair. Hello all.

And that'll be about it because we were satisfied we had the information through IRs, et cetera. I don't -- and the questions that were asked earlier. I don't believe I need to ask any further questions. Thank you.

THE CHAIRPERSON: Thank you. Ms. Pambrun, do you have any?

MS. DENISE PAMBRUN: No questions, Mr. Chairman.

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

MS. PATTI RAMAGE: Well, I wasn't expecting to be back on the mic quite that quick.

THE CHAIRPERSON: We're literally zipping along.

CROSS-EXAMINATION BY MS. PATTI RAMAGE:

MS. PATTI RAMAGE: Yes. Yes, I just -- I am going to be very brief. Like Mr. Hacault, we -- Manitoba Hydro believes most of its questions have -- have been dealt with in the IR process or throughout the course of this hearing.

But there was two (2) things that -- that struck us this morning in hearing the evidence. And one (1) was, Mr. Chernick, if I heard correctly, my notes indicate that you -- you said this morning that Manitoba Hydro claims that targets are not appropriate.

Was that your evidence? Did I -- are my notes correct?

MR. PAUL CHERNICK: Yes, that -- that was my reading of -- of that point in Manitoba Hydro's rebuttal. If I've mischaracterized that or overcharacterized that or if there -- that was limited to some particular kind of target, then my apologies. I didn't mean to -- to say anything other than to summarize the rebuttal on that point.

MS. PATTI RAMAGE: Maybe if I could get you to turn to page 48 of Manitoba -- of -- of Manitoba Hydro's rebuttal evidence.

MR. PAUL CHERNICK: Yes.

MS. PATTI RAMAGE: And maybe -- and if -- I'll -- I'll read it and if you could just confirm that I've read it correctly:

> "Manitoba Hydro agrees with establishing aggressive energy conservation targets. However, the Corporation believes that it is more appropriate to base the targets on identifiable and realizable energy efficient potential rather than basing targets on arbitrary percentages."

Would you agree that that doesn't say Manitoba Hydro isn't going to be -- is -- is saying targets are inappropriate, rather it's that it -- it wants to establish targets on identify -- on identifiable and realizable energy efficient potential. So there -- there is no issue --

MR. PAUL CHERNICK: I -- you're --

MS. PATTI RAMAGE: -- with Manitoba Hydro?

MR. PAUL CHERNICK: -- you're right.

That -- the first part of the sentence that you referred to, I -- I think doesn't really very well characterize that section of Hydro's rebuttal and I'm sorry about that.

MS. PATTI RAMAGE: Okay. And then in a -- another note I have is that you said "Manitoba Hydro claims the leading edge utilities listed in Tables 2 and 3," and that would be on -- that would be the tables on page 50, if -- that -- anyway:

> "Manitoba Hydro claims the leading edge utilities listed in Tables 2 and 3 don't offer comprehensive programs."

Do I have that right?

MR. PAUL CHERNICK: And that was my reading of that discussion, yes. That -- for example, that Efficiency Vermont does not offer any services for residential building envelope measures or water-heating conservation.

MS. PATTI RAMAGE: If I could get you to turn back a page, to page 49 of Manitoba Hydro's evidence, and, again, I'll -- I'll read it into the record to save -- :

> "To ensure Manitoba Hydro's approach to setting targets is aligned with available opportunities, the

Corporation monitors leading-edge utilities and the programs being offered by these utilities throughout North America."

Would you agree with me that the idea of a leading-edge utility would be that it -- that it has comprehensive programs and in fact we -- Manitoba Hydro at line 29 refers to these programs as -- in the comparison, its own programs as being comprehensive and comparable to those?

MR. PAUL CHERNICK: I read -- I read that discussion as contrasting Manitoba Hydro's comprehensive energy conservation effort with the sometimes, according to these tables, less comprehensive efforts of the other utilities. Given the number of "no" entries -- excuse me -- in the -- in the tables, it doesn't seem like they're being clar -- presented as being comprehensive. But if -- if Hydro meant that these -- that despite their shortcomings these programs still met Hydro's standard for comprehensive, I -- I'm not arguing about Hydro's representation that way.

MS. PATTI RAMAGE: I -- that's Manitoba Hydro's questions. I thank you for that.

THE CHAIRPERSON: Thank you, Ms. Ramage.

Mr. Peters...?

MR. BOB PETERS: Thank you, sir.

CROSS-EXAMINATION BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Wallach, while Mr. Chernick is capturing his voice again, let's -- let's start. In your professional career, you have acted for public utilities?

MR. JONATHAN WALLACH: I'm sorry, what was the question?

MR. BOB PETERS: Have you acted for public utilities?

MR. JONATHAN WALLACH: Acted for? You mean have I consulted to public utilities?

MR. BOB PETERS: Yes.

MR. JONATHAN WALLACH: I have consulted to -- I have worked on one (1) project with an investor-owned utility.

MR. BOB PETERS: And, in working on that project with the investor-owned utility, you would have been privy to confidential information?

MR. JONATHAN WALLACH: Certainly, but in that case I don't believe there was any -- any issue as to access to confidential material.

MR. BOB PETERS: Well, hopefully not, if they were your client, but --

MR. JONATHAN WALLACH: Well, I'm just saying that there was no issue of confidentiality in terms of the information that was presented to the public.

MR. BOB PETERS: No, and I wasn't suggesting there was, sir, but what I -- what I was trying to get at was -- and where I'm going is that you will have come to have seen from within the utility's walls that there is certain information that a utility wants to keep confidential. Would you agree with that?

MR. JONATHAN WALLACH: Oh, certainly. I've certainly seen that working for any of my clients.

MR. BOB PETERS: And the reasons that information they would want to keep confidential could include putting the utility at a competitive disadvantage in the marketplace. Is that possible?

MR. JONATHAN WALLACH: There -- there have been instances, yes, of that issue. It can either be a matter of commercial sensitivity. Leave it at that. Yes, there's -- there can be issues of commercial sensitivity.

MR. PAUL CHERNICK: Would you like me to -- to jump in as I have something to add or leave Mr. Wallach on his own here?

MR. BOB PETERS: I think you can leave

him on his own. He's doing pretty well, I think, but -- but certainly, I'll come back and I'll certainly -- certainly give you an opportunity now that you have recovered your voice to -- to join in.

MR. JONATHAN WALLACH: I appreciate the vote of confidence.

MR. BOB PETERS: Mr. Wallach, in -- in -- when you say "commercially sensitive," you're meaning that the utility possesses information that if it was in the general public domain it may put them at a commercial disadvantage in their business?

MR. JONATHAN WALLACH: I was thinking more in terms of it would reveal information -- commercially sensitive -- information that is commercially sensitive to a third party, for example, the terms of a power purchase contract.

MR. BOB PETERS: Well, let's use your example then. And you know in these proceedings that Manitoba Hydro has -- has an abundance of power purchase agreements on the go right now?

MR. JONATHAN WALLACH: Yes, I -- I'm aware of that.

MR. BOB PETERS: And is it your expectation that each of the counterparties with whom Manitoba Hydro is dealing will know with certainty what

the arrangement is between Manitoba Hydro and the other counterparties?

MR. JONATHAN WALLACH: And the other counterparties with other contracts?

MR. BOB PETERS: No, let -- let me --

MR. JONATHAN WALLACH: I'm sorry, I don't think I understand.

MR. BOB PETERS: Let me rephrase my question.

MR. JONATHAN WALLACH: Sure.

MR. BOB PETERS: And I was trying to keep specific names out of my question but -- but I'll -- let me do that. You're aware Manitoba Hydro has a conditional agreement with Minnesota Power?

MR. JONATHAN WALLACH: I -- I am aware of that, yes.

MR. BOB PETERS: And you're aware they have a conditional agreement with Wisconsin Public Service?

MR. JONATHAN WALLACH: I am aware of it, yes.

MR. BOB PETERS: It may be a little different than what was talked about earlier but there's something conditional be -- as between Manitoba Hydro and Wisconsin Public Service now?

MR. JONATHAN WALLACH: My understanding from the public release is that there -- there are two (2) agreements out there.

MR. BOB PETERS: All right. Put directly, do you think that Minnesota Power knows all the terms of the deal between Wisconsin Public Service and Manitoba Hydro?

MR. JONATHAN WALLACH: I wouldn't imagine they know any of the terms but I couldn't say for sure.

MR. BOB PETERS: No, you wouldn't expect them to though, would you?

MR. JONATHAN WALLACH: No, I would not.

MR. BOB PETERS: All right. So when we come back to one (1) of your concerns where much of the information in -- in this filing was -- what was the wording? I think it was -- well, it was the impenetrable veil of secrecy I think is what I -- I'm not sure I've said that right but I remember reading something to that effect. It might have been your evidence, sir.

MR. JONATHAN WALLACH: Yes, it was.

MR. BOB PETERS: There may be some commercial reasons why such a veil has to be put on?

MR. JONATHAN WALLACH: Well, you -- there may be reasons why you restrict access to certain parties and you don't allow access to parties that might have a

commercial interest in that information. But there are certainly other parties, such as Intervenors, who do not have a commercial -- direct commercial access and should have access to that information in order to do -- to do their jobs.

MR. BOB PETERS: All right. Let's just explore that a little bit further now. Let's suppose that you hof -- hop off of the airplane in Winnipeg. And then you get back on the airplane. You're in Minneapolis tomorrow, and you have a client in Minneapolis, Minnesota in the utility industry who's thinking of doing a deal with Manitoba Hydro. And they're wondering if a certain price of power as offered up the Manitoba utility is a good deal or a bad deal and they want you to help them work through that.

You could be in a position, could you not, if you had been exposed to the detailed information of those agreements between Manitoba Hydro and Minnesota Power, in a position where you would know with certainty what somebody else was buying from Manitoba Hydro?

MR. JONATHAN WALLACH: Well, I'm not a lawyer but I'm aware that the confidentiality agreements that I -- I si -- I typically sign restrict how I can use the data, the confidential data, that I'm allowed to review, and one (1) of those restrictions is it's

restricted to use within that particular proceeding.

MR. BOB PETERS: And if it's restricted to the use in, let's say, this proceeding that's currently before the Board, that means you can't put it on the public record either.

Is that also a given in your confidentiality agreements?

MR. JONATHAN WALLACH: That's correct. There would be a confidential portion of the evidentiary record in the proceeding.

MR. BOB PETERS: And -- and not that you would, Mr. Wallach, but if for some reason you inadvertently disclosed what Manitoba Hydro's selling price was to Minnesota Power, do your confidentially agreements that you have signed contain provisions where there would be a penalty imposed on you for that?

MR. JONATHAN WALLACH: That's my understanding but, again, I'm not a lawyer.

MR. BOB PETERS: Well, we don't need more lawyers. Goodness, we have enough of them here.

MR. ROBERT MAYER: Careful.

MR. JONATHAN WALLACH: I -- I always -- I -- I always want to put that caveat in there, so.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: No, but I'm just saying if -- if you accidentally inadvertently disclosed the price that Manitoba Hydro is getting for its power in its sale with Minnesota Power and you disclosed that to some other Minnesota Utility, what would the normal penalty be that you would be exposed to? Do you know?

MR. JONATHAN WALLACH: I don't know because in my thirty (30) years I have never inadvertently disclosed any confidential information.

MR. BOB PETERS: But you -- you probably have read one (1) or two (2) confidentiality agreements or had your lawyers read them for you and explain them?

MR. JONATHAN WALLACH: Both, yes.

MR. BOB PETERS: So is there -- there's a financial penalty?

MR. JONATHAN WALLACH: You're subject to -- to -- legal remedy, let's put it that way. It's not as if there's a financial penalty stated in -- in the settlement agreement -- I'm sorry, in the confidentiality --

MR. BOB PETERS: Yeah.

MR. JONATHAN WALLACH: -- agreement.

MR. BOB PETERS: What -- what -- so your understanding of those confidentiality agreements that are in vogue in other jurisdictions is that Manitoba

Hydro would have to bring a lawsuit against you to extract from you any damages they say they suffered as a result of your loose lips?

MR. JONATHAN WALLACH: Well now I'm going to say I'm not a lawyer so I'm not sure what their legal remedies are available to them.

MR. BOB PETERS: No, whatever they are it would be up to Manitoba Hydro to seek a remedy against you. Would that be your understanding?

MR. JONATHAN WALLACH: That would be my understanding, yes.

MR. BOB PETERS: All right. Do any of these confidentiality agreements contain provisions where there's a fixed dollar amount, or sometimes the fancy word "liquidated damages" is used, where if you give up some information you shouldn't, once you've done that you have to cut a cheque for a certain specified dollar amount?

MR. JONATHAN WALLACH: As I said before, I can't recall ever seeing a settlement agreement that sets a specific number or has any kind of liquidated damages amount set there or even a formula for determining liquidated damages as you might see in, you know, a power purchase contract.

MR. BOB PETERS: Thank you. So then

let's move to the next step that you're involved in a proceeding in a jurisdiction where there's confidential information at play but as an intervenor or a consultant to an intervenor you would be provided access to it.

Correct?

MR. JONATHAN WALLACH: That -- that's correct.

MR. BOB PETERS: And the way you would be provided access is only if you signed a confidentiality agreement mutually satisfactory between your -- yourself and the utility?

MR. JONATHAN WALLACH: Between my counsel and utility's counsel, yes.

MR. BOB PETERS: And your counsel is working for you, so it's really -- you have to accept it and agree with it?

MR. JONATHAN WALLACH: There's -- I've certainly had many a discussion with my counsel about the terms and conditions of those settlement agreements. I'm -- I'm sorry, confidentiality agreements. Sometimes they feel like settlement negotiations.

MR. BOB PETERS: Does resort -- Resource Insight Inc. employ internal counsel?

MR. JONATHAN WALLACH: No, it does not.

MR. BOB PETERS: Oh, all right.

MR. ROBERT MAYER: Mr. Peters, before you get too far away from that example you gave about the other utility asking you the question: Is this a good deal? Without disclosing -- technically disclosing any confidential information you can say: I can tell you that is a horrible deal. Don't do it. Here's my bill for a hundred thousand dollars.

MR. JONATHAN WALLACH: Well, it would -- it would really depend on the -- on the specific circumstances and I'd have to make a judgment as to whether by saying -- making such a statement I would be revealing confidential information. And --

MR. ROBERT MAYER: Well, I -- I think that was, I thought, where Mr. Peters was going on that. Because as you describe the - the restrictions on what you can do, you can't disclose the confidential information. You disclosed no confidential information other than your knowledge that -- that you've seen both sets of prices and you tell him they're getting a shitty deal.

MR. WILLIAM GANGE: With respect, Mr. Mayer, unless you saw the terms of the confidentiality agreement from a le -- you're -- you're asking him for a conclusion of law and -- and unless you saw the confidentiality agreement that was in effect even making

that kind of a statement, It's a bad deal, may well be a breach of the confidentiality agreement.

MR. ROBERT MAYER: I'm not looking for a conclusion of law at all. I think Mr. Peters' point is that don't you see that even with a confidentiality agreement in place, unless it specifically covers the kind of situation I -- that Mr. Peters originally put to you, can't you see that the utility, in this case Manitoba Hydro, might be a little bit concerned about disclosing something as valuable to it as the prices of their product being sold to one (1) count -- counterparty when the state next door is in the midst of negotiations with the other.

MR. JONATHAN WALLACH: Well, my interpretation of the confidentiality agreements that I typically sign would -- would preclude revealing information that could only be derived from my access to confidential material.

And I'm -- I'm speaking from personal practice, I'm not saying this is how it works in the rest of the world but I tend to be -- take a -- a very strict stance on -- on issues of confidentiality. And unless that information is clearly and explicitly in the public domain I'm extremely hesitant and cautious about revealing that sort of information.

MR. ROBERT MAYER: Mr. Wallach, I understand that and I take your word for that and I would take a similar view. I am a lawyer and I would take a similar view, but I know that there are lawyers who have a different view than I do, and I'm suspicious that there are consultants who have a different view than you do.

And that would be where the Utility may be a little bit concerned about disclosing some -- or at least, I would ask you:

Wouldn't the Utility be a little bit concerned about disclosing that particular type of information?

MR. JONATHAN WALLACH: Well, if they're -- they have that concern I would imagine that they would be very careful about structuring the confidentiality agreement to preclude such a -- such an event.

MR. PAUL CHERNICK: And -- and, Mr. Mayer, I -- you know, I have signed confidentiality agreements in which I explicitly stated that I was not working for, and would not for some number of years, work for any party selling power at retail in the state of Ohio, for example.

A confidentiality agreement that said, You won't work for any utility -- any other utility in North America on any subject would clearly be too broad -- or

even on power supply issues. But, one (1) that said you won't work for any other utility in -- or power purchaser in the following provinces and states for the following three (3) years, by which time the data would be stale, that might be a very reasonable restriction.

Now there would be some consultants who would say, Well, I can't do that because half my work is in Minnesota. Okay. Then the party has to find another consultant who can say, Yes, I can do this because I don't have clients for whom that's a conflict.

MR. ROBERT MAYER: You better watch it, Mr. Gange is likely to object that you've just given us a legal opinion on broadness and length of term.

MR. PAUL CHERNICK: That was not a -- a legal opinion, that was my statement about the kinds of -- of agreements that I've seen and that -- that I've been able to -- to function under. I've also been presented with confidentiality agreements that basically said you'll never testify against us in any manner, in any way, you'll never work for anybody who buys or sells power anyplace in North America. And those have been, obviously, unworkable and unacceptable. But it is possible where you're dealing with that specific kind of information to -- to narrow it down.

And I -- I'd also like to clarify your --

your understanding of what people pay us for. That, while we have experience and -- and a background of knowledge, it -- they're generally paying us for an analysis based upon some facts that they can then follow and see whether they agree with us.

So it is true that anything that you're exposed to, any facts that you're exposed to, help to change your mindset about whether you're optimistic or pessimistic about fuel prices or the market for energy in the upper midwest, or whatever.

But, in terms of the kind of product that Mr. Wallach or I would present to a client, it would have to do with ex -- expected resources, and environmental constraints, and load growth, and fuel prices, and anyone who paid us for information that we said we had seen in some secret document some place would be taking -- you know, putting a lot of faith in -- in our memory about what we saw in that data room.

MR. ROBERT MAYER: Sorry, Mr. Peters. I interrupted. I --

MR. BOB PETERS: No, no. I think useful and some of the areas I was thinking of were -- were addressed.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Wallach, just to include with you, then, on recommendations to this Board that you made in your evidence to Mr. Gange, you were suggesting that some form of restricted access should be made available to the Intervenors and their consultants through confidentiality agreements, correct?

MR. JONATHAN WALLACH: I think that would be appropriate, yes.

MR. BOB PETERS: And maybe you can assist the Board by explaining some of the actual situations where you have had access to confidential information. Was it done through a restricted website? Was it done through receipt of email information?

How -- how does the Utility maintain control over who has access to the confidential information?

MR. JONATHAN WALLACH: It's spanned the -- the range from electronic transmittal of spreadsheets and other electronic documents. I have -- actually working on a case right now in Massachusetts where, because of concerns about limiting, restricting access to confidential material, the -- the utility is only providing confidential material on paper, in print, printed versions of whatever files or spreadsheets they -- they've used for their analysis. And they mail to the

parties that have signed a confidentiality agreement.

As I said in my direct evidence, I've worked on cases where access to -- to confidential material, electronic data is via a password-protected secure website, and -- and there have certainly been other cases where super-secret material, for example, minutes from -- from board meetings, have only been made available at the utility's headquarters and -- and no, you know, reproduction is -- is allowed of -- of those documents. All I can do is -- all I was able to do was to go review the documents and take notes.

MR. BOB PETERS: Mr. Chernick, you wanted to pipe in on this, and you may have to the Vice-Chair in -- in one (1) of your answers, but you also, in your direct evidence, were critical of Manitoba Hydro's provision of spreadsheets because they -- well, I guess, because they didn't provide them and if -- whatever you received was essentially PDF and it was incapable of being examined in terms of the -- the formula, correct?

MR. PAUL CHERNICK: That's correct.

MR. BOB PETERS: What I was going to sug -- then what you were -- what you were asking for was all exhibits be provided by way of unlocked spreadsheets, correct?

MR. PAUL CHERNICK: Yes.

MR. BOB PETERS: But in the discussion I just had with Mr. Wallach, there may be situations where those spreadsheets do contain commercially sensitive, proprietary -- or information that would be harmful to the utility if in the public domain.

You'd agree with that?

MR. PAUL CHERNICK: Yes, and I believe that, in my direct, I mentioned, for specific highly sensitive information, where it's the information itself that's -- that's the issue, such as contract prices, it makes sense to just have a value coming out of another spreadsheet for, say, total revenues for the year and have the -- the calculations based on the contract prices be in a more secret calculation, which perhaps is -- is only available to the -- to the parties under very strict confidentiality rules such as -- as Mr. Wallach's been talking about.

That would affect very little of the -- this -- very few of the spreadsheets that -- that I was referring to in -- in my testimony. Obviously, it'd be a much bigger issue for the -- the analyses that -- that Mr. Wallach was looking at.

MR. BOB PETERS: Mr. Wallach, back to you, sir. In your evidence, I noted and wrote on page 9 that your concern as you told I think Ms. -- not in your

-- not only in your evidence but also to Mr. Gange is -- is whether the near total reliance by Manitoba Hydro on hydraulic resources under its recommended plan threatens the financial stability of the Company.

MR. JONATHAN WALLACH: I -- I believe that should be the focus of -- of the -- the Board's consideration of this issue.

MR. BOB PETERS: And when I -- when I try to parse that down, Mr. Wallach, you're saying to this Board that they should be more -- most concerned about whether the near total reliance on hydraulic resources under the recommended plan threatens the financial stability of the Company.

You're doing that to suggest that there may be other options that they should consider?

MR. JONATHAN WALLACH: Yes.

MR. BOB PETERS: And you did talk about wind in your direct evidence with Mr. Gange but does that answer of yours suggest that it is -- that development that in -- that includes either thermal or wind or some other renewable would be preferred from your perspective over the hydraulic development?

MR. JONATHAN WALLACH: I have not --

MR. ROBERT MAYER: That's on page 10, Mr. Peters.

MR. JONATHAN WALLACH: I haven't made any sort of recommendation with regard to a preferred alternative resource portfolio.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: I'm aware of that.

MR. JONATHAN WALLACH: I'm -- I'm really suggesting that the -- the options that I mentioned are just that, options to consider if it's determined that there's merit to diversifying the resource portfolio.

MR. ROBERT MAYER: Mr. Wallach, I -- I've been -- I highlighted that part of page 10 of your direct evidence and I -- I have to say that this is the first time I've heard a witness from RCM/TREE suggest that Hydro go to thermal generation.

MR. JONATHAN WALLACH: Efficient thermal generation.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: While on that issue of efficient thermal generation, Manitoba Hydro has made the point in their evidence that sixty-four (64) miles from where you're seated there's an abundance of thermal generation in -- in the United States. And so rather than build and construct on their own, wouldn't it be --

wouldn't the default option be just more purchases from a thermal based supply market?

MR. JONATHAN WALLACH: Certainly an -- an option for either wind or efficient thermal generation would be to purchase from a third party rather than to -- for the Company to invest in -- in the resource on its own. And certainly importing from MISO is an option. But depending on -- on the terms and conditions of any sort of contract you might have for that import you might be looking at either market price risk or risk in terms of transmission access.

MR. BOB PETERS: When you say "efficient thermal," maybe you should be more definitive and maybe help define that for the Board.

MR. JONATHAN WALLACH: Well, I'm mostly thinking in terms of natural gas-fired combustion turbines or combined-cycle units.

MR. ROBERT MAYER: I take it nobody's talking nuclear anymore.

MR. JONATHAN WALLACH: No.

MR. PAUL CHERNICK: I -- I don't think Mr. Wallach and I ha -- have been talking nuclear at all.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Wallach, you had

indicated earlier that the downside of the risk would be a negative financial occurrence, correct?

MR. JONATHAN WALLACH: That's how I define financial risk in -- in this case, yes.

MR. BOB PETERS: And the financial risk you see would be borne by the consumers of Manitoba, the ratepayers of Manitoba?

MR. JONATHAN WALLACH: In some form or fashion, yes. Ultimately, it's the ratepayers.

MR. BOB PETERS: And ultimately it's by way of increased rates?

MR. JONATHAN WALLACH: Presumably, yes.

MR. BOB PETERS: In your evidence you noted that Hydro's indication that Hydro would rely on retained earnings to take the Corporation through a drought.

And that's presumably without having to resort to consumer rate increases or at least rate shock increases?

MR. JONATHAN WALLACH: Tha -- that's my understanding of the Company's policy.

MR. BOB PETERS: And is it your understanding that Manitoba Hydro's retained earnings are represented by liquid assets available to be converted into cash?

MR. JONATHAN WALLACH: I actually don't know what -- what those assets are.

MR. BOB PETERS: Mr. Wallach, if Hydro's retained earnings are comprised of non-liquid assets, maybe such as good will or intangibles, and deferred costs such that Hydro would have to rely on borrowing, would that exacerbate the risk of an extended drought?

(BRIEF PAUSE)

MR. JONATHAN WALLACH: It would certainly increase the fixed costs to the Company in terms of it would in -- increase their -- their debt service costs and that may or may not result in -- in a further rate increase to consumers.

MR. BOB PETERS: If it results in increased fixed cost to the Corporation, where else would it come from except for increases to consumers?

MR. JONATHAN WALLACH: Well, to the extent that you can -- you're relying on the debt financing for your cashflow, you can effectively take out the fixed costs from -- cover the fixed costs with your, you know, out of your retained earnings.

MR. BOB PETERS: But if those retained earnings weren't liquid and you had to borrow against

those non-liquid assets wouldn't that just put you in a -- a further situation of increased costs to be sought from consumers?

MR. JONATHAN WALLACH: Eventually, yes. But eventually you could -- you -- presumably, you'll be able to liquidate those retained earnings.

MR. BOB PETERS: In the evidence that you provided do you recall indicating that if Manitoba Hydro assumes perfect foresight there would be an underestimation of the system costs?

MR. JONATHAN WALLACH: That is my understanding of the -- of the analyses by both KPMG and the independent experts.

(BRIEF PAUSE)

MR. BOB PETERS: And as you've said, you were not able to independently verify either the KPMG or the ICF or the Kubursi/Magee conclusions?

MR. JONATHAN WALLACH: That's correct. And unfortunately, with the Kubursi/Magee -- especially with regard to their Monte Carlo modelling, they -- the independent experts extended the veil of secrecy over the spreadsheets that they used for their risk modelling, which was based apparently on public information.

MR. BOB PETERS: One (1) other area I wanted to talk to you about, Mr. Wallach, was your suggestion that Manitoba Hydro has not examined drought coincident with what I call shortage pricing, that is, the pricing of imports or fuel skyrocketing at the time they're experiencing the drought.

That was your recommendation to examine drought coincident with shortage pricing on -- on fuel or imports?

MR. JONATHAN WALLACH: Well, I -- I hesitate to call it shortage pricing but yes I believe that they -- they should have looked at drought coincident with a scenario of high import prices.

MR. BOB PETERS: Do you find a correlation exists as between drought in Manitoba and high fuel costs or high import costs?

MR. JONATHAN WALLACH: Not necessarily, no.

MR. BOB PETERS: And so your reason for recommending it is that is a possible occurrence but you don't know, again, the degree to which it's probable.

MR. JONATHAN WALLACH: I would suggest neither I nor the Company has that information.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Chernick, just a couple of questions that I have left from what has been responded to, not only in the Information Request but by questions to counsel today.

In terms of estimating the marginal cost for rate design and DSM evaluation you note that Hydro has not provided marginal rate information.

MR. PAUL CHERNICK: The marginal cost information has been pretty sparse, yes.

MR. BOB PETERS: Were you able to do any calculations of your own in that regard based on what you could get from the record?

MR. PAUL CHERNICK: Well, I -- I list some of the estimates of -- of marginal costs that are in the record in my testimony.

MR. BOB PETERS: Yeah, I think there was three (3) or four (4) that were --

MR. PAUL CHERNICK: Right.

MR. BOB PETERS: -- or four (4) or five (5) that you listed. Did you -- did you conclude as to their accuracy of any of those?

MR. PAUL CHERNICK: Well, I believe that the -- the data that -- on -- on the monthly on-peak/off-peak shoulder prices under, I believe it was, the SEP program, I found an error in the -- the Company's

calculation which the Company has now acknowledged. But I don't believe there was any -- anyplace else where we had enough data to really work with.

MR. BOB PETERS: The Vice-Chair and you have talked a little bit about inclining rate structures and you've taken it down to the residential customer in your last area of questions from Mr. Gange.

Just help the Board conceptually understand that if today a -- an all-electric customer, that is a customer who uses electricity for space heat in this province, has a bill of, say, thirty-six hundred dollars ($3,600) a year, just to pick a number out of the air. Does your rate -- rate design -- maybe I didn't reach high enough.

MR. PAUL CHERNICK: A customer of a particular size, yes.

MR. BOB PETERS: I should have qualified that but let's -- let's -- just for my ease of math --

MR. PAUL CHERNICK: M-hm.

MR. BOB PETERS: -- if the all-electric customer had a -- had a bill of thirty-six hundred dollars ($3,600) a year is your rate design sugg -- suggestion where you would decrease the size of the first block in the winter months, is that designed to reduce the annual -- the annual amount?

MR. PAUL CHERNICK: I would increase the size of -- of the first block, the lower cost first block, in the winter for those customers.

MR. BOB PETERS: I meant to say that because I think you said that earlier today.

MR. PAUL CHERNICK: Yeah.

MR. BOB PETERS: If I misspoke, I apologize.

MR. PAUL CHERNICK: No, that's --

MR. BOB PETERS: Let me start -- let me start that over.

MR. PAUL CHERNICK: Okay.

MR. BOB PETERS: The -- the current first block stops at nine hundred (900) kilowatt hours a month, correct?

MR. PAUL CHERNICK: Or the one that existed before the beginning of this proceeding, yes.

MR. BOB PETERS: Fair enough. And your suggestion is that in the winter months that first block would be enlarged to a certain determined number based on, maybe, the average load for the all-electric customers at that point in time.

MR. PAUL CHERNICK: The cutoff should probably be lower in the summertime and for non-heating customers in general. And that above that cutoff,

whatever it is, there should be an -- an additional increment of the first block for heating customers so that a customer who would -- if the average customer, hypothetically, were paying thirty-six hundred dollars ($3,600) a year, an average heating customer, that the increase -- the combination of the inclining block and the larger first block would leave that average customer paying thirty-six hundred dollars ($3,600) a year, so that the rate design is not imposing a -- a dead-weight cost on that customer just for being an electric heating customer.

But the customer would be exposed to the higher marginal costs in each month, heating and non-heating months, and would have an incentive to -- to reduce his usage in all those months.

MR. BOB PETERS: So that rate design, you would suggest, would be revenue neutral to the Utility?

MR. PAUL CHERNICK: Well, the rate design part itself. It probably would be implemented in connection with rate increases which wouldn't be revenue neutral but the initial objective would be to -- to simply -- to redistribute the -- the rates in a way that gives better price signals without increasing the total bill to the residential class or, for that matter, to the heating part of the residential class.

MR. BOB PETERS: And without reducing the overall annual bill on average to the heating class?

MR. PAUL CHERNICK: That's correct.

MR. BOB PETERS: All right. If -- if we come to that understanding, that it's revenue neutral, why wouldn't the all-electric customer be better off to simply elect the equal payment plan where their annu -- their monthly payment is levelized or averaged out over the year?

MR. PAUL CHERNICK: Are you suggesting that's an alternative to what I was proposing?

MR. BOB PETERS: Well, are you aware that in Manitoba, that the equal payment plan is an option available to Manitobans?

MR. ROBERT MAYER: It doesn't save us any money, Mr. Peters. We still --

MR. BOB PETERS: Thank you.

MR. ROBERT MAYER: -- suffer. Yeah, we still -- and, by the way, you weren't far wrong at thirty-six hundred (3,600). I was thinking kilowatt hours. But that doesn't solve the problem that we've heard about from every person who's come to us respecting this inability to use anything but electric heat, and that is the extra cost.

I am on a monthly plan, but I still pay a

significant amount of money into the second -- into the second rate, or a significant portion of my bill into the second rate, simply because I have to use electric heat for -- electricity for heat.

MR. PAUL CHERNICK: So my -- my objective would -- would be to provide that better price signal for the customer in each month, and the fact that Hydro is willing to spread out the -- the bill equally over the year for the customer's budgeting purposes, that's -- that's nice but that doesn't affect the actual bill that the customer is being charged for each month. And I assume at the end of the year there's some reconciliation.

And, to the extent that the customer's responded to the fact that there's a higher marginal price and it saves money to -- to cut back where that's possible, to invest in higher efficiency, and so on, then a customer on a levelized bill plan will wind up with a refund at the end of the year and a lower levelized bill for the next year.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Perhaps I haven't asked my question clearly but -- or maybe we're complicating it with too many assumptions but I -- I picked the thirty-

six hundred dollar ($3,600) a year as the average -- or as the bill of this one (1) particular house that we'll pick in -- somewhere in Manitoba and that's how much they paid last year and let's leave all the rate increases --

MR. PAUL CHERNICK: M-hm.

MR. BOB PETERS: -- out of it, so there's no more rate increases. It's thirty-six hundred dollars ($3,600) a year, it has been --

MR. PAUL CHERNICK: M-hm.

MR. BOB PETERS: -- for, let's say, the last couple of years, and the weather's been exactly the same --

MR. PAUL CHERNICK: M-hm.

MR. BOB PETERS: -- in the last few years. Is your rate design designed to make it cheaper for that customer or is it just to spread the payments out more?

MR. PAUL CHERNICK: My rate design would be intended to give that customer the incentive to conserve.

MR. BOB PETERS: Well, let me -- just let me interrupt on that. The customer already has an incentive to conserve --

MR. PAUL CHERNICK: Right.

MR. BOB PETERS: -- because they're into

the second tier, let's say, and the second tier would be higher than the first tier, as it was --

MR. PAUL CHERNICK: Okay.

MR. BOB PETERS: -- when these proceedings commenced.

MR. PAUL CHERNICK: So, are -- are you -- I'm -- you are getting me confused about your assumptions.

Are we assuming here that we have an inclining block structure?

MR. BOB PETERS: Yes.

MR. PAUL CHERNICK: Okay. I'm sorry, I thought you were talking about going from a flat rate to an inclining block rate. So the point -- okay, in that case, we're -- we're going from -- taking a step from a different starting point and -- and some of what I said must have been very confusing to you.

So, yes, the idea of having a larger initial block is to reduce the bill to that lar -- that customer with higher consumption because they're electric heating with a reasonable allocation of kilowatt hours to recognize the fact that they're an electric heating customer and bring their bill to about where it would have been before we implemented the inclining block.

So if it was thirty-three hundred dollars

($3,300) and the inclining block made it thirty-six hundred dollars ($3,600) then the larger allowances for space heating in the first block in the winter would bring the bill down to about thirty-three hundred (3,300). But the tail block rate in each month is still the higher second block rate and to the extent that the customer reduces their usage they're getting that second block signal.

MR. BOB PETERS: All right. Let's assume the customer isn't -- you know, the price signals are the price signals but they haven't changed the thirty-six hundred dollars ($3,600) a year. When you change the blocks you're now not making it revenue neutral to the Corporation, correct?

You're giving the homeowner more electricity at a lower price and that makes it cheaper on an annual basis for the all-electric customer or anybody who's into the -- what is now the second block?

MR. PAUL CHERNICK: If -- if all you wanted to do in a particular proceeding was just implement the space heating block allowance you would have to redesign the whole residential rate so that the -- maybe the tail block rate would go up, the initial rate would go down. Perhaps the basic charge would go down so that you'd get the same -- or -- or various parts might

go up, but you'd want to get the same revenue that you would get without those allowances for additional heating use.

MR. BOB PETERS: All right.

MR. PAUL CHERNICK: You don't want to -- the -- the point of -- of the additional blocks is not to reduce total revenue to the -- to the Company. It's to counteract on average for the heating customers the effect of the inclining block and take into account the fact that they are stuck with electric heat and give them an allocation of low-cost energy.

MR. BOB PETERS: And if the overall design is revenue neutral to the Utility, then there is a re-allocation of the revenues to the non-electric space heat customer to make up the revenue that the space heat customer is saving?

MR. PAUL CHERNICK: As compared to an inclining block rate without a space heating allocation. But it would basically be moving -- the initial thing that would happen is, if we just at one (1) fell swoop made the second block rate above 900 kilowatt hours, 20 percent higher than the first block rate, the effect would be to increase bills to heating customers primarily and decrease bills on an annual basis to non-heating customers.

There might be some concern about doing that, hypothetically. So if at the same time you -- you implemented these winter heating allocations with a larger first block you would bring down the cost to the customers -- to the heating customers, and to collect the same revenue you'd wind up increasing rates to the -- the non-heating customers but you would be back on an overall -- comparing those two (2) subclasses, you'd be back about where you started before you put in the inclining blocks.

This is a fix for the inclining block and the equity effect that the inclining block would have on the heating customers.

We want the inclining blocks for efficiency signals but we don't want them to -- which is a -- a good thing but we don't want that good thing to run down people on the highway on the way. So we put in this protective mechanism that gives people the price signals without the -- the dead weight of -- of a huge bill increase.

MR. BOB PETERS: What happens when the non-electric heating customers who are now using in this province natural gas experience natural gas price increases?

MR. PAUL CHERNICK: I assume they're

unhappy about it.

MR. BOB PETERS: All right. And if they're unhappy because their cost of heating is now greater than heating all electrically, should there be any relief provided to those customers?

(BRIEF PAUSE)

MR. PAUL CHERNICK: I guess I -- I don't really see the connection there and I -- I think that it is economically and environmentally preferable to have customers who can heat with gas do so and to do so efficiently. And I would hope that the rate structures, at least for new customers, would give that signal.

The fact that you hand out allocations to existing heating customers and perhaps heating customers who do not have access to gas, does not mean that you have to give it out to people who currently have gas and want to switch over to -- to electric heat for one (1) reason or another.

MR. BOB PETERS: All right. Thank you for that. In terms of time-of-use rates, are you familiar with time-of-use rates for residential customers in -- in any jurisdictions?

MR. PAUL CHERNICK: Yes.

MR. BOB PETERS: And are those administered without the use of smart meters?

MR. PAUL CHERNICK: Most of them are. Now there are some smart meters coming in but jurisdictions have had time-of-use rates for maybe thirty (30) years. The -- they used to have a meter that -- that basically had three (3) dials and -- and a clock that switched from recording on one (1) dial to recording on the next dial depending upon the time of day. You now have electronic systems that will upload the data, automatic meter interfaces, and so on, so it's a lot easier to do. But you don't need the tech -- kind of technology that's usually talked about in terms of being a smart meter.

MR. BOB PETERS: Well, do I take from your last answer that you do need a meter capable of -- of time-differentiating usage?

MR. PAUL CHERNICK: Yes. And the cost of the meter certainly cuts into the cost effectiveness of the time-of-use rates for small customers.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Chairman, I'd like to thank Messrs. Wallach and Chernick for their answers

to my questions. Those do complete my questions.

QUESTIONED BY BOARD:

MR. ROBERT MAYER: I have --

MR. PAUL CHERNICK: I'm not getting away, am I?

MR. ROBERT MAYER: Your -- your comment on it's environmentally preferable to heat with gas rather than with hydro-electricity struck me as a little strange. How is it more environmentally friendly to be burning gas than electrically heating a home when my electricity comes from renewable resources?

MR. PAUL CHERNICK: Well, basically because if you weren't using the electricity, if we could get you some -- some other more economic heating source then that electricity could be sold to Ontario or Saskatchewan or the US and back out gas being burned to produce electricity to heat less efficiently than a natural gas furnace would do for you, or even better from an environmental standpoint, backing down coal plants.

MR. ROBERT MAYER: But -- that's an interesting concept. We're not, even at really bad prices, hopefully not selling our power at what people can produce it for with coal. The -- I understand coal is relatively cheap, that coal can produce electricity

relatively cheaply.

We, so far as I understand, have not been able to compete with Saskatchewan's coal, or Alberta's for that matter, in terms of producing power, and I'm not entirely sure how interested they appear to be, although we do hear some talk periodically about east/west transmission grids instead of north/south, but there doesn't seem to be a whole lot of uptake in the last little while, so I'm not sure how realistic that possibility would be.

MR. PAUL CHERNICK: Well, certainly anytime that Manitoba Hydro has hydro power available and nothing better to do with it, if it can send it to the US and back down a coal plant that costs two (2) cents a kilowatt hour to run, you're getting two (2) cents out of that and reducing coal emissions.

In the longer term, the availability of clean resources, including Manitoba's hydro resources, to -- to the US -- I'm not as familiar with Saskatchewan and your transmission connections, but certainly for -- for the US the -- the utilities are -- are looking at the costs of maintaining their coal plants in the face of a -- an array of environmental costs.

And when they look at that and compare the costs of adding scrubbers, and NOx control, and so on --

and maybe a carbon tax someday, and compare that chunk of costs, including the costs of coal, which is not as cheap as it used to be, to the costs of a purchase of power from Manitoba Hydro, you can -- you know, you may be able to beat out coal plants on that -- that basis, as well.

So I think both in the -- in the short-term spot market and -- and in the longer term market there is some potential for the -- for your hydro to -- to displace coal. And I haven't looked at this in a while and I really can't get any more specific at the moment.

MR. WILLIAM GANGE: Mr. Mayer, if I may add something. Although it -- it may have struck you as interesting in -- in terms of the way that you phrased that question, that has been the position of RCM/TREE throughout sev -- throughout the Centra Gas hearing two (2) times ago and -- and the past hydro rate hearings, and -- and it is one (1) of the purposes of the fuel switching report. And -- and you may also want to refer to Exhibit 132 of Manitoba Hydro which deals with this issue to a certain extent.

But -- bu, Mr. Chernick's evidence is consistent with the position that RCM/TREE has taken for a long time on that issue.

MR. ROBERT MAYER: That it's better for

me to burn gas to heat than to use non-polluting electric power to heat.

MR. WILLIAM GANGE: Yes.

MR. ROBERT MAYER: I -- I have it clear.

MR. PAUL CHERNICK: The -- the choice isn't between your burning gas versus building and running a hydro plant to supply your heat, or between your burning gas and dumping existing hydro with your using that hydro to heat with.

I mean, if we're -- if the water were just gonna spill over the dam otherwise, then you might as well use it for heating. It's environmentally preferable and -- and economically cheaper because it's free.

But the point is that that hydro power goes someplace, and it's usually going to places which are using more polluting sources to produce electricity, more polluting than your gas furnace.

MR. ROBERT MAYER: I recognize that to some extent, sir, and let's not talk about stuff running overtop of dams right now, because that is a bit of a problem. We have a little bit more water than we probably need.

MR. PAUL CHERNICK: We -- we have that problem in New England, as well. We're sympathetic.

THE CHAIRPERSON: Mr. Wallach, just a few

questions that arise out of Mr. Peters' questions. First ones are -- I think a fairly simple one, but I may be just slow right now. You made a reference to Manitoba Hydro in a drought situation, to avoid rate shock, liquidating its non-liquid retained earnings.

Could you please explain how you could liquidate non-liquid retained earnings, like retained earnings that are basically, for example, deferred costs and goodwill and intangibles?

MR. JONATHAN WALLACH: Well, let me just start by saying the first thing I said to Mr. Peters was I -- I don't have any personal knowledge of what those assets are, what constitutes retained earnings. But, secondly, to the extent that you have, in general, a relatively illiquid asset, at some point you should be able to liquidate it. You may not be able to liquidate it at -- at the -- at the optimal value, but, like I say, you know, at some point, you should be able to -- to sell it to someone.

MR. PAUL CHERNICK: Well -- or in -- in some of the examples you just gave, if you have a regulatory asset and you're recovering $5 million a year of your $50 million asset, you're liquidating it year by year as you recover it from the ratepayers. So you can't turn it into $50 million of cash right now to cover your

-- your earnings shortfall, but -- and you have to borrow money to cover the difference, but you've got a promissory note from the Board for $50 million that you can borrow against and -- and get the $50 million now, you get $5 million from the customers, you pay back $5 million of your -- of your loan, and so on.

It certainly would be less expensive if you had the $50 million sitting in the bank, but so long as it's a -- a real asset that you're going to earn a return on, and you've got the time and you've got the crediwor -- creditworthiness to borrow money in the meantime, you should be able to -- to turn that future cashflow into -- into cash today to cover the shortfall.

THE CHAIRPERSON: Thank you. I -- I follow you, Mr. Chernick. Mr. Wallach or Mr. Chernick, it doesn't matter, you gave evidence that appeared to favour utilities that rely on a -- if you want to call it, diversified generation sources.

Are you aware of any large electric utility that relies on one generation source to the degree that Manitoba Hydro does?

MR. JONATHAN WALLACH: I personally can't recall. Certainly none of the -- the -- none of the jurisdictions that I've worked in have I ever seen this, you know, level of concentration in one (1) resource.

Mr. Chernick may have some experience.

MR. PAUL CHERNICK: BC Hydro may have been close, I think, with their -- their recent plans for diversifi -- diversification into other renewables. They may be cutting into that, but -- and there are utilities in the United States that are 95 percent or more dependent upon coal for their -- for their energy supply, which, given fuel price contracts and -- and so on, are not -- doesn't expose you to the same kind of volatility, but does expose them to a great deal of -- of non-diversifiable risk right now when they're facing, for example, all these environmental challenges.

THE CHAIRPERSON: Could you summarize your -- your argument for diversification from a consumer's perspective?

MR. JONATHAN WALLACH: Well, from a consumer's perspective, what you're buying with diversification is the potential for rate stability, rate stability in the face of -- of dramatic variations in -- in water flows in -- in the province.

And so you may be incurring a higher expected cost for your resource portfolio than if you were to remain concentrated or solely reliant on hydro, but it's -- you're paying an insurance premium and giving your -- giving yourself the -- the -- some assurance of -

- of rate stability over time if something bad happens.

THE CHAIRPERSON: Mr. Wallach, based on what you are aware of, are you confident that the Manitoba Hydro's development plan, which includes the expenditure of say 15 billion plus for new hydro plants, new transmission, ahead of domestic load requirements and funded by borrowings and new export sale commitments, are you confident that that plan will prove beneficial for customers, and beneficial defined as at least maintaining the current, say, export discount off rate?

MR. JONATHAN WALLACH: I'm afraid I'm going to have to plead ignorance in that regard because not having access to the -- to the confidential material, I just -- I -- I'm unable to make an assessment or a judgment as to -- as to the likelihood that -- that the plan will work out as expected.

All I can say is that the company is essentially engaging in asset arbitrage. They're -- they're selling a long-dated forward contract on -- on the expectation and the hope that the -- that the costs to meet the obligations in that long-dated contract are -- turn out to be as they expect them today. And so they're in -- incurring -- you know, they're taking some risk there.

THE CHAIRPERSON: I must admit I expected

that would be -- you had sort of indicated before that the restricted amount of information would affect your ability to provide an opinion on something like that.

But please, once again, could you tell us what would you want to know before you could provide an opinion on that?

MR. JONATHAN WALLACH: Wow. Well, I can tell you what we -- what we asked for on discovery. We asked for the confidential provisions of the -- the new contracts. We asked for the -- the company's forecasts of the costs -- the annual costs associated with their preferred resource plan, as well as the -- the alternative resource plan.

We asked for the discount rate that the company was assuming for the purposes of determining the net present value of each of their resource plans. We -- we asked for the -- the inputs and outputs from the SPLASH model runs used by KPMG to -- to estimate the earnings/losses under various scenarios.

We asked for the assumptions about and the forecasts of market prices, and as well as for the -- the methodology used to determine the market prices for the exports and the imports that were modelled in KPMG's analyses. And I'm sure we asked for a whole lot more than that and all of that, of course, was denied to us.

THE CHAIRPERSON: Mr. Wallach, I think you indicated that the two (2) of you read the independent expert's report.

MR. JONATHAN WALLACH: I -- I did, yes.

THE CHAIRPERSON: Yeah. I don't know whether you read the -- the transcripts from the testimony that they gave. But Dr. Kubursi -- I -- I think I'd say -- I'd -- I'd define it basically as he argued for a faster rate of amortization of -- other than a straight line. In other words, say, for example, the new generation in transmission would have a physical life of sixty (60) years, and the normal accounting approach would be to take roughly 1.67 percent of that asset in for accounting purposes. Dr. Kubursi basically argued that the economical life of an asset, given technological advances at the speed that they have been coming, argued for a -- a speeded-up version of -- of amortization.

Do you have any comment on that? To shorten, in other words, the period of time that it would take to fully amortize the new assets.

MR. JONATHAN WALLACH: I'm going to look over here to Mr. Chernick, who I understand just dealt with this issue in a case in -- in Nova Scotia, and perhaps he'd like to offer his opinion on that.

MR. PAUL CHERNICK: Well, that was a very

different case, since there they were looking at coal plants whose lives, in fact, maybe shortened, and they had some reasonable argument that at least you need to look at that for coal plants. It's hard to see what would affect the -- what would shorten the useful life of the -- the hydro plants.

The -- the other thing that puzzles me a little bit about that recommendation, in -- in terms of the -- the risk issue, is that in general if a utility has a higher depreciation rate, it -- it has appreciation cash flow, it doesn't add to earnings, it gives them more cash on hand; therefore they have to borrow less to -- to build new projects.

So it sounds like the effect would be that customers in the short term would wind up paying for -- customers today would wind up paying for assets that would come online in the future. Customers in the early years of the plant's life would be paying for the -- for the plant in the later years. And I'm not sure why accelerating that -- that payment schedule would be particularly helpful.

THE CHAIRPERSON: Thank you, sir. Do you have any re-direct of your witnesses, Mr. Gange?

MR. WILLIAM GANGE: No, I do not. Thank you, Mr. Chair.

THE CHAIRPERSON: Well, thank you to the witnesses. A very forthright discussion. It certainly assists the understanding of the Board of the many and complex issues that are before us, so we appreciate this day that we've spent with you.

Mr. Peters, I don't imagine that Mr. Hacault and his witnesses are ready to go at this point?

MR. BOB PETERS: No, we -- we had hoped that that could commence tomorrow morning.

THE CHAIRPERSON: Well, I'm sure that no one here will mind having a few hours to do other things too. And so that will bring to a close our hearing today, and we'll look forward to seeing everyone, other than the witnesses, tomorrow at 9:30 again.

And tomorrow -- tomorrow I believe we have MIPUG's witnesses, Mr. Bowman and Ms. McLaren, correct, Mr. Peters?

MR. BOB PETERS: That is correct. Yeah.

THE CHAIRPERSON: Okay. So we stand adjourned. Thank you again.

(PANEL STANDS DOWN)

--- Upon adjourning at 2:49 p.m.

Certified Correct

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Cheryl Lavigne, Ms.