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
Len Evans - Board Member

HELD AT:

Public Utilities Board
400, 330 Portage Avenue
Winnipeg, Manitoba
January 25, 2011
Pages 1893 to 2110

APPEARANCES

Bob Peters		)Board Counsel
Patti Ramage		)Manitoba Hydro
Marla Boyd		)
Byron Williams		)CAC/MSOS
Myfanwy Bowman	(np)	)
Antoine Hacault		)MIPUB
Michael Anderson	(np)	)MKO
William Gange		)RCM/TREE
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Gavin Wood		)Independent Experts

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--- Upon commencing at 9:39 a.m.

THE CHAIRPERSON: Okay. Good morning, everyone.

Mr. Peters...?

MR. BOB PETERS: Thank you, and good morning, Mr. Chairman, Board members, ladies and gentlemen. Just a few housekeeping matters this morning, Mr. Chairman.

The first is I've notified counsel for Manitoba Hydro that as of yesterday afternoon there's been an arrangement to have a presenter, Mr. Art Derry, present to the Board today at 1:15, and the presentation isn't expected to be lengthy.

MANITOBA HYDRO PANEL RESUMED:

VINCE WARDEN, Resumed

DAVID CORMIE, Resumed

HAROLD SURMINSKI, Resumed

CONTINUED CROSS-EXAMINATION BY MR. BOB PETERS:

MR. BOB PETERS: Another housekeeping matter, Mr. Cormie, yesterday you indicated that even if Manitoba Hydro knew in 2006/07 that its energy in storage in all of its reservoirs was running at or about average,

even though Lake Winnipeg was -- was filling up, Hydro didn't control some of the other water sheds, or water reservoirs, that contribute to Manitoba Hydro's generating capacity. Do you remember that discussion?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: One (1) of the points you made was that the Lake of the Woods has its own control mechanisms and body?

MR. DAVID CORMIE: Lake of the Woods, Lac Seul, Rainy Lake, Namakan Lake, and Lake St. Joseph are all regulated by others.

MR. BOB PETERS: And in -- in particular, the Lake of the Woods has its own control board?

MR. DAVID CORMIE: It does.

MR. BOB PETERS: Do you know who -- who sits on that control board?

MR. DAVID CORMIE: There are two (2) representatives of the province of Ontario, one (1) representative from the province of Manitoba, and one (1) representative from the Government of Canada.

MR. BOB PETERS: No representatives from Manitoba Hydro or Ontario Hydro?

MR. DAVID CORMIE: The -- I believe one (1) of the Ontario representatives works for Ontario Power Generation, and the board receives representation

from specific interest groups of whom one (1) is Manitoba Hydro and one (1) is from Ontario Power Generation amongst the many interest groups that are represented before the Board.

MR. BOB PETERS: Is it fair to say that Manitoba Hydro's interests on that control board are represented by the province of Manitoba?

MR. DAVID CORMIE: Manitoba Hydro's interests are one (1) of the many interests that are represented by the board representative for Manitoba.

MR. BOB PETERS: Who else does the -- the Manitoba representative advocate on behalf of ?

MR. DAVID CORMIE: Well, the -- the southwest shore of Lake of the Woods is in the province of Manitoba. The -- there are much cottage development and -- and the like on the Winnipeg River in Manitoba. There's the flood interest all along the river. There's water quality.

The -- the board members don't represent a specific area; this is a -- a representation where they're bound by the legislation to provide, I think the words are 'maximum benefits from regulation', and they're not -- Board members aren't there to represent their particular region.

MR. BOB PETERS: The mandate then of that

Control Board at Lake of the Woods would be to operate Lake of the Woods within prescribed limits?

MR. DAVID CORMIE: Yes, as laid down in the Canadian and Ontario and in International Treaty. Yeah, I'm sorry, Canadian and Ontario legislation, and under the International Treaty.

MR. BOB PETERS: And in addition to regulating the level of that lake there are -- the Board is also to provide river flows for both Manitoba Hydro and Ontario Hydro's generation?

MR. DAVID CORMIE: The hydro power interest is one (1) of many interests.

MR. BOB PETERS: Both Manitoba's and Ontario's?

MR. DAVID CORMIE: Yes, and there are several private power companies as well.

MR. BOB PETERS: In Ontario?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And Manitoba's -- Manitoba Hydro's generating interests, would they be, I don't know, order of magnitude, five (5)/seven (7) times larger than those in Ontario or do you have any handle on that?

MR. DAVID CORMIE: Manitoba's interests are probably twice as large as the Ontario interests.

However, the Board is looking for equity in the treatment of interest, not the -- the -- the big guy on the block doesn't get a -- a preference, Mr. Peters, it's about treating everybody equally.

MR. BOB PETERS: Maybe not equally, but equitably?

MR. DAVID CORMIE: Equitably, yeah. And I think the Board is very happy when everybody feels that they're all being treated as -- in a similar manner.

MR. BOB PETERS: You can confirm to the Board, Mr. Cormie, that in 2006/07, that in ten (10) of the twelve (12) months the Winnipeg River was less than two thirds (2/3) of average flows?

MR. DAVID CORMIE: Yes, and that was the critical concern to us. In the winter of '06/'07 we had near record low flows on the Winnipeg River in spite of reservoir levels being at -- at near average levels. And in spite of our -- our -- our concern, the Utility was not effective in -- in -- in getting higher flows to support its power generation.

MR. BOB PETERS: Where was it not effective?

MR. DAVID CORMIE: Representing -- at -- at -- in discussions with the -- with the Board over the regulation of outflows from Lake of the Woods and Lac

Seul.

MR. BOB PETERS: Because Manitoba Hydro knew in '06/'07 that the Winnipeg River was significantly below average, Manitoba Hydro also knew that the inflows to Lake Winnipeg would be less than average, correct?

MR. DAVID CORMIE: I think that's only fair to say in retrospect, Mr. Peters.

MR. BOB PETERS: All right. Manitoba Hydro wasn't aware of that in real-time?

MR. DAVID CORMIE: We were aware of it day-by-day as the -- as the fall progressed and it -- rainfall was very low.

MR. BOB PETERS: So again, in retrospect, Hydro wouldn't have to have worried about exceeding the upper limit of 715 feet on Lake Winnipeg?

MR. DAVID CORMIE: No, it -- that -- that -- that was absolutely necessary because during the months of April, May and June, inflows that were outside of Manitoba Hydro's control were higher than the outflow capa -- outflow capacity at Jenpeg and Lake Winnipeg was rising. And by the end of July it was approaching the full supply level of Lake Winnipeg.

And so there's absolutely nothing that Manitoba Hydro could have done differently in spite of the fact that precipitation had begun to fall below

average.

MR. BOB PETERS: Mr. Cormie, I think by way of undertaking it would be helpful to the Board if Manitoba Hydro could file hydrographs from 2006/07 for the Winnipeg River at Seven Sisters, the Red River at Lockport, the Saskatchewan River at The Pas, and then also the Lake of the Woods water levels, their inflows and outflow hydrographs.

That would be information Manitoba Hydro would have?

MR. DAVID CORMIE: Yes, we have that.

MR. BOB PETERS: All right. You'd be prepared to file that?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Thank you very much, sir.

--- UNDERTAKING NO. 31: Manitoba Hydro to file hydrographs from 2006/07 for the Winnipeg River at Seven Sisters, the Red River at Lockport, the Saskatchewan River at The Pas, and then also the Lake of the Woods water levels, their inflows,

and outflow hydrographs

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Yesterday, Mr. Cormie, we had a brief discussion about the US tie-line capacity. Do you recall that?

MR. DAVID CORMIE: Yes, I -- somehow we got distracted and we never followed up on that.

MR. BOB PETERS: I got distracted last evening and I tried to work the numbers. Could you -- and the numbers that I -- I took from -- from what you told the Board is that on a quarterly basis the US tie-line capacity is approximately 4,200 gigawatt hours in those three (3) months. Did I interpret that correctly?

MR. DAVID CORMIE: Yes, assuming the scheduling limit is around 1,960 megawatts or thereabouts. Multiply that by eight thousand seven sixty (8,760), and then multiply that by 25 percent you get around 4,300 gigawatt hours.

MR. BOB PETERS: In the book of documents at Tab 35, page 74, in the top right-hand corner, and we're referring to PUB Exhibit 16, if we look on the bottom half of the page we see the US dependable sales, Mr. Cormie, at 5,633 gigawatt hours for the year.

MR. DAVID CORMIE: Which year are you

referring to? Is this page 74, Mr. Peters?

MR. BOB PETERS: Yes, it -- yes, it is, and I was referring to the 2004/05 year.

MR. DAVID CORMIE: Five six three three (5,633); I see that, yes.

MR. BOB PETERS: Those sales would be 100 percent peak sales, Mr. Cormie?

(BRIEF PAUSE)

MR. DAVID CORMIE: I -- I can't say that with a hundred percent certainty, Mr. Peters, but I think that's a fair assumption, yes.

MR. BOB PETERS: Mr. Cormie, were there any other additional on-peak sales in the 2004/05 fiscal year?

MR. DAVID CORMIE: They -- some of the opportunity sales that are shown in the number in the third column, the four thousand seven hundred and ninety-eight (4,798) would have been during the on-peak hours as well, Mr. Peters.

MR. BOB PETERS: Could you just repeat which number you're referring to, please.

MR. DAVID CORMIE: There are two (2) tables there, Mr. Peters. Which table are you referring

to?

MR. BOB PETERS: I was referring to the one at the bottom of the page, which was the US sales.

MR. DAVID CORMIE: Oh, I -- I'm sorry, I was referring to the table above. So 2004/05 there were three thousand two hundred and eighteen (3,218) of opportunity sales to the US. Yes, some of those would be in the on-peak as well.

MR. BOB PETERS: How do you know that?

MR. DAVID CORMIE: Because that's where we sell first, Mr. Peters. We only sell in the off-peak second, so to the extent that there are any off-peak sales, there will be on-peak sales that will take priority because they attract a higher price.

MR. BOB PETERS: Are you able to quantify the amount that you also sold on-peak in -- as opportunity sales to the US in 2004/05, Mr. Cormie?

MR. DAVID CORMIE: I'm sure we can get you that number if we haven't already done so, Mr. Peters.

MR. BOB PETERS: All right. If I'd ask for an undertaking then to quantify the opportun -- the US opportunity sales in 2004/05 that were made on-peak. Is that acceptable, Mr. Cormie?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Thank you, sir.

--- UNDERTAKING NO. 32: Manitoba Hydro to quantify the US opportunity sales in 2004/05 that were made on-peak. And also, for 2005/06, to break down the 13,000 gigawatt hours sold to the US as to what was on-peak and what was off-peak

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: And if we look on that same table and we go down to 2005/06, still looking at the total US sales, when we add up all the US sales in '05/'06 it's about 13,000 gigawatt hours a year, Mr. Cormie.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And what portion of that do you believe would have been on-peak?

MR. DAVID CORMIE: The -- the four thousand and forty-four (4,044) dependable, the major -- the vast majority of that would have been on-peak, and then I would suspect that the majority of the eighty-eight seventy-nine (8879) were off-peak, but I'd have to

find the breakdown of that as well.

MR. BOB PETERS: Then could I add that to the last undertaking, and that is to -- for the year -- also for 2005/06, to break down the 13,000 gigawatt hours sold to the US as to what was on-peak and what was off-peak?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Thank you, sir. I'd like to turn, Mr. Chairman and Board members, to a further retrospective look, and it'll take us back to 2001, 2002, 2003, and 2004.

So in fiscal year 2001/02, Mr. Cormie, Manitoba Hydro started the year with favourable water conditions. Would that be a fair characterization?

(BRIEF PAUSE)

MR. BOB PETERS: If it might assist --

MR. DAVID CORMIE: Are you --

MR. BOB PETERS: -- book of documents 43, page 106.

(BRIEF PAUSE)

MR. DAVID CORMIE: You're referring to

2001/2002, Mr. Peters?

MR. BOB PETERS: Yes, sir.

MR. DAVID CORMIE: Yeah. I don't have specific memories of that. I'd have to look into the records, Mr. Peters.

MR. BOB PETERS: Well, can we look on page 106 at Tab 43, Mr. Cormie, and see that the energy in storage, which I think came from PUB Manitoba Hydro First Round 82E, you were sitting with 9.3 terrawatt hours energy in storage?

MR. DAVID CORMIE: Yes, and Lake Winnipeg was at, from this table, approximately 713.4 feet. I would think that's probably an average starting year.

MR. BOB PETERS: It's probably above average, isn't it, in terms of energy in storage, with the average being closer to 8,000 gigawatt hours?

MR. DAVID CORMIE: I'll -- I'll accept that.

MR. BOB PETERS: And also in 2001/02, Mr. Cormie, it was a high-export year with about 12,300 gigawatt hours of energy sold on export?

MR. DAVID CORMIE: And you're referring to which table now, Mr. Peters?

MR. BOB PETERS: I think that's in CAC/MSOS Manitoba Hydro First Round Question 13D. I'm

not sure I put that in the book of documents, Mr. Cormie. Let me just double-check here.

MR. BYRON WILLIAMS: It's page 74, I think, Mr. Peters.

MR. DAVID CORMIE: Yeah. I'm looking at page 74. The total sales for that year were approximately 12,300 gigawatt hours, so it -- it was a good year, yes.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: And approximately 1,500 gigawatt hours would have been sold in the seven (7) by eight (8). I guess that's overnight sales?

MR. DAVID CORMIE: Can you provide me that reference, Mr. Peters?

MR. BOB PETERS: I was simply doing some math in terms of what wouldn't fit on the seven (7) by sixteen (16), and figured out the rest. That'd probably be overnight.

MR. DAVID CORMIE: How -- I -- I don't see how you're getting that number. If you can point to the exhibit that would show that.

MR. BOB PETERS: All right, I'll come back to that number with you, Mr. Cormie. In that same year, Manitoba Hydro ended up purchasing or importing or

buying back energy in the third and fourth quarter of the year?

MR. DAVID CORMIE: I -- I think, Mr. Peters, 2001/2002 looks like it was very similar to what happened in 2005 and '06, or '06/'07, when Lake Winnipeg reached its peak level of around seven fifteen (715) in the summertime.

And under those circumstances we would have been managing the reservoir releases from Lake Winnipeg in order to avoid going into the flood zone of the lake, and subject to check, that would require very high releases down the Nelson river and -- and there would have been high volumes of off-peak sales early in the year as a result of the flood control activities that Manitoba Hydro was engaged in.

To average it out over the whole year, assuming that somehow we would be able to store water in reservoir storage that we don't have, it's not a -- it's not a conclusion that can be made based on annual numbers.

They have to be looked at under the hydraulic conditions of that year, month by month, week by week, and -- and averaging out over a year doesn't work, the same way that averaging out over a five (5) year period wouldn't work.

That -- you couldn't say that we should have stored water in a flood year for a drought that was coming four (4) years down -- down the road. You can't -- you can't assume that Manitoba Hydro has infinite storage. We just don't.

MR. BOB PETERS: The energy in storage, Mr. Cormie, at year end was reduced down to 6,300 gigawatt hours?

MR. DAVID CORMIE: In the spring of 2003, yes. Yes.

MR. BOB PETERS: That's approximately 1,700 gigawatt hours below average?

MR. DAVID CORMIE: Yes, and if the water conditions were as diverse in that year as I suspect, high water in the -- in the early part of the year, and -- and lower inflows later on.

When inflows are low in the wintertime, more water can be taken out of storage and reservoir storage can be drawn lower than it can be in a -- in a winter when their inflows are high because of the limited outflow capacity of Lake Winnipeg relative to its -- to the inflows.

(BRIEF PAUSE)

MR. BOB PETERS: I'm not sure I understood fully that answer, Mr. Cormie. Hydro drew down the energy in storage to below average at the end of the preceding year?

MR. DAVID CORMIE: Yes. And -- and in low -- in -- in winters when inflows to the lake are low more of the outflow can come from storage.

When inflows are high, most of the outflow capacity out of Lake Winnipeg is used to pass the inflows, and so it's very -- it's not possible to draw a significant amount of water out of storage.

So in high inflow years, there will be a lot of carryover, as there is in this current year. In a low inflow year, like it appears in the year that -- in question that you're talking about, it's -- we are able to go to maximum discharge out of Lake Winnipeg, draw more water out of storage because there's less inflow coming in.

So for a -- for a given outflow, you can pass more water from storage than you can from inflow. Then a high water year, you -- in effect, you could have the lake rise because there's more water coming in than there's outflow capability.

So under higher flow conditions, the reservoir is very ineffective. You can't utilize the

storage. You can't exercise the call on the energy that's in storage. It ends up get -- getting carried over.

It's a -- it's a property of regulating Lake Winnipeg. You've got the winter discharge, barely is able to pass the average inflow under average flow conditions, and under higher flow conditions the lake will actually go up in the wintertime.

MR. BOB PETERS: Mr. Cormie, the -- what was the hydraulic generation in 2001/02? It was about 31,000 gigawatt hours?

MR. DAVID CORMIE: Can you provide a reference for that, Mr. Peters?

MR. BOB PETERS: I only -- I think I took that from one of the annual reports. So subject to check?

MR. DAVID CORMIE: Well, subject to check, yes.

MR. BOB PETERS: And --

MR. DAVID CORMIE: I -- I don't have these numbers in my head, Mr. Peters.

MR. BOB PETERS: No, I -- I appreciate that, sir. The thirty-one thousand (31,000) of hydraulic generation is -- is above average?

MR. DAVID CORMIE: Yes, that would be

above average and probably as a result of high flows early in the year.

(BRIEF PAUSE)

MR. BOB PETERS: That's consistent with selling opportunity on the overnight market?

MR. DAVID CORMIE: Yes, the -- the reservoir releases are under -- high flow conditions are dictated by the flood management requirements in our licence, which -- which re -- results in flows down the river. And hydraulic generation that results from those flows, it's not a -- it's not something that -- that Manitoba Hydro would like to do, it -- we would -- but we're obligated to do.

Release tho -- release that water from storage and -- and then the off-peak sales are a salvage operation where we -- we -- we -- we take that energy to market and get whatever we can for the off-peak energy rather than putting it over to the spilling.

MR. BOB PETERS: All right. Still at Tab 35 of the book of documents, starting '02/'03, Mr. Cormie, Manitoba Hydro had 6,300 gigawatt hours in storage, and that was on, I believe -- sorry, I stand corrected. That was at Tab 43 of the book of documents.

(BRIEF PAUSE)

MR. DAVID CORMIE: Which year are you referring to now, Mr. Peters?

MR. BOB PETERS: '02/'03.

MR. DAVID CORMIE: And which number are you referring to now?

MR. BOB PETERS: Starting the year April the energy in storage in 2002 was 6,300 gigawatt hours?

MR. DAVID CORMIE: Yes, I see that number.

MR. BOB PETERS: And from Tab 35 of the book of documents, Manitoba Hydro sold approximately 9,700 gigawatt hours that year? From page 74, Tab 35.

(BRIEF PAUSE)

MR. DAVID CORMIE: Which table are you referring to on page 74 now?

MR. BOB PETERS: I was looking at the top half of the page, sir.

MR. DAVID CORMIE: And you're -- what are you adding, the sixty-five forty-four (6,544) to the thirty-one ninety-one (3,191)?

MR. BOB PETERS: Yes, sir.

MR. DAVID CORMIE: Thank you. Yes.
MR. BOB PETERS: And of those exports, approximately sixty-five hundred (6,500) was firm or dependable, as you've called it?
MR. DAVID CORMIE: Yes.
MR. BOB PETERS: And the balance, thirty-two hundred (3,200), was it opportunity?
MR. DAVID CORMIE: Yes.
MR. BOB PETERS: And would you conclude that the opportunity included overnight and weekend sales?

(BRIEF PAUSE)

MR. DAVID CORMIE: I'm sure there's -- there's some of that in there, Mr. Peters, but I -- again, I'd have to look at the record.
MR. BOB PETERS: And in terms of importing energy in that year, if we turn to page 76 at Tab 35, Manitoba Hydro imported approximately 3,200 gigawatt hours, sir?
MR. DAVID CORMIE: And which -- which page are you now on, Mr. Peters?
MR. BOB PETERS: Page 76.
MR. DAVID CORMIE: And where's the 3,200

gigawatt hours?

MR. BOB PETERS: It would be the -- the summing of the August '02 through to March '03 information provided in the middle column.

(BRIEF PAUSE)

MR. DAVID CORMIE: Yes, those -- that -- that total looks correct, yes.

MR. BOB PETERS: Probably at an average price around four (4) cents.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And by quarter we -- the Board could break that down and see about 800 gigawatt hours in the third quarter; maybe 1,500 in the second quarter -- or the fourth quarter, sorry, Mr. Cormie.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And would it be correct that Manitoba Hydro reduced the energy in storage at year end by a further 2,100 gigawatt hours down to 4,200 gigawatt hours in total to start the '03/'04 year?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And in 2002/03, the hydraulic generation for that year I noted here was about 2,800 gigawatt hours, perhaps slightly below average. Do

you accept that?

MR. DAVID CORMIE: Not 2,800, no.

MR. BOB PETERS: 28,000. Would you...?

MR. DAVID CORMIE: Okay, I'll -- that sounds reasonable, subject to check.

MR. BOB PETERS: Yeah, thank you for that, Mr. Cormie. I apologize for that.

MR. DAVID CORMIE: The drought was bad but not that bad.

MR. BOB PETERS: Would it be correct to say that the energy in storage was brought down below average by about 3,800 gigawatt hours on a cumulative basis over those two (2) years?

MR. DAVID CORMIE: Yeah, you know, Mr. Peters, you're ref -- keep referring to those energy in storage values. Those are the energy in storage values for all eighteen (18) reservoirs in -- in western Canada, only three (3) of which Manitoba Hydro controls. And the implication of your question is that Manitoba Hydro controlled the draw of all those storage reservoirs down to that level.

It -- it would be more appropriate to use the energy and reservoir storage that Manitoba Hydro controls in drawing your conclusions. I -- so I can't -- I can't say that that -- that was Manitoba Hydro's

responsibility in -- and in -- whi -- which is -- which is really what you're asking me to -- I -- what -- I can tell you that that number is correct, but it's not something that Manitoba Hydro did on its own.

MR. BOB PETERS: Oh, I appreciate your qualifications and I certainly welcome you to make them, sir. And I wasn't trying to imply with my questions; I wanted the facts for the Board, and I think you've provided them, so I appreciate that.

With hindsight you would see that the 3,800 gigawatt hours of energy, that wouldn't be energy that would be available for the '03/'04 year.

MR. DAVID CORMIE: Which 3,800 gigawatt hours?

MR. BOB PETERS: Well, I think we've agreed that Manitoba Hydro's energy in storage was brought down by about 3,800 gigawatt hours on a cumulative basis from 2001/02 as well as 2002/03.

MR. DAVID CORMIE: I -- I -- now, again, Mr. Peters, I would -- would rather draw that conclusion based on the Manitoba Hydro reservoir storage information and not on energy in storage across eighteen (18) reservoirs of which Manitoba Hydro only controls several.

MR. BOB PETERS: And your energy in storage tables talk about all eighteen (18) reservoirs

though, do they not, in terms of energy that's available to Manitoba Hydro?

MR. DAVID CORMIE: Well, we have energy storage tables for different sets of reservoirs, Mr. Peters, but we tend to publish the -- the one for all of them for -- so that there's a broad understanding of how energy in storage across western Canada's being managed, but our responsibility is just for three (3) of them.

MR. BOB PETERS: Are you telling the Board that you have the -- the same data as shown on page 106 at Tab 43 for the three (3) reservoirs that Manitoba Hydro controls?

MR. DAVID CORMIE: Yes, and I think that chart was shown in the rebuttal evidence that Manitoba Hydro filed.

MR. BOB PETERS: All right, we'll check that. Is it one (1) chart with -- or do you do it on an individual reservoir basis?

MR. DAVID CORMIE: No, it's the -- it's the one (1) chart.

MR. ROBERT MAYER: Mr. Cormie, which three (3) reservoirs does Manitoba Hydro control?

MR. DAVID CORMIE: They're Lake Winnipeg, the reservoir behind Grand Rapids at Cedar Lake, and we control the reservoir for the Churchill River diversion,

Southern Indian Lake, and Notigi forebay.

MR. ROBERT MAYER: And we have three (3) big lakes in Manitoba: Winnipegosis and Lake Manitoba. It's my understanding that there's literally only one (1) river that connects the two (2), and that's the Fairford River.

Am I correct?

MR. DAVID CORMIE: Yes.

MR. ROBERT MAYER: Who controls that -- what I'll refer to as candy-ass control structure underneath the bridge on Highway Number 6? Because that, as far as I can determine, appears to be the only control structure on the Fairford River.

MR. DAVID CORMIE: That control structure is operated by the Province of Manitoba and it regulates the outflows from Lake Manitoba. The outflows from Lake Winnipegosis are not controlled; they're still in a natural state.

MR. ROBERT MAYER: But the outflows from Lake Winnipegosis, as I understand it, flow into Lake Manitoba.

MR. DAVID CORMIE: They do, they do, but the outflows from Lake Winnipegosis are still uncontrolled.

MR. ROBERT MAYER: Okay, but that's a

flee -- free-flowing river flowing south of Lake Winnipegosis.

MR. DAVID CORMIE: Yes.

MR. ROBERT MAYER: And -- and you -- it seems to me -- and -- and perhaps you could explain how it is that, just to all intent and purposes, Lake Manitoba is a reservoir, and somebody is in fact controlling that, and it's not Manitoba Hydro, and that strikes me as strange.

MR. DAVID CORMIE: Yes, it is -- it's -- it is true that it's not controlled for power purposes; it's controlled for -- for other purposes by the Province of Manitoba, including flood control and agricultural reasons and -- I'm sure they have their -- their reasons, but hydro power is not -- is not one (1) of them, and they are not responsive to our requests for regulation for power purposes.

MR. ROBERT MAYER: Well, for your information, just about every time I have driven down this year, that control structure has been flowing water through that, underneath the number 6 highway at what I -- looks like full bore.

MR. DAVID CORMIE: Yes, and water conditions in the interlake and up into western Manitoba have been very wet for the last few years, and Lake

Winnipegosis is at some very high levels, so that's a very appropriate observation.

(BRIEF PAUSE)

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Cormie, is the suggestion that you're making to the Board that the energy in storage information that is contained in PUB Manitoba Hydro First Round 82E, that's not accurate in terms of what's available to Manitoba Hydro?

MR. DAVID CORMIE: It's accurate with regard to how much energy is in storage in western Canada; it's not an appropriate indicator of what Manitoba Hydro actually can operate and regulate.

MR. BOB PETERS: But it is energy that is in a reservoir that feeds the Manitoba Hydro generation?

MR. DAVID CORMIE: Yes, and as we talked about in the winter of 2005/2006, the reservoir operators in Ontario, in spite of very low flows, did not draw their storages to -- they -- they maintained the storages at average -- average levels, in spite of Manitoba Hydro's request to have releases. So it's in storage, but it's not something that Manitoba Hydro has access to on a -- on a guaranteed basis the way it does water out

of Cedar Lake or Southern Indian Lake.

MR. BOB PETERS: Manitoba Hydro knows that the reservoirs -- that fifteen (15) other reservoirs are controlled by other parties, correct?

MR. DAVID CORMIE: Right, and we're in constant contact with those reservoir operators to make sure that we're not surprised by their actions.

MR. BOB PETERS: But it sounds like you were surprised, at least on the one (1) occasion that you highlighted.

MR. DAVID CORMIE: Yes, and these reservoirs in Ontario have other purposes besides hydro power, and -- and there are risks associated with that, and we plan around -- we -- we plan around that.

MR. BOB PETERS: How do you plan around it?

MR. DAVID CORMIE: We plan around it by making sure that we're in contact with those reservoir operators and -- and, to the extent that we can influence, we try to, and -- and if they don't provide the water that we would like to see, we have alternate supplies available. And -- and we're always capable of meeting the load but sometimes it costs more than it -- we think it should because of upstream reservoir activities.

MR. BOB PETERS: Is it Manitoba Hydro's suggestion to the Board that the draw-down of the 3,800 gigawatt hours of energy in storage over the two (2) fiscal years 2001/02, 2002/03, was because of the operations of other regulatory bodies?

MR. DAVID CORMIE: Their effects would be included in that number.

MR. BOB PETERS: Can you quantify their effects?

MR. DAVID CORMIE: We can do that.

MR. BOB PETERS: So for the record, you'll undertake to quantify the effects of the energy in storage depletion that are attributable to the actions of the operator's of regulators -- of -- of reservoirs that are not controlled by Manitoba Hydro.

MR. DAVID CORMIE: We can do that.

MR. BOB PETERS: Thank you, sir.

--- UNDERTAKING NO. 33: Manitoba Hydro to quantify the effects of the energy in storage depletion that are attributable to the actions of the operator's of reservoirs that are not controlled by Manitoba Hydro

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: And what you're telling the Board is that it's a significant risk then that these operators of the reservoirs will not act in a manner that is favourable to Manitoba Hydro.

MR. DAVID CORMIE: Yes, and I had indicated that yesterday early in the morning when we talked -- I talked about 70 percent of the water supply is controlled by others.

MR. BOB PETERS: You drew the Board's attention to the data filed at page 106 in the book of documents, Tab 43 of PUB Exhibit 16.

The energy in storage there is shown on a -- I'll call it on a global basis representing all eighteen (18) reservoirs?

MR. DAVID CORMIE: Yeah.

MR. BOB PETERS: Do you have the data, and then for -- for each of the three (3) reservoirs that Manitoba Hydro controls?

MR. DAVID CORMIE: Yes, and that's what's represented on page 81 of Manitoba Hydro's rebuttal evidence.

MR. BOB PETERS: And page 81 is a chart that Manitoba Hydro overlays Lake Winnipeg, Cedar Lake, and Southern Indian Lake reservoirs and energy in

storage?

MR. DAVID CORMIE: yes.

MR. BOB PETERS: What is the graph attempting to depict with a lot of the lines in the background? Those are the other reservoirs that Manitoba Hydro doesn't control?

MR. DAVID CORMIE: No, Mr. Peters. This is a chart that shows for each year starting in 1977 when Manitoba Hydro began controlling the outflows from Lake Winnipeg and the Churchill River Diversion.

So these are the years of history of the operation of those three (3) reservoirs, and for every day of the year for each of those years what the energy in storage was at -- on that day.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Cormie, we're just debating amongst ourselves here whether or not it would be meaningful to provide a breakdown of the three (3) reservoirs that are controlled by Manitoba Hydro for the energy in storage for each of the years as depicted on page 106 of the book of documents.

That would be data you would have available?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Could we then ask for those data points for each of the years shown in the document at Tab 43, page 106, to provide the data points separately for each of the three (3) reservoirs controlled by Manitoba Hydro?

(BRIEF PAUSE)

MR. DAVID CORMIE: You're asking for the ten thousand (10,000) points for each reservoir? Is that what you're asking?

MR. BOB PETERS: No, no, not at all.

MR. DAVID CORMIE: So what are -- what are you --

MR. BOB PETERS: I was asking for the annual -- the same as depicted in this schedule.

MR. DAVID CORMIE: Well, there's one (1) data point for every day of the year, Mr. Peters, so there's three hundred and sixty-five (365) points for thirty-five (35) years for three (3) reservoirs.

I'm -- so I just want to know whether you want pages and pages of numbers, or what -- that's why we show it in a graph, Mr. Peters, so that it's -- you can see it all.

MR. BOB PETERS: And I wondered if you could provide it -- you'll see on page 106, Mr. Cormie, you'll see that one (1) of the dates picked is the first of April --

MR. DAVID CORMIE: We can provide it on the first of April, yes.

MR. BOB PETERS: And another one (1) would be the peak day. Would you be able to ascertain from looking at your graph what the peak day was?

MR. DAVID CORMIE: Yes, we can do that.

MR. BOB PETERS: And then likewise in October, which I take it is your -- the month after which you consider freeze up, I guess, comes along and takes the precipitation away from inflows?

MR. DAVID CORMIE: Would you -- do you want that the November 1st date, Mr. Peters?

MR. BOB PETERS: The October 31st date would be -- or November 1st would be fine.

MR. DAVID CORMIE: Okay. We'll do that.

MR. BOB PETERS: Would -- would that -- you can pull those dates?

MR. DAVID CORMIE: Yeah, and I think that will be much easier to understand than thousands and thousands of numbers, yeah.

MR. BOB PETERS: Thank you, Mr. Cormie.

(BRIEF PAUSE)

MR. BOB PETERS: Yes, Mr. Cormie, for the transcript, Manitoba Hydro has agreed to provide a chart comparable to that on page 106 of Tab 43 of the book of documents, setting out the April 1st, the peak day, and the October 31st levels of energy in storage on the three (3) rese -- three (3) reservoirs, namely Lake Winnipeg, Cedar Lake, and Southern Indian Lake that are controlled by Manitoba Hydro.

(BRIEF PAUSE)

MR. BOB PETERS: Is that acceptable, Ms. Boyd and Mr. Cormie?

MR. DAVID CORMIE: Yes, we understand what is required.

--- UNDERTAKING NO. 34: Manitoba Hydro to provide a chart comparable to that on page 106 of Tab 43 of the book of documents, setting out the April 1st, the peak day, and the October 31st levels of energy in storage

on the three (3) reservoirs, namely Lake Winnipeg, Cedar Lake, and Southern Indian Lake that are controlled by Manitoba Hydro

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: All right. I was just putting it on the record again, Mr. Cormie, for ease of location. Mr. Cormie, are there -- you've talked about the operating parameters for Lake Winnipeg. Are there specific operating parameters for Cedar Lake and Southern Indian Lake that Manitoba Hydro has to be mindful of?

MR. DAVID CORMIE: Yes, there are. Each project has its own Water Power Act licence, and the licence prescribes certain actions that Manitoba Hydro must undertake when water levels get to certain threshold points. The -- the critical ones from the perspective of public safety and -- mainly it's a public safety issue. It has to do with operation under flood conditions.

MR. BOB PETERS: You've provided the Board with a very brief summary of the licensing requirements relative to Lake Winnipeg, Mr. Cormie. Can you do the same for Cedar Lake and Southern Indian Lake, either in writing as an undertaking or on the transcript

now?

MR. DAVID CORMIE: Well, I'll -- I'll do it verbally, Mr. Peters.

MR. BOB PETERS: Certainly.

MR. DAVID CORMIE: Southern Indian Lake has a -- a regulated range in which outflows can be operated for the purposes of Manitoba Hydro's sole interest. However, when the -- when the lake level rises above the upper storage level Manitoba Hydro's required to go to maximum discharge at the control structure at Missi Falls.

And again, Missi Falls is normally operated at a very low flow and -- and good utility practice and -- and professional practice is that you don't wait until the water level of the lake actually reaches the full supply level before you increase outflows. And so a buffer is maintained on Southern Indian Lake below the full supply level to allow for a -- a gradual transition from -- of -- of outflows from those that would normally occur up to the maximum flow. And --

MR. BOB PETERS: Could you -- could you provide -- before you go on to the Cedar Lake, can you indicate what that upper storage level is and where it is Manitoba Hydro start its buffer?

MR. DAVID CORMIE: Very similar to Lake

Winnipeg. There's a 3 inch buffer. Under the terms of the licence and under the augmented flow programs that Manitoba Hydro has with the province, under its interim licence, the fully supply level of Southern Indian Lake is at eight forty-seven and a half (847 1/2), and -- and the top 3 inches or thereabouts is used to transition up to that maximum discharge. Southern Indian --

MR. BOB PETERS: Just -- just -- oh, I'm sorry. I want to before -- can I interrupt, Mr. Cormie on -- can you explain to the Board when you're transitioning in this buffer zone, is it a question of zero discharge versus full discharge or is it a gradient somewhere in -- you know, in-between those two (2)?

MR. DAVID CORMIE: Well, we -- generally when we get to the -- to the operating maximum, which is the start of the buffer zone, you would -- you would want to be passing -- the outflow should be set to the inflow, and -- so that at that point you're passing inflows. And -- and what you've prepared yourself for is a sudden rainfall event of 3 inches that would cause the lake to jump from the -- its current level up by that 3 inch amount.

If that were to occur, the licence would require you to immediately open the dam to avoid the level -- or to get the level back down below the maximum

level. And so that the -- the buffer in the top of the reservoir is used to ensure that sudden outflow changes are not necessary. And at times when -- when rainfall events of greater than 3 inches occur and cause sudden levels of changes, we will then communicate with the water stewardship and seek a variance of the licence to avoid having to opening -- open the dam suddenly and cause safety issues for those users of the river downstream. And there will be a -- there will be a period of grace given to -- to en -- so that Manitoba Hydro can notify those users of the river downstream that significantly higher river flows are on their way.

MR. BOB PETERS: You were going to put Cedar Lake information on the record as well.

MR. DAVID CORMIE: Yes, Cedar Lake has a full supply level of 842 feet. And similar to Lake Winnipeg and -- and Southern Indian Lake, there is a buffer maintained at the top of the operating range so that we don't have to suddenly open the spillway in order to maintain control of reservoir levels.

Grand Rapids is especially sensitive to Manitoba Hydro because the river downstream of the spillway is a dry riverbed and we need to be very, very cautious in our reservoir operations near the top of the operating range because there's a community of several

thousand people downstream who actively use the dry riverbed -- dry riverbed. And -- and so what -- what this means, Mr. Peters, although we would like to have all this reservoir storage space available for -- for power production purchases, prudent operation requires that as we -- as we get to the full supply level that -- that we transition from an energy management perspective into a water management and flood management perspective, given the community concerns and the potential for risk to the public.

MR. BOB PETERS: Is the buffer on Southern -- on Cedar Lake also this 3 inch number?

MR. DAVID CORMIE: It -- it's approximately that number, Mr. Peters, and the buffer is really dependant upon -- on the -- on the flow conditions. If -- if the reservoir is full and inflows are very low, we have much more flexibility in being able to manage sudden flow changes by just increasing generation. However, if the reservoir inflows are high and they exceed the generating station capacity, that means our only action to respond to sudden changes in water supply is to open the spillway, and -- and that's the risk that we're trying to manage.

MR. BOB PETERS: Is the buffer also wind affected?

MR. DAVID CORMIE: The buffer is -- it's a wind eliminated level, and -- and wind elimination requires several days of information before you can actually know what the wind eliminated level is. For example, we talked about the level of Lake Winnipeg yesterday, about the 714.6 foot elevation. We wouldn't know the 714.6 elevation until probably a week after the fact when all the wind effects can be removed.

So it's not an elevation that you know in real-time. You -- you have to wait for the data. There's a smoothing process that removes the effects of wind, and that adds to the difficulty of managing the reservoir at the full supply level.

MR. ROBERT MAYER: Mr. Cormie, you mentioned putting the water through the generators at Grand Rapids, and it came to my attention, and I brought it to Mr. Buhr's attention, that in your reports Grand Rapids appears to be producing less power than Seven Sisters in terms of the percentage of hydro power generated, which didn't make any sense to me in light of the fact that it has about three (3) times the capacity of Seven Sisters.

I'm informed that, in fact, very little power is actually generated out of Grand Rapids and I'd be interested in knowing why.

MR. DAVID CORMIE: Mr. -- Mr. Mayer, in a -- in a median water year, Grand Rapids will generate around 1,400 gigawatt hours; Seven Sisters will generate around 1,100 gigawatt hours. The head at -- at Seven Sisters is around 60 feet. The head at Grand Rapids is twice that: it's about 125 to 130 feet. The average flow on the Winnipeg River is around 33,000 cubic feet per second; the average flow of the Saskatchewan River is about twenty-two (22).

So it's a function of head and flow and the efficiency of the turbines, but -- but Seven Sisters is a smaller plant, both in energy production and in -- in head.

MR. ROBERT MAYER: But the rated capacities are significantly different.

MR. DAVID CORMIE: That's correct, Mr. Peters (sic). We have -- the capacity factor, which is the ratio of the installed capacity to the average production at Grand Rapids is very low. So there's -- there's extra capacity installed at that station, designed as a -- as a -- truly as a really peaking plant, something you can bring all -- as much energy, all 500 megawatts to market at the -- during peak periods.

Seven Sisters has a much higher capacity factor, probably in the order of 80 percent compared to

30 percent or thereabouts for Grand Rapids.

(BRIEF PAUSE)

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Cormie, try to clarify one (1) last point on that. Is the size of the buffer dependent on the amount of the inflows?

MR. DAVID CORMIE: Yes, it is, Mr. Peters. If the -- and as I explained, if the -- if the inflows are -- are -- are low and the -- and the -- the action to respond to a sudden increase in inflows is to increase generation at -- at -- at the station at Grand Rapids, less of a buffer, the -- the 3 inches would be appropriate.

If the -- if the inflows are high and we're already at full output at the generating station, and the response to a sudden change in inflows is to open the spillway, we will require a higher buffer, and again, this is -- this is -- those 3 inches are -- are -- are the minimums that -- that -- that we have accepted as a -- as prudent.

(BRIEF PAUSE)

MR. BOB PETERS: I'd like to move to the next fiscal year, 2003/04, Mr. Cormie. Manitoba Hydro started that year with 4,200 gigawatt hours in storage as of April 1st of 2003?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And you see that on page 102 of Tab 43 of the book of documents?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Manitoba Hydro also knew in that year that it would need approximately 28,000 gigawatt hours of energy to serve its domestic and firm exports for that year?

(BRIEF PAUSE)

MR. DAVID CORMIE: The firm load in 2003/04 was 27.8 terawatt hours, almost 28 terawatt hours, Mr. Peters, yeah.

MR. BOB PETERS: Is it also correct that starting in April of 2003, Manitoba Hydro knew that its inflows would be low?

MR. DAVID CORMIE: No, that's not correct, Mr. Peters. We knew that there was a -- a risk that inflows would be low that year, but like happened last year when inflow conditions were very similar, in

the vast majority of -- of the time the spring rains will come after April the first and the -- the risk of drought will evaporate.

The -- what we -- what we were concerned about though is not that -- not that it -- not there would, but -- but if there were to be a drought did we have adequate resources available, and -- and worrying about, and managing for the worst case, was what was driving our activities, not knowledge of there -- that there would be a -- a drought, just that there is -- had the potential, and the potential was increased because of the snow pack conditions at that time.

MR. BOB PETERS: The snow pack conditions, as you're telling the Board, is there was low snow or very little snow back then?

MR. DAVID CORMIE: Yes. The same snow pack conditions we had in the spring of -- of this year, 2010.

MR. BOB PETERS: And in saying -- maybe I was being to definitive.

Manitoba Hydro didn't know that the inflows would be low, but you feared the inflows would be low and you were managing to that level.

MR. DAVID CORMIE: Yes, as we do each year. As we go into the spring, we protect against the

possibility of a drought, and it's only once the -- the spring rains come in -- in April, May, and June that -- that the water supply for the year is known.

It's -- it's not known in April, and the snow pack is only one (1) of the factors that could contribute to a dry year.

MR. BOB PETERS: Well, in terms of other factors, there was -- low rains would be another one (1)?

MR. DAVID CORMIE: Yes, the failure of the -- of the spring rains was a -- is -- I think that is the most significant factor, and we don't -- we don't know that until we actually experience it day by day.

And -- and our response then is -- is gradual -- a gradual implementation of a conservation strategy.

MR. BOB PETERS: When you say a gradual implementation, are -- Manitoba Hydro is assuming average flows for the balance of the year until -- until otherwise indicated?

MR. DAVID CORMIE: No, Mr. Peters. We -- we make the assumption each spring that -- that drought is possible and we make our plans accordingly.

And those plans may become mute (sic) as they did on May the 22nd last year when we had monsoon

like rains across western Canada.

MR. BOB PETERS: Back in 2003/04 you engaged Risk Advisory, who are risk consultants from Calgary, in about January of 2003, is that correct?

(BRIEF PAUSE)

MR. DAVID CORMIE: We -- we had them engaged for several assignments during that period. I -- I -- subject to check, I'll accept that, yes.

MR. BOB PETERS: They provided Manitoba Hydro with a report that was filed in April of 2003?

(BRIEF PAUSE)

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Would it be fair to say that Manitoba Hydro was quite concerned that their storage levels were -- were too low for the year?

MR. DAVID CORMIE: I don't believe that was the cause of our hiring Risk Advisory though, Mr. Peters.

MR. BOB PETERS: What was the cause of hiring then?

MR. DAVID CORMIE: Do you have a

reference for that report?

MR. BOB PETERS: Attached to a letter from Ms. Ramage. It's ex -- it's Exhibit -- if I guessed I'd say it's ex -- Manitoba Hydro Exhibit 13. We'll have to check.

(BRIEF PAUSE)

MS. MARLA BOYD: Mr. Peters, are you suggesting it's an exhibit in this proceeding?

MR. BOB PETERS: Yes, I think so. Sorry, it might be Manitoba Hydro Exhibit 3-1C.

(BRIEF PAUSE)

MR. BOB PETERS: There's another one at Appendix 74, Ms. Boyd. I don't know if it's the same one or not. It's a Risk Advisory report in January. I was looking for the April report, which I think was the earlier exhibit number.

THE CHAIRPERSON: Mr. Peters, maybe it would be wise to take the break now.

MR. BOB PETERS: Certainly. We could do that, sir.

--- Upon recessing at 10:44 a.m.
--- Upon resuming at 11:12 a.m.

THE CHAIRPERSON: Okay. Thank you, everyone. Mr. Peters...?

MR. BOB PETERS: Yes, sir.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Cormie, before the recess we were talking about Manitoba Hydro's engagement of Risk Advisory, they are risk consultants from Calgary, Alberta?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And I think one (1) of your answers was that Manitoba Hydro had them under a retainer for various projects, if I understood your answer?

MR. DAVID CORMIE: Yes, both in the electric and the gas side of the business they -- they've worked for the Company, yes.

MR. BOB PETERS: And in January of 2003 they were working for both the gas and -- working for both the gas and the electric side of the business?

MR. DAVID CORMIE: I -- I'm not sure whether they were under contract with Centra at that

time.

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

MR. DAVID CORMIE: But they were under contract with Manitoba Hydro Electrics, yes.

MR. BOB PETERS: What was their assignment or assignments on the electric side, sir?

MR. DAVID CORMIE: We engaged them, having met with them in November of 2002, to talk about the evolving marketplace and the new risks that Manitoba Hydro were exposed to as a result of its activities in the wholesale power markets.

And up to that time the major risk that -- that the Company had, and it still has, is the volume risk, but that risk was now becoming compounded by other rick -- risks associated with -- with market price, credit, and natural gas risk.

We had just put in combustion turbines at -- at Brandon. The electric side was now exposed to managing the risk of fuel procurement for the combustion turbines. Natural gas very -- was very volatile, and we had the price risk in the coal markets, and we had weather risk.

And we wanted to -- to meet with them to help us determine how to appropriately measure the combined risk of all those activities to assist us with

the instruments that might be available to manage the financial risk in the marketplace and get a good understanding of -- of best practices in that area.

MR. BOB PETERS: And how many reports do you recall Risk Advisory preparing, sir, for the electric side of the business?

MS. MARLA BOYD: Is there a time frame on that, Mr. Peters?

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Well, was the first engagement, Mr. Cormie, November 2002 on the electric side?

MR. DAVID CORMIE: Yes, and they issued their preliminary report in January of 2003, in which they made several suggestions for follow-up.

MR. BOB PETERS: And in addition to the January '03 report they filed their final report April of 2003?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And have we confirmed --

MS. MARLA BOYD: Maybe we could just clarify here. The -- the report that Manitoba Hydro presents at appa -- Attachment 6 of Appendix 74 is a report dated January 17th of 2003. I don't believe that

there's a final version. I -- I appreciate Mr. Buhr has provided us with a copy of a report with a different date that's filed in a previous proceeding, but it's not part of this proceeding. So the report that Manitoba Hydro relies on at this point is the January 17th, 2003 report.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Cormie, how many reports did Risk Advisory provide for the electric side of the business after November 2nd of -- after November of 2002?

MR. DAVID CORMIE: There were two (2) additional reports.

MR. BOB PETERS: Can you give me the dates of all the Risk Advisory reports, please, sir?

(BRIEF PAUSE)

MR. DAVID CORMIE: The -- the first report subsequent to the 2003 report is the one that's in Tab 13 of Manitoba Hydro's filing, and that's dated January the 18th, 2005. And that was a review of the 200 -- or 2002/2004 drought risk management review, and that was the review that Hydro commissioned in the spring of -- - of 2004 after the drought was over, and that was

subsequently filed with the Public Utility Board.

And the second report was dated May the 25th, 2005. And that report was dealing with the trading and risk management organizational structure in the Power Sales and Operations Division.

(BRIEF PAUSE)

MR. DAVID CORMIE: That's Appendix 74, Attachment 1.

MR. BOB PETERS: That report that you just referenced was dealing with the design and the operation of a middle office, Mr. Cormie?

MR. DAVID CORMIE: No, it -- it's focus was mainly on looking at both Centra's activity in the markets and Manitoba Hydro electric side activity in the markets. And our -- our assignment to them was is there an organizational structure that could accommodate both organizations in one, and that -- that's what they were -- they were looking at.

And in addition to that, they -- they did then go on to talk about constructing a front, middle, back office relationship consistent with best practices in the organization.

MR. BOB PETERS: All right, so you've --

you've given us the January 18th of 2005 report. You've also referenced the May 25th, 2005 report, and there were two (2) other reports, correct? January of 2003 and April of 2003?

MR. DAVID CORMIE: Well, the -- yeah. We'd -- we'd already talked about the January 17th, 2003 report, which was filed in final form in April.

MR. BOB PETERS: All right. And your counsel suggests that the April 2003 report has not been filed with the Board, is that correct?

MS. MARLA BOYD: In this proceeding. It's been filed with the Board, just not in this proceeding, and in the moments that we've had, we haven't compared the two (2). They appear to be very similar, the font is somewhat different, so I can't comment on the differences between them, but for the purposes of this proceeding the material before the Board is the January 17th, 2003 report.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: And, Mr. Cormie, you'll undertake to file the April 2003 report from Risk Advisory in these proceedings?

MR. DAVID CORMIE: Yes.

--- UNDERTAKING NO. 35: Manitoba Hydro to file the April 2003 report from Risk Advisory

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: So let's get back to their engagement in -- for the January '03 and the April '03 reports. Would it be correct to say that Risk Advisory was going to develop a hedging strategy to assist Manitoba Hydro with the sales in 2003/04?

MR. DAVID CORMIE: No, that wasn't the assignment for 2003/04. That really was not part of the -- the assignment. What we were looking at was -- initially was we needed to measure the risks and the development of an appropriate tool that would allow us to measure the combined risk of all the factors that I previously spoke of in a single -- in a single computer model.

MR. BOB PETERS: In the spring of 2003, Mr. Cormie, Manitoba Hydro had sold -- according to page 74 at Tab 35 of the book of documents, it had committed itself to sell throughout the summer, correct?

MR. DAVID CORMIE: Can you provide that reference again?

MR. BOB PETERS: Yes. If you can look at

Tab 35 of the book of documents, the first page is labelled, top right-hand corner, number seventy-four (74). And if I look at the '03/'04 fiscal year, Manitoba Hydro's dependable sales total that year were 6,231 gigawatt hours?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And what did that dependable number include, Mr. Cormie?

MR. DAVID CORMIE: That -- that included all the existing commitments that Manitoba Hydro had under its long-term dependable sales contracts.

MR. BOB PETERS: Was it only the long-term dependable sales contracts that's depicted there, sir?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: There were no summer sales?

MR. DAVID CORMIE: To the extent there were -- would have been any summer sales, they would have been opportunity sales, Mr. Peters.

MR. BOB PETERS: And we see that there were 735 gigawatt hours of opportunity sales in that year as well?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And that would have been

where the summer sales would have been included?

MR. DAVID CORMIE: I don't believe there were any term sales, Mr. Peters, but there would have been some arbitrage opportunities on a daily basis that Manitoba Hydro undertook and made a profit at.

MR. BOB PETERS: All right. So the 6,231 gigawatt hours was all long-term dependable, committed long-term contracts?

MR. DAVID CORMIE: Yes, and as we'd talked about yesterday, given the -- the potential for a poor outlook entering into additional longer-term seasonal transactions is not something that we undertook at that time. It just -- it just was not appropriate, and it wasn't under -- they weren't undertaken, but that doesn't mean that on a daily basis there may not have been some opportunities in the Day-Ahead or the Real-Time markets, and over the year they would have resulted in that 735 gigawatt hours of transactions.

MR. BOB PETERS: Sorry, when you say arbitrage opportunities, you're -- you're selling into a market and then buying back? Is that what you're indicating is the arbitrage?

MR. DAVID CORMIE: Well, we may have been able to buy power from one (1) market and sell it to another, and -- and -- and that would have generated the

735 gigawatt hours of sales.

MR. BOB PETERS: Would this be a physical arrangement? You physically bought --

MR. DAVID CORMIE: Yes. Yes, yes.

MR. BOB PETERS: -- in one (1) market and then physically sold into a separate market?

MR. DAVID CORMIE: Yes, and then -- and I indicated that, I think last week, where you couldn't be --because Manitoba Hydro can buy from say a company in Saskatchewan and sell it to a company in -- in Minnesota. That would have been an arbitrage from one (1) market to the other.

They -- they would not have been mer -- a merchant transaction, but it -- it would have been similar to a merchant transaction.

MR. BOB PETERS: That answer included some Canadian content, Mr. Cormie. Are you suggesting that these opportunity sales then related to Canadian transactions?

MR. DAVID CORMIE: I think if you look at the table on page 74, Mr. Peters, you'll see that the total is 735 gigawatt hours of which five hundred seventy (570) -- five hundred seven (507) were -- were sold in the US.

So the majority of the sales were sunk

into the US, but the purchases to support those may have been from a Canadian company.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Cormie, can you or Mr. Surminski just help me tabulate then the dependable energy in 2003/04. The hydraulic dependable energy, how much was that, Mr. Surminski, do you know?

MS. HAROLD SURMINSKI: It would be just over 21,000 gigawatt hours.

MR. BOB PETERS: All right. And what source are you relying on?

MS. HAROLD SURMINSKI: You can compare it to any of the current dependable energies. We -- we did not modify dependable energy. We just have a -- a gradual depletion.

For depletion of water of 10 or 15 gigawatt hours, so it's not greatly different in 2003 compared to what it is today.

MR. BOB PETERS: All right. Would -- what -- what would be your thermal dependable energy then back in '03/'04?

MS. HAROLD SURMINSKI: That's a more difficult -- more difficult question. I -- you know, I'd

have to compare it to, or have to have the -- the resource plan for that year to give you the specifics.

It would not be greatly different. The combustion turbines were in service, so it wouldn't be greatly different than it is today.

MR. BOB PETERS: I wonder if you could file that one (1) page from the power resource plan that provides the -- the summary of that for 2003/04, Mr. Surminski? Would that be possible?

MS. HAROLD SURMINSKI: Yes. Either the --the actual table or -- or an extraction of it because we did not prepare public versions of the resource plan in that year.

MR. BOB PETERS: Was there a reason there was not a public version?

MS. HAROLD SURMINSKI: It was never requested.

MR. BOB PETERS: So the version you have you're telling -- is the --is the internal verison? You do one (1) every year anyway, don't you?

MS. HAROLD SURMINSKI: Yes, we do internal versions, but there is confidential material in that --

MR. BOB PETERS: Okay, I -- then certainly if you could undertake to provide either the --

the summary table that I had so courteously enlarged for you yesterday, or -- or a summary of that so there's no confidential information disclosed, that would be acceptable, sir.

MS. HAROLD SURMINSKI: Yes, I'll -- I can do that.

MR. BOB PETERS: And that would be for the 2003/04 year?

MS. HAROLD SURMINSKI: Yes.

MR. BOB PETERS: Okay. Thank you.

--- UNDERTAKING NO. 36: Manitoba Hydro to file one (1) page from the power resource plan that provides the summary of dependable resources for 2003/04

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Do you know what the total dependable energy was for that year, or would you have to check that chart to get that, Mr. Surminski?

MS. HAROLD SURMINSKI: I would require the plan, yes.

MR. BOB PETERS: In 2003/04, Mr. Cormie, Manitoba Hydro purchased or bought back about 2,500

gigawatt hours of energy, and I'm looking at the book of documents 35, page 76. And if we look at the months in the '03/'04 year.

MR. DAVID CORMIE: Yes, I take your word that that's what the sum is, yes.

MR. BOB PETERS: And the distinction on this chart provided at book of documents page 76, which is a response to PUB Manitoba Hydro Risk 115C, Manitoba Hydro is showing the buy-backs, and the buy-backs are financial settlements.

Is that how the Board should interpret this chart, sir?

MR. DAVID CORMIE: No, they're not what we consider a financial settlement. The -- it is a -- a matching physical purchase that matches the sale that Manitoba Hydro has. So there -- there are actually two (2) transactions. One (1) is a sale of a -- of a certain megawatts and there is a -- a purchase that has the -- the identical volume associated with it. So the net change -- the -- the -- the net energy transaction goes to zero, but there is a -- there is a -- there's a purchase and a sale and -- but no physical delivery is required because there's a match between the physical schedules.

And -- as opposed to the -- the -- the

current financial transactions where there are no physical transactions involved. This is -- it becomes a -- a purely financial arrangement with -- and those are the arrangements that are now possible in the marketplace.

MR. BOB PETERS: Thank you for that clarification. What you're telling the Board is back in 2003/04, you had to physically purchase the energy and sell it. Manitoba Hydro had to purchase the energy and sell it to the counterparty that it had an agreement with?

MR. DAVID CORMIE: Yes, and -- and a -- and -- and the buybacks are when the -- the -- the seller, the -- the company that Manitoba Hydro has bought from is the same company that it has -- it has sold the energy to.

So the counterparty is the exact -- is the same in both the buy and the sell.

MR. BOB PETERS: And the price was greater on the buybacks than it was on the initial -- the initial sales. Would that be correct?

(BRIEF PAUSE)

MR. DAVID CORMIE: I -- I think that's a

fair assessment, yes.

MR. BOB PETERS: The purchase on the buybacks was -- wasn't done by the counterparty at first instance, it was done by Manitoba Hydro who purchased it from the counterparty and then sold it to the counterparty, Mr. Cormie?

MR. DAVID CORMIE: Well, the -- the sale would -- would -- was a sale that was made years in advance under a long-term sale contract. The buyback occurred in 2003 as the least expensive way of -- of -- of -- of fulfilling the transaction.

Manitoba Hydro's alternative would be to run its combustion turbines at -- at Brandon and pay a 40 percent premium in order to deliver the energy that it had sold. And so going to the customer and making an arrangement was the -- the -- was -- was the -- fuel buyback arrangement was less expensive than the alternative of -- of -- of running our combustion turbines.

MR. BOB PETERS: Would the least expensive option have been not to deliver the energy at all under the contract?

MR. DAVID CORMIE: No.

MR. BOB PETERS: Was that an option under the contract?

MR. DAVID CORMIE: No.

MR. BOB PETERS: There was no provision for Manitoba Hydro to not deliver in the year of the drought?

MR. DAVID CORMIE: No. Manitoba Hydro -- the -- the -- there was no risk to the Manitoba load. We were not in a position where we could exercise our curtailment rights. The river flows were well within the -- the historical range under which we entered into the transaction. We had generation at -- at Brandon. The combustion turbines were sitting idle. They could have been run. And so there was no cause to exercise any curtailment provisions.

(BRIEF PAUSE)

MR. DAVID CORMIE: Financial reasons or -- or economic reasons are not reasons for curtailment, Mr. Peters.

MR. BOB PETERS: I'm sorry, I missed that last answer, sir.

MR. DAVID CORMIE: Financial reasons or -- or economic hardship or what -- whatever you want are -- are not reasons for curtailment of long-term firm contracts. Customers are contracting at a fixed price in

order to manage their financial risk. And if in effect Manitoba Hydro could walk away under a situation where it became no longer attractive to continue delivering, then the customer would be exposed to market prices, and that was the original reason that they entered into the long-term fixed price purchase from Manitoba Hydro, to manage their financial risk.

That's why I say the economic -- economic reasons are not reasons for curtailment. And that -- that would -- that applies when our transactions are seen from the perspect -- from their perspective.

We're currently selling electricity to our customers at long-term contract prices that are at least 50 percent above the market price, and our con -- companies -- our -- our customers don't come to Manitoba Hydro and say, you know, This is not working out for us. Economic reasons apply -- curtailment reasons don't apply to either party depending on what market prices are doing in the short-term.

MR. BOB PETERS: Mr. Cormie, on page 74 at Tab 35 you identified the 6,231 gigawatt hours of dependable sales in '03/'04. I had understood your previous answer to suggest those were all pursuant to long-term contract arrangements.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Does it also follow that they were also all fixed-price arrangements?

(BRIEF PAUSE)

MR. DAVID CORMIE: Mr. Peters, there are some contracts at that time that are -- that are cost-based that would be part of that mix, but the vast majority of the energy that was sold that year were at fixed prices.

MR. BOB PETERS: I'm sorry, I was wa -- then -- then explain to the Board, if you could, the portion of those 6,231 gigawatt hours that were sold as depen -- from dependable resources in '03/'04 that were not pursuant to a fixed price. Can you explain the nature of those transactions?

MR. DAVID CORMIE: Well, under -- under some contracts there is a pricing formula that -- that sets the price rather than a fixed price that's prescribed in advance. Manitoba Hydro is able to charge the incremental cost of -- of providing the energy, and at that time there were some contracts that had those provisions in there.

MR. BOB PETERS: Can the Board take your last answer as suggesting that there's no market

component in that 6,231 gigawatt hours, no market component of pricing for those sales?

MR. DAVID CORMIE: Well, to the extent that -- that Manitoba Hydro may be able to purchase at market price, that becomes the cost of supply and that cost of supply is then transferred back to the company through the pricing mechanism. So to some extent, the market price can flow back to the -- to the customer.

MR. BOB PETERS: Well, while the market price can flow back, it's not priced according to the market in the contract is what you're telling the Board.

MR. DAVID CORMIE: No, it's Manitoba Hydro's incremental cost of supplying it, and there's a formula that covers those -- determines those costs, and some of that cost may be the cost of Manitoba Hydro purchasing that energy.

MR. BOB PETERS: But you wouldn't know that in advance when you signed the contract. You wouldn't know if you'd be buying it at market and then reselling it.

MR. DAVID CORMIE: Well, the nature of these contracts -- it's at a hundred -- it -- if our cost is market, the nature of these contracts is that we sell it back to them at 110 percent cost, so, in effect, it's market-based but it's at a profit; the profit is the --

is the 110 percent.

MR. BOB PETERS: Mr. Cormie, if we step back from the '03/'04 year, can you explain to the Board what -- what lessons, if there were any, that were learned and to be learned in that time frame in managing a drought in Manitoba?

(BRIEF PAUSE)

MR. DAVID CORMIE: The -- the -- Manitoba Hydro, through its integrated financial forecasting process, had identified that drought had always been its largest single financial risk and -- and, as part of the IFF process, we -- we clearly identify what the cost of drought can be in each of the years of the forecast.

What happened was that we were going through a -- a very rapid period of change in the marketplace where natural gas prices went from, you know, I think in -- in the year 2000, you know, maybe a dollar or two dollars ($2) per Gj up to, in 2003, where they were eight dollars ($8), or six (6) to eight dollars ($8), and potentially as high as twelve dollars ($12) a Gj, and -- and so the -- I'm not sure that -- that -- that we were fully prepared to manage that type of volatility.

And -- and so it -- it -- I -- I think what -- what we were concerned about is the -- the -- now the combination of drought risk and -- and market-price risk, additional risk associated by severe weather in Manitoba that increases our costs under drought conditions, the -- you know, the combination of all of those risks, and -- and we -- we -- we needed to ensure that we had sufficient retained earnings to cover off all those risks.

But as far as the -- the -- that the -- that the -- that the risk of drought existed, that's something that we already knew. We'd been through several droughts in recent memory. When I started in -- in Operations in 1977, I'd been through the '77 drought, the '80 drought, the late '80s drought, the drought of the early '90s. Managing drought is part of the business.

It's -- it's -- it's -- from my perspective, it's normal, and -- but I think the consequences of drought, the financial consequences of drought were -- starting in -- in the early years of the last decade, were -- were -- were -- were quite -- much more significant than we had anticipated in the past.

The other lesson that we found is that, in our bilateral arrangements, when we didn't have access to

market-priced energy, we were at a disadvantage, and subsequent to the 2003 drought with the evolution of the Ontario energy market and the MISO market, we've been able to acquire all the finan -- the ability to transact in all the financial instruments that are available so that we can hedge our drought risk without having to deal with -- on a bilateral basis with customers who, in effect, hold all the cards.

And -- and so I don't know whether it's a lesson learned, but it's -- it's something that we -- that we have taken full advantage of with the evolution of the MISO market, to be able to, rather than purchase back through the types of transactions that we talked about, buybacks, but go and hedge our risk in the marketplace anonymously rather than -- than doing it quite -- only with the customers who control transmission.

And then I think the other -- the -- the other lesson is the importance of having -- the important role that transmission has in providing a backup to our resources in Manitoba, and -- and the importance of new transmission, both from a reliability and from a financial perspective.

MR. BOB PETERS: Mr. Warden, anything to add to those lessons that Mr. Cormie has shared with the

Board?

MR. VINCE WARDEN: I think Mr. Cormie has -- has covered the waterfront quite well. The only one (1) area that I would -- might add is -- is with respect to the -- the -- how we're structured internally.

That is with a clear distinction between front, middle, back office. The -- the middle office was -- we were in the process of putting the middle office together at that time with -- but it wasn't functioning as effectively as -- as it could have or should have. It wouldn't have changed the outcome at all, but I think we would have all been better informed of -- about what was going on, and what the options were, and how the drought was being managed.

I think, in retrospect, the drought was managed very well, but the flow of information that we had at the time could have been improved, and were that to reoccur today, the -- the middle office function would be much more active than it -- than it was back then.

MR. BOB PETERS: Mr. Cormie and Mr. Warden, in your -- in your answers would it be safe to say that there are maybe things from an operational perspective that were also learned in those conditions of low-flow?

MR. DAVID CORMIE: Are you suggesting

something that I might be able to comment on. I don't have anything, Mr. Peters.

MR. BOB PETERS: Well, then let me ask it this way. What you're telling the Board is that as a result of -- of the '03/'04 drought, which had the highest financial consequences to Manitoba, there was no operational lessons that were learned?

MR. DAVID CORMIE: Mr. Peters, the -- when - - when we are protecting against a rare event like a drought of the severity that occurred in 2003, it -- it was a -- a drought that had a frequency of around once every thirty (30) years. At -- at one (1) point in time it appeared to be worse than the historic drought of the 1940s. So when you start operating the power system to protect against a severe event that -- that has a, probably -- you know that twenty-nine (29) times out of thirty (30) if the chances are one (1) in thirty (30) that you're going to have -- in retrospect you're going to have spent some money that was unnecessary.

And -- and that -- but that's the cost of insuring that there is a reliable supply of electricity to -- to serve load. And -- and so if you were to look at it in an economic perspective, you would say our financial well-view, you know, you -- you spent money that you didn't have to.

And that's only -- that's only a perspective that you can have in hindsight. And the reliability of supply doesn't come free, and we know that Manitoba does not have infinite capability to -- to survive any drought that comes along.

Droughts of greater severity and duration than are in the historic record have occurred prior to 1912. They will occur in the future. And that there is a -- there is a significant risk that the province at -- at some point will face an emergency.

And my responsibilities at that time in 2003 were to ensure that there was no emergency in Manitoba. That we weren't going to put the province's electrical supply at risk. And -- and unfortunately we did all of the things that we needed to do because the drought was of -- of great severity.

It was -- it -- it -- like I said, it -- it only exceeded our design assumptions, our operating planning assumptions by 3 percent, and so we didn't squeak by by -- there -- there wasn't a lot left on the table at the end of the drought.

Those are the same actions that we took in the spring of 2010 when faced with similar circumstances. We don't know what the water supply is going to be, there's no certainty, but you have to do what you have to

do so that if things do turn out to be adverse, that you've done everything necessary in preparation. And that's what we did in the drought of 2003, and that's what we did last year.

Now, fortunately last year the rains came, but we don't know in advance whether it's going to rain or not. And so we -- we act on the side of caution in the same manner that the province is acting on the side of caution today to deal with the -- the threat of flooding in the Red River.

There's no certainty there's going to be a flood but to be -- to do otherwise would be irresponsible. And we did everything that was absolutely necessary and only those things that were necessary to ensure the supply of electricity to our customers in the province.

MR. BOB PETERS: Did Manitoba Hydro improve in any way its energy forecasting process as a result of the '03/'04 drought, Mr. Cormie?

MR. DAVID CORMIE: We continue to use the same statistically-based forecasting procedure in 2003 as we do today, which is based on the entire history of water flows going back to 1912. It's only by looking back at a record that goes back one hundred (100) years, can you find the full risks that the -- the province

faces in its water supply.

And the -- the tools that we use today are the tools that were developed in the early '80s and they continue to function as they were designed and -- and they are very effective.

MR. BOB PETERS: There have been no changes to those models or tools, Mr. Cormie?

MR. DAVID CORMIE: The -- the concepts behind the regression-based water supply forecasting models remain the same as they were originally designed in the mid-'80s.

MR. BOB PETERS: When you suggested to the Board that the probability of drought was one (1) every thirty (30) years based on historic information, it would be correct that there have been droughts of lesser consequence more regularly than that. Would that be correct?

MR. DAVID CORMIE: What I said, Mr. Peters, that in retrospect the drought of 2003/04 had a return period of once in -- every thirty (30) years. I didn't say that -- I didn't put it the way you had put it, but that was the -- after the fact it was a one (1) in thirty (30) year event.

But -- but the -- you can go back in all ninety -- is it ninety-eight (98) years now, Harold?

MR. HAROLD SURMINSKI: Ninety-six (96).

MR. DAVID CORMIE: Ninety-six (96) years and you can find the worst drought and -- and -- and that's a few percentages more extreme than the drought that we experienced in 2003/04.

MR. BOB PETERS: And some of those of lesser severity would be where there wasn't sufficient hydraulic generation to meet Manitoba Hydro's domestic and firm export commitments, say less than 2,500 -- 25,000 gigawatt hours of hydraulic energy?

MR. DAVID CORMIE: Well, Mr. Peters, our system evolves over time. And the portion of our portfolio -- generation portfolio that is made up of Hydro assets changes. Our thermal capability changes. And in 2002 -- or I think 2002, our new combustion turbines came online that gave us additional generating capability approximately 4 terawatt hours of -- of natural gas generation.

That's 4 terawatt -- terawatt hours of energy that doesn't have to be kept in reservoir storage. And if we were always to cover off the -- the needs of Manitoba with hydraulic generation there would be much more spillage than is occurring with -- with -- with the reliance on the thermal capability that we have.

We don't build assets that we don't intend

to use. And having built the assets in 2002 at the combustion turbines, one (1) of the benefits of that is that we were able to operate the hydraulic system more efficiently, which meant that lower reservoirs were -- levels were possible and the associated benefits, both financially to Manitoba Hydro and to the environment from the management of the water system, were ach -- were -- were now possible.

So we don't have an objective of serving our load hydraulically. We -- we have an objective of serving our load with all the dependable resources that are available.

MR. BOB PETERS: When you referenced that Manitoba Hydro may be spending money that with hindsight turns out to be money that didn't need to have been spent, are you suggesting that happens on an annual basis as you're planning it in the beginning of April?

MR. DAVID CORMIE: What I'm saying is that there are years like occurred last year where we -- we spent money by purchasing electricity to serve our load obligations rather than releasing water from reservoir storage. That was necessary. Those expenditures are absolutely necessary. They are -- but in retrospect, if you had known the future, if you'd known that it was going to rain on May the 22nd, you

would have operated the system differently.

But given that we don't know the future, there's -- that's the cost of having uncertainty. There's costs that you have to incur to ensure the reliability of the supply because the future isn't known.

MR. BOB PETERS: Didn't Manitoba Hydro have two and a half times the energy in storage starting the 2010/11 fiscal year compared to the '03/'04 year, Mr. Cormie?

MR. DAVID CORMIE: Yes, it did. The energy in reservoir storage last spring on March 31st was 11 terawatt hours for the system compared to the 4 that was in -- in 2003. And -- and the -- and the difference that that made was that Manitoba Hydro's response to dry conditions in 2010 could be much more tempered than they would -- they were in 2003.

And so it's -- it's looking at all the resources that are available at the time and -- and doing the things that are necessary given that particular situation. Some actions like occurred in the spring of 2003 had to be almost immediate and much more dramatic. And -- and last year we had the benefit not only of -- of having more energy in reservoir storage, we also had a lower cost for natural gas, and we also had almost twice the retained earnings so that the effect of the -- of any

drought response would be tempered from the customers' perspective.

MR. BOB PETERS: And through all of that process and the lessons that there were, Mr. Warden and Mr. Cormie, Manitoba Hydro still has no drought management plan to this day, is that correct?

MR. DAVID CORMIE: Manitoba Hydro is constantly planning for drought, from our capital activities to our financial activities to our operating activities. That's part of our business, Mr. Peters, is to always be preparing for drought.

Drought management plan is the Manitoba Hydro financial forecast; it's our capital plan. Worrying about drought is what drives the construction and new generation. It -- which is what drives our day-to-day operations. So to say that we don't have a drought management plan simplifies it and assumes that it ignores all the activities that we have. Our -- our drought management plan is the business of the company.

MR. BOB PETERS: I was using one (1) of the answers I think Manitoba Hydro gave to one (1) of the Information Requests, Mr. Cormie, where it said it -- it doesn't yet have a drought management plan prepared. Did I misread that?

MR. DAVID CORMIE: Well, I -- I think in

-- as we've been considering what role a drought management plan -- a specific document would be, we've came -- come to the conclusion that it would be redundant because all the corporate activities are -- have drought as a critical consideration. And so to -- to have these additional documents is -- is -- you know, I don't know what purpose it would serve. Maybe Mr. Warden wants to say something there.

MR. BOB PETERS: Well, he's always welcome to, of course. But what you're saying, Mr. Cormie, is that if the information responses suggested that Manitoba Hydro was working on preparing a written drought management plan, things have changed since then because now Manitoba Hydro doesn't see that it needs a written drought management plan.

MR. DAVID CORMIE: Well, I think we're still -- still trying to come to a conclusion on whether there is value in having that now. So not having -- giving it up, having someone make a suggestion that -- where it would by -- provide us additional value, we haven't -- haven't proceeded down that path because it's not clear to us what value it'd bring.

If -- if value can be -- can be got from such a document, then we would be happy to know what that value is, but we're still in the process of -- of making

that assessment.

MR. BOB PETERS: Mr. Warden, did you want to pipe in?

MR. VINCE WARDEN: Well, we -- we have been struggling with this issue a little bit. It would seem reasonable for a hydraulic utility like Manitoba Hydro to have a document entitled a drought management plan. But, as Mr. Cormie has been explaining, it really -- every -- everyday management of the Manitoba Hydro system, of -- of the complex system that Mr. Cormie's been describing, takes into account the current conditions, and -- and how the system is managed really depends very much on what those conditions are each and every day.

I think there would be value -- having said that, I think there would be value in having documented certain trigger points. If the -- if the level in the lake gets to a certain level, then this is the action that will be taken at that point in time, recognizing that it's -- it's extremely dynamic and -- and can change on day -- a day-to-day basis. Nevertheless, I think a drought management plan or plan -- reservoir management plan might be a better way of describing it, rather than a drought management plan, but a document like that we have been certainly

contemplating.

I don't think there's any risk -- in fact, I'm sure there's no risk to the consumer in Manitoba in the absence of such a document because the system is being managed as it is each and every day.

MR. DAVID CORMIE: Mr. Peters, there's one (1) other point that might be important to understand since the drought of 2003, and this is the role of Manitoba Hydro's Export Power Risk Management Committee that's made up of the senior executive of the company. And on a -- at -- at a minimum, on a quarterly basis, we present to the president and -- and the senior vice-president of Power Supply and Mr. Warden our current review of hydraulic conditions and what the potential financial risk to the company is should drought commence at that point in time. And on a quarterly basis, that -- that -- that review takes place, and -- and we identify what actions we need to take in order to protect the company -- company's interests.

And should conditions deteriorate from what we are -- what we would normally experience, that committee is available to provide guidance to the operations of the company, and -- and -- and they will -- they will be kept aware on a -- on a very regular basis, beyond the -- the minimum quarterly meetings that we

hold, of -- of the issues that -- that face the company. And -- and that's a significant change from what occurred in 2003, where the reporting was more up the line and we didn't have an intentional executive oversight of -- of the operations.

MR. BOB PETERS: Mr. Cormie -- or Mr. -- Mr. Warden, just a couple of quick questions, if I might. Would it be a correct understanding that, while the IFF is a -- an integrated financial forecast, the Corporation doesn't manage itself based on the IFF forecasts?

MR. VINCE WARDEN: On a day-to-day basis, that -- that's -- that's correct.

MR. BOB PETERS: That the Corporation does not manage itself on that basis?

MR. VINCE WARDEN: That's right.

MR. BOB PETERS: Well, if that's the case, then, Mr. Cormie, you're suggesting that the IFF forms part of the drought management that -- that goes on. At best, the IFF includes a drought assumption every -- is it every ten (10) years?

MR. DAVID CORMIE: No, it -- it assumes the drought can occur each year, and the worst case financial results show up in the IFF. We know next year what the cost of drought could be, and -- and that's what drives the whole rate-setting process in Manitoba because

of the need to preserve sufficient retained earnings over the long run to cover the costs of the drought.

Next year or the year after, we -- through the simulation process that Mr. Surminski uses to develop the forecasts of -- of costs and revenues for the company, it assumes that drought can occur in each and every year, and the IFF identifies the worst case in each year. That information is made very clear in the IFF. That information is well known. It's not a surprise.

MR. BOB PETERS: Does the Export Risk Management Committee see more information than what's been filed with the Board in -- in this case in terms of material? Is there confidential material that hasn't been brought forward that the internal committee sees that this Board hasn't?

MR. DAVID CORMIE: Yes, they see -- they see much more information.

MR. BOB PETERS: For example?

MR. DAVID CORMIE: Well, they see an -- they see an update to the -- the net interchange revenue on a quarterly basis with the sensitivity of high and low water flows, high and low power prices. They see the specific operational plans that Manitoba Hydro is implementing in -- in times when drought is of a concern.

They see a lot more information with

regard to the operational risks. In addition, they see the risks of market access, they see the risks associated with our contracts, they -- we -- they see the credit risk, they see legal risk.

There are -- there are a whole spectrum of topics that are brought forward to the executive for -- to ensure that they understand the issues that are facing the company.

MR. BOB PETERS: Just to close then, Mr. Warden, there's no written drought management plan that's capable of being filed before this Board, or even your Export Risk Management Committee, because it hasn't yet been prepared. You'd agree with that?

MR. VINCE WARDEN: Yes, there -- there's no formal drought management plan that can be filed.

MR. BOB PETERS: And while one (1) of the information requests may have suggested a filing in April of 2011, that's now in doubt? That may not be done, is that what I'm hearing?

MR. MARLA BOYD: Do you have a reference for that?

MR. BOB PETERS: Sure, start with PUB Manitoba Hydro First Round 147, and Second Round 136.

(BRIEF PAUSE)

MR. DAVID CORMIE: Unfortunately, Mr. Peters, the whole schedule of looking at these items have been delayed because of the delayed na -- the protracted nature of this Hearing. And there are only so many people to -- to work on these items and -- and these activities all get pushed back.

(BRIEF PAUSE)

THE CHAIRPERSON: Why don't we come back to this at 1:15, Mr. Peters.

MR. BOB PETERS: Yes, and I'll just remind the Board that Mr. Derry will be presenting at 1:15, so thank you, Mr. Chairman.

THE CHAIRPERSON: Mr. Derry, is he just a member of the public or is he an engineer? Do you -- do you know his background at all?

MR. BOB PETERS: I -- I do not, Mr. Chairman. I believe he's just presenting as a member of the public. I don't know that he has any official capacity but I'll find that out for 1:15.

THE CHAIRPERSON: Thank you.

MR. BOB PETERS: Thank you.

--- Upon recessing at 12:08 p.m.

--- Upon resuming at 1:19 a.m.

THE CHAIRPERSON: Okay. Welcome back, everyone. And Mr. -- Mr. Derry, welcome to our hearing. We appreciate your attendance. Look forward to your remarks. You have written material.

MR. ART DERRY: Yes, I do.

THE CHAIRPERSON: Do you plan on -- on reading it, or would you prefer we just put it in the -- on the record?

MR. ART DERRY: No, I plan on reading the first part.

THE CHAIRPERSON: Okay.

MR. ART DERRY: And the second part, on questions, I plan on having you put it in as a whatever you call it.

THE CHAIRPERSON: We just put it on the record.

MR. ART DERRY: Record, yeah. Okay.

THE CHAIRPERSON: Okay, Mr. Derry, you can proceed at your own leisure. If you wouldn't mind introducing yourself at first, that would be very helpful.

MR. ART DERRY: Okay. I'll do that.

PRESENTATION BY MR. ART DERRY ON BEHALF OF BIPOLE III COALITION:

MR. ART DERRY: Mr. Chairman, Board members, all in attendance, my name is Art Derry. I'm a retired professional engineer who spent twenty (20) years with Manitoba Hydro.

A summary of my CV is -- follows here. From 1959 to 1967, I was employed by Saskatchewan Power Corporation in the positions of generation and transmission planning.

From 1967 to 1972 I was an HVDC engineer with Atomic Energy of Canada on the Nelson River Bipoles 1 and 2 transmission project. From 1972 to 1989 I held a number of different positions in hydro, in both transmission and generation planning, load forecast, and export sale contracts, with my final position title of Vice President of Business Development.

In 1989 to 1992 I was a Field Project Manager and System Planning Advisor for Manitoba Hydro International on a SETA project in Zimbabwe, Africa. I ret -- I retired from Manitoba Hydro in 1992, and from 1992 to 1998 I was a consultant to the Zimbabwe Electricity Supply Authority as System Planning Advisor.

During 2001 and 2002 I was part of a Manitoba Hydro team for Hydro International. I

participated as the Contract Specialist to the South China project. Now, thank you for allowing me to make this presentation to the Board on behalf of the Bipole III Coalition, who are promoting the relocation of Bipole 3 from the Manitoba western route to an east side of Lake Winnipeg route.

The title page of the presentation has the heading, "Eastern Route for Manitoba Hydro's Bipole 3 Transmission Line." For the record, there's a map of Manitoba on this page, and on the map there's a red line from the Nelson River down to Winnipeg, on the east side of Winnipeg, and there's a white line from the Nelson River down to Winnipeg.

And there's a caption at the top that states, "Costs $1 Billion More." On the bottom it reads:

> "Two Routes Considered for Bipole 3. The red line represents the longer, 1,364 kilometre costlier west-side route. The white line represents the more direct, 885, less expensive east-side route."

Now, who are the Bipole III Coalition. The Bipole III Coalition was formed in October 2010 and currently -- currently includes its membership of retired Manitoba professional engineers, the Canadian Taxpayer

Federation, land owners, the Canadian Aerial Applicators Association, the Manitoba Aerial Applicators Association, the Manitoba chapter of Canadian Society for Senior Engineers, retired Hydro executives and employees, and a growing number of concerned taxpayers and citizens of Manitoba.

The Bipole III Coalition mission statement: the Bipole III Coalition is a grassroots organization of concerned citizens that aims to educate Manitoba citi -- citizens and to promote increased public awareness that a route on the east side of Lake Winnipeg is superior to a route on the west side of the province for the Bipole 3 transmission line proposed by Manitoba Hydro.

The east-side route is preferable because of greater economic, social, technical, and environmental benefits for all Manitobans. And the Coalition is not affiliated with any political party. Now, the reasons for an eastern route, forcing Manitoba Hydro to build Bipole 3 down the west side of the Manitoba Lake -- lakes is a costly decision that cannot be justified.

The western route will cost at least 1 billion more for ratepayers than the more direct eastern route. Government data shows that there's no justification for the western route. At risk caribou

herds are present along both routes and their locations are constantly changing. We could not find evidence to support the argument that high voltage lines have negative impacts on caribou.

Annually, there is more tornado and lightning activity along the western route than the eastern route. The portions of the eastern route are being set aside for UNESCO designation could receive the designation even with Bipole 3 running through them. A Bipole line could be built to largely avoid the area being nominated for designation.

Negotiations could occur with Aboriginal communities for an east-side route just as they did for the construction of Northern Downs. A referendum should be held at the time of the next election to allow Manitobans to choose between a western and an eastern route.

The government decision to locate Bipole 3 on the west side of the Manitoba Lakes appears to have been based mainly on a narrowly selected range of environmental issues, not the complete environmental picture. As a coalition we wish to broaden the discussion to include technical, social, and economic issues, and also additional environmental issues.

We provide information that identifies

strong advantages in constructing the new line on the east side of Lake Winnipeg.

Beginning about twenty (20) years ago, Manitoba Hydro did extensive planning for the new line to follow the route from Gillam to Winnipeg down the east side of Lake Winnipeg. In 2007 the current government directed Manitoba Hydro to select the Bipole 3 route on the west side of Lake Manitoba and Lake Winnipegosis; thus, eliminating the eastern route.

While many Manitobans favour the eastern route, Manitoba Hydro has subse -- subsequently planned only for a western route, which is 50 percent longer. The government's primary argument for avoiding the eastern route is that part of it would traverse an area that may be designated a world heritage site. They argue that to -- that to receive this designation the forest must be maintained in pristine condition. However, other world heritage sites in Canada, for example in Banff and Jasper, are crossed by transmission lines and main highways.

Of the ten (10) criteria for designation as a world heritage site, the two (2) that are applicable in this case are that: (as read)

> "The area is an outstanding example representing significant ongoing

ecological and biological processes in the evolution of terrestrial ecosystems and contains the most important and significant natural habitat for in situ conservation of biological diversity."

Neither cri -- criterion precludes careful positioning, roads, and transmission lines. Landowners who will be critically affected by the western route and a group of Manitoba professional engineers have raised objections to the government's directive that the western route must be followed.

The directive was apparently made with little or no public input and no reasoned comparison of costs and benefits. The existing roads and winter roads that run fro -- north from Winnipeg along the east side of Lake Winnipeg are currently being upgraded and extended to Berens River with later extension to Poplar River.

Two (2) section of these roads will go through Pimachiowin Aki, The Land That Gives Life. The Manitoba Government is currently in discussions about all-weather roads from Norway House to four Island Lake communities in northeast Manitoba.

These new roads will provide northern communities with needed economical and reliable access to

goods and services from the south. The right-of-ways will have much greater impact than will a powerline.

They will, therefore, have greater influence on a decision regarding rural heritage site designation than an eastern powerline. As with Banff and Jasper sites, carefully positioning need not interfere with receiving the designation.

Once the roads have been located a common corridor that includes the road and the Bipole 3 make sense. Environmental studies show that the right-of-way is favourable for wildlife. It will also allow access for periodic inspe -- inspection and maintenance of the line.

A 66 metre wide right-of-way will occupy less than 0.03 percent, three ten-thousandths (3/10,000) of the protected heritage area. It is not the wide swath described by opponents of the eastern route. And we note that the east side of Lake Winnipeg already contains powerlines, roads, mines, fishing lodges, and other civil inf -- infrastructure. Only a 60 kilom -- 60 kilometre stretch of the east side route is not currently trans -- transversed by temporary roads.

The eastern route offers many advantages over the longer and costlier western route. With a length of 885 kilometres, it is 480 kilometres shorter.

Using information already made public by Manitoba Hydro, the cost of the eastern route are in the neighbourhood of 1 billion less than those of the western route. Others have suggested even higher cost savings.

Selection of an east-side route would save a Manitoba family of five (5) around four thousand two hundred dollars ($5,200) compared to the west side. The longer line will cause electricity worth about $300 million to be lost in transit. The equivalent all -- of all wind energy generated annually in Manitoba and equivalent to the annual energy consumption of forty thousand (40,000) cars.

If the line losses had to be replaced by a coal-fired station choosing the eastern route over the western route would be equivalent to reducing carbon dioxide emissions by 245,000 tonnes each year. The two (2) routes traverse about the same length of the boreal forest zone.

In addition, however, the western route also traverses several hundred kilometres of the best agricultural soils and the most favourable agro-climate -- climatic zone in the province. Farmers will be compensated either in a lump sum or over a period of ten (10) years for the areas occupied by the towers on their land. In perpetuity, however, the towers will cause

ongoing obstruction and additional expense to irrigation systems, aerial spraying, and systems for applying livestock manure for crop production.

There are sixteen (16) First Nation communities that would be affected by the eastern route and fifteen (15) by the western route: essentially the same number. Neither route will traverse any Aboriginal reserve land, although both traverse traditional lands of Aboriginal people. We understand First Nations chiefs on the east side of lake Winnipeg are expressing increased interest in the eastern route for Bipole 3.

There are technical issues that show a route on the east side of the province provides much higher reliability and protection against risk from wind and ice storms. In particular, if Bipole 1 and 2 are damaged, the eastern route for Bipole 3 is twice as effective as the western route for supplying southern Manitoba and the contracted power to the United States.

Future construction of generating plants on the lower and upper Nelson River will eventually require a fourth transmission line. For technical reasons, the future line will need to be a 500 kv alternating current, AC line, not a high-voltage direct current, HVDC line, and it needs to be on the west side of the lakes. Eventually, this fourth AC line will

significantly reduce existing system constraints, allow separation of the lines for improved reliability, and permit possible future sales to Saskatchewan.

The HVDC transmission line, Bipole 3, that is currently being discussed will not resolve these issues. For technical reasons, it is essential Bipole 3 be located on the east side of the lakes, not on the west side.

In summary, the current Manitoba Hydro -- government decided Bipole 3 must run west of the Manitoba lakes and directed the technical staff of Manitoba Hydro to make it happen. Based on technical, environmental and social and economic grounds, we consider the selection process for the western route to be seriously flawed. We urge that the eastern route should once more be selected as a preferred route for Bipole 3.

And, Mr. Chairman, that's the part that I'm going to read, and the rest, if you could put it in as an excerpt.

THE CHAIRPERSON: Yes, we could. Thank you, Mr. Derry.

(BIPOLE III COALITION WRITTEN PRESENTATION)

QUESTIONS PRESENTED TO THE PUB ON BEHALF OF THE BIPOLE

III COALITION:

1. PUB and the Bipole III Decision:

The issue of whether the Bipole III should be located on the western or eastern side of the province has been a topic for debate ever since the Provincial Government instructed Manitoba Hydro to proceed with a western route.

The decision of an eastern versus a western route was reviewed in Manitoba Hydro's 2008/09 General Rate Application Filing, and specifically in the Public Utilities Board Decision of 2008, item 116/08, section 9.5 Bipole III.

In a PUB question Pub/MH 1-4, Hydro was asked to provide a project-specific NPV cost-benefit analysis which would compare the eastern and western routing alternatives for the Bipole III project. The results at that time, based on 2017 costs, indicated a benefit of the eastern route relative to the western route of $750 million. New estimates (2010) that include line costs, line losses, land acquisition costs and reliability, show the benefits of the eastern route will be more than $1 billion.

In regard to reliability to an eastern versus a western route, a study performed by Hydro indicated a benefit of the eastern route of $160 million.

This figure has been included in the above dollar amounts. Ref. PUB Order No 116/08 Page 142.

With this information before it, the PUB has stated: "Due to provincial and societal considerations, MH is proceeding with a West Side of Province routing for Bipole III, rather than the originally planned shorter routing on the East Side of Lake Winnipeg." Ref. PUB Order NO 116/08 Page 141.

We understand that one of the responsibilities of the PUB is to protect consumers of electricity in Manitoba, taking into consideration all factors in a properly planned study. This study has not been done for the western route.

Request: That the PUB re-visit this item again in their new hearing.

2. Questions for Manitoba Hydro.

We provide the following questions, the answers to which will help the PUB reach an informed decision on the routing of Bipole III.

a) In-service Date

When Hydro made their original recommendation, there were no additional export sales planned for 2018/19 and this established the timing for consultation, planning and construction. Sales are now delayed for one year to 2019/20.

Question: Should it be necessary, will a one year delay for Bipole III be significant to system operation, given that the existing infrastructure has been in place for going on 40 years.

b) Up-to-date Costs of Eastern and Western Routes.

Further to Hydro's reply to PUB/MH 1-4 Reference Risk Analysis - Tab 8 and Appendix 12.5

Question: Will Hydro please provide updated numbers and calculations of costs in relation to:

Side:	West Side	East Side
Line Length* (see Notes below)	_____	_____
Estimated Capital Costs of only the line**	_____	_____
Estimated costs of increased losses West vs East with Keeyask and Conawapa in operation, including necessary converters***	_____	_____

Question: Will Hydro please advise if any new information has become available that would change the $160 million benefit of an eastern route which was

included in their 2008 submission to the Board?

Notes:

* Since the last estimate was prepared, Hydro has identified a 'preferred route' for the west side. In preparing these cost estimates, please use the length of the 'preferred route' on the west side, and the approximate length of a representative route that was formerly studied for the east side.

** Please take into account the costs for environmental mitigation and property acquisition that will be incurred on both the west side and east side routes; and the fact that an east side route will be primarily through crown land, with only the portion from the Winnipeg River to Riel traversing settled lands.

All costs should be in Total In-Service dollars (2017) including escalation and interest during construction.

*** The development sequence now includes Keeyask as well as Conawapa. This increases the loading on the Bipoles by 630 net MW.

Hydro should indicate how their forecast was developed, for example, export prices $/Mwhr, loading pattern, energy to be transferred MW capacity factor, discount rate, and any other assumptions. Costs should be presented in 2017 dollars.

c) Capital Cost Estimates:

Reference Capital Expenditure Forecast Summary Table (CEF07-01). The Table indicates that the total cost for Bipole III western route is $2.2478 billion.

Table (CEF09) indicates the total cost is $2.2478 billion. This is the cost is used in Hydro's answer to PUB/MH 1-4 on the project cost estimates for Bipole III, with the Line cost equal to $1.081 billion.

Your Table for (CEF10) indicates the Bipole III Licensing and Properties plus Transmission Line cost to be $1.0819 billion, that is, with no increase in this cost from 2007 to 2010.

Referring to (CEF09) and (CEF10) the costs of other Capital Projects such as Keeyask and Conawapa, each have increased by 22.8 percent.

Question: Can Hydro explain why Bipole III line costs have not increased from 2007 to 2010?

Question: In line with the escalation in the other capital projects, can Hydro indicate why there are no new estimates available at this time (January 2011), indicating cost increases.

d) Reliability.

In reference to Hydro's 2010 System Capacity Winter Peak Demand and Resources (MW), 2010 Base

Load Forecast Recommended Plan.

The Table prepared by Hydro indicates a reduction in losses of 89 MW and 243 Gwhr, in the earlier years and other values later for the western route of Bipole III. These have been credited as a generation gain.

Question: If Bipole III was to be constructed along the eastern route, what are the equivalent values for MW and Gwhr for the years covered in this table?

e) Questions on environmental and societal considerations:

Question: Will Hydro please provide all reports on studies undertaken by them or their consultants that assess and quantify, or at least attempt to accurately define, the environmental, environmental mitigation, and socio-economic benefits and costs for both the western and eastern routes? The information should include and compare monetary and environmental effects for both routes.

Question: Does Manitoba Hydro have on record, and which can be made available to the PUB (and interveners), the substance of any discussions that have taken place with First Nation communities in proximity to either the eastern or western routes? Such discussions

will potentially have implications for the matters currently before the PUB.

Board Order 116/08 Pages 167 and 168 set out the Board's understanding of the government's and Manitoba Hydro's rationale for the decision to take the western route for Bipole III. Page 167: "The government has indicated that an attempt to construct a major transmission line through a potential World Heritage Site would be strongly resisted by First Nations and be so opposed by environmentalists that it could result in MH's export potential being severely damaged."

Question: Has a ruling, opinion, or other information on the effect that an east side transmission line route might have on a World Heritage site application been requested from UNESCO World Heritage Committee? If so, please provide the results.

Following Manitoba Hydro's presentations to the east side First Nations and the East Side Planning Initiative on the then-planned east side route for Bipole III in 1993/4, the position of the east side First Nations was not down in the document "Promises to Keep". Section 6.6 Hydro Transmission Corridor, noted 1) "members asking for assurances that local communities would benefit economically" and 2) "concerns were expressed about the impact that such installations might

have on the natural environment." First Nations are represented by Chief and Council. They determine their positions through deliberations and meetings, and present decisions by means of Band Council Resolutions.

Question: Considering that the position expressed in "Promises to Keep" appears to be reasonable and no position was taken against the east side route, please provide evidence of the statement the transmission line "would be strongly resisted by First Nations."

Through 2007 and 2008, and continuing to the present, east side first nations have said publicly that they want Bipole II on the east side of the province. For example on March 3, 2008, the CBC reported "Craig Cook, chief of the Bloodvein First Nation, said 15 out of 16 bands on the east side of Lake Winnipeg want Manitoba Hydro's proposed Bipole III transmission line to go through their region, instead of down the west side of the province, as the government has ordered. The 16th band, Poplar River, has a new Chief and Council and may be re-evaluating their position."

Question: Please provide evidence, if any, for any resistance or opposition by the east side First Nations to the east side route, including Poplar River's position.

Fifteen First Nations are affected by the

west side route, a similar number to the number affected by the east side route. At a meeting in Dauphin in March 2010 and reported in the Winnipeg Free Press March 12, 2010, the First Nations in western Manitoba said they are determined not to allow a proposed Manitoba Hydro transmission line to cross their territories until Ottawa and the province complete an environmental audit of "past impacts and effects" of hydro operations on southern First Nations.

Question: Has this environmental audit been completed? If so, please provide the results.

The preceding statement by First Nations peoples on the western route appears to be a firmer position on participation and mitigation of impacts than that taken by the east side First Nations.

Question: Please provide the state of the negotiations and the results.

The obligations to Cross Lake First Nation in the Northern Flood Agreement have not been settled in the more than 30 years since the Agreement was signed.

Questions: What is the status of this long-standing obligation?

Does this not indicate a difficulty in negotiating settlements with the First Nations on the west side route?

From information contained in these reports, will Hydro please provide an estimate of the total value of benefits of an east-side route in 2017 dollars?

f) Questions on In-Service Date of Bipole III

Background:

Previous Hydro studies indicated that advancing completion of Bipole III would provide benefits against possible losses that would justify an early in-service date, and also valuable improvements in the reliability of the system.

At the time of the original recommendation, no firm export sales were in the plan. According to Hydro's recent "2010/11 Alternative Plan" the in-service date will now be 2022/23. Current plans make the transmission line available 5 years earlier than it needs to be to accommodate the next plant, namely Conawapa.

Currently, sales are planned for 2019/20. This means that the 5 years of early availability is reduced to 2 years. The loss benefits are still present, but the effect that early construction has on reliability is not for as long a period.

Questions:

Will a delay have a significant effect on system operation?

Would Hydro agree that as long as the Bipole III is available by 2019/20, the start of the sale this would be adequate to meet the contract terms?

Presented by: W. Art Derry, on behalf of the Bipole III Coalition

(WRITTEN PRESENTATION CONCLUDED)

MR. ART DERRY: I have a -- another little bit more to go through here. I understand as a presenter I have no standing where Hydro is required to answer these questions, so I request that the Board and others who have intervenor status and agree that the questions are pertinent in arriving at a proper decision of the routing, given the reason we have offered, move them forward on our behalf.

And on my -- behalf of myself and the Bipole III Coalition, thank you for your time.

THE CHAIRPERSON: Thank you, Mr. Derry. I imagine that you -- you're probably aware that this Board lacks the jurisdiction to direct Manitoba Hydro's capital expenditures, but I've got a few questions, if you don't mind.

MR. ART DERRY: Sure.

QUESTION PERIOD:

THE CHAIRPERSON: Mr. Derry, can you provide your perspective on the -- the pros for going down the -- the west side, taking the west-side route? Are there -- are -- are there arguments, in your mind, for proceeding down the west side?

MR. ART DERRY: The -- the only arguments I've seen is the Farlinger Report. I've read that a couple of times, and it's a report that really doesn't make a recommendation of east or west, and I can't quote you all the pros and cons, but they're in that report, on both sides.

MR. ROBERT MAYER: Could you spell that, please?

MR. ART DERRY: Pardon?

MR. ROBERT MAYER: Farlinger?

MR. ART DERRY: Farlinger? Yes.

(BRIEF PAUSE)

MR. ART DERRY: Yeah. F-A-R-L-A -- L-I-N-G-E-R.

(BRIEF PAUSE)

THE CHAIRPERSON: Go ahead.

(BRIEF PAUSE)

THE CHAIRPERSON: I think we're all right with the spelling, Mr. Derry.

MR. ART DERRY: Are -- are you? Yeah, I've got a copy of the report.

DR. LEN EVANS: Yes, thank you. I have a couple of questions. Have you or your group have had any discussions or contact with environmental people who, we understand, in the media have raised objections to the eastern route? There are groups in Canada and the United States who are very concerned about the eastern route, and I was wondering if you have any discussions with them, or have had -- have had any contact with them, or have you had any information from them?

MR. ART DERRY: No -- no, we haven't. We've only been formed since October of 2010. It's only a couple of months. We've got -- we do have a web siteup right now called Bipole III Coalition dot ca --

MR. LEN EVANS: M-hm.

MR. ART DERRY: -- but we have not had

any -- any --

DR. LEN EVANS: Yeah.

MR. ART DERRY: -- contact with them.

DR. LEN EVANS: But you acknowledge that there -- those groups exist.

MR. ART DERRY: Yes, we know that, yes.

DR. LEN EVANS: M-hm.

MR. ART DERRY: Yeah.

DR. LEN EVANS: Another question I have is regarding the chiefs. You make reference on the bottom of page 5 and then top of page 6.

> "We understand First Nations chiefs on the east side of Lake Winnipeg are expressing increased interest in the eastern route for Bipole -- Bipole 3."

And my question is, Do you have any knowledge of the degree of agreement among the chiefs? Is there unaninity -- un -- is there a unanimous agreement among the chiefs --

MR. ART DERRY: No, I --

DR. LEN EVANS: -- to your knowledge about the eastern -- or is there a division? Are there dif -- different points of view about the eastern route--

MR. ART DERRY: Yeah --

DR. LEN EVANS: -- on the part of the

chiefs?

MR. ART DERRY: No, I don't have any -- the only thing I've seen is articles by some of the chiefs in the papers, and we are presently trying to get together the eastern side First Nation groups, we are contacting some of the people and try to get a hold of them.

DR. LEN EVANS: But as far --

MR. ART DERRY: We're work -- we're working on that right now.

DR. LEN EVANS: Excuse me. So that -- but you'd acknowledge there's no unanimity at this point.

MR. ART DERRY: Not at this point, no.

DR. LEN EVANS: Thank you.

MR. ART DERRY: No.

THE CHAIRPERSON: Mr. Derry, one (1) other question. You said that your group had just come together. I'm just wondering whether you had -- were able to confirm your view that the World Heritage designation would be withheld if the -- if the route went down the east side.

Do you have any independent confirmation of your view that the World Heritage designation would be at risk if the route went down the east side?

MR. ART DERRY: No, we don't. We think

it's -- the two (2) can live together.

MR. ROBERT MAYER: Mr. Derry, would your -- would your view change if -- let's start from another place. You suggested that the road and Bipole 3 would run parallel. Would --

MR. ART DERRY: We suggested they could; we didn't say they would.

MR. ROBERT MAYER: Okay. But I'm suggesting that Bipole -- that transmission lines and roads are no longer in vogue. That largely, in fact, for security reasons there will be, it's my understanding, no more roads running along side transmission lines.

Would that change your view, if -- if in fact, we're not going to be running transmission lines along --along roads any more, or beside roads any more, would that change your view with respect to the viability of the east side?

MR. ART DERRY: Firstly, how -- how close are you talking about between a road and -- and the transmission line?

MR. ROBERT MAYER: I -- I think everybody now realizes that you could take out Bipole 1 and Bipole 2 in at least -- in at -- in at least six (6) places down Highway number 6.

MR. ART DERRY: M-hm.

MR. ROBERT MAYER: This, I think, we all believe isn't a really good idea. It is my understanding that we're not going to like to be having roads that are readily accessible to the hydro -- to the transmission lines.

There are other things that happened, like people like to practice their -- their target shooting on the insulators that hang from the lines, et cetera.

MR. ART DERRY: Okay. No, I -- I don't think it would preclude building the line -- it doesn't have to run along a -- the -- the road.

THE CHAIRPERSON: Thank you very much, Mr. Derry.

MR. ART DERRY: Yeah.

THE CHAIRPERSON: We appreciate your comments, and we'll undoubtedly review them more closely in --

MR. ART DERRY: Okay.

THE CHAIRPERSON: -- in the --

MR. ART DERRY: Thank you very much.

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

MANITOBA HYDRO PANEL RESUMED:

VINCE WARDEN, Resumed

DAVID CORMIE, Resumed
HAROLD SURMINSKI, Resumed

CONTINUED CROSS-EXAMINATION BY MR. BOB PETERS:

MR. BOB PETERS: Thank you, Mr. Chairman. Board members, witness panel, I'll continue from where we were this morning before the -- the lunch recess.

And my recollection is, Mr. Warden, you wanted to verify that Manitoba Hydro had indicated that a drought management plan was expected to be prepared by April of 2011. Did you have a chance to review that, sir?

MR. VINCE WARDEN: Yes, Mr. Peters, we did respond in that manner in a Information Request response.

MR. BOB PETERS: And we heard this morning from Mr. Cormie indicating that, in my words, Hydro's always prepared for a drought and, therefore, the value of a drought management plan in writing may not be readily apparent. Yet I think the Board heard you say that there may be some value to having a written drought management plan. So which way is Manitoba Hydro planning to proceed on that?

MR. VINCE WARDEN: Mr. Peters, it's still our intention to prepare a document that can be filed

with this Board indicating how Manitoba Hydro manages its -- its operations during doug -- drought period. Whe -- whether we'll call it the drought management pla -- plan or not is yet to be determined.

It probably will be a more comprehensive document than that.

MR. BOB PETERS: And it's still online for April?

MR. VINCE WARDEN: Well, as -- as mentioned by Mr. Cormie, there are a few tasks that have fallen behind. We've been dedicating a significant number of hours to -- to this proceeding. We'll have to -- we'll have to check to see whether or not that date is still attainable or not.

MR. BOB PETERS: Is one (1) of the benefits, Mr. Warden, of having a written drought management plan the ability to provide for succession planning internally so that when people retire, those that follow them are able to have a written plan with the wisdom of those who have helped prepare it --

MR. VINCE WARDEN: Well --

MR. BOB PETERS: -- and now retired?

MR. VINCE WARDEN: -- we do have a fairly comprehensive succession plan in place at Manitoba Hydro today. We spend a fair bit of time on that knowing the

importance of people like Mr. Cormie and how the Corporation would be affected when that day ultimately comes that Mr. Cormie retires.

So succession plans are in place and it's another one (1) of the risks the Corporation faces that is being effectively managed. So it doesn't depend on -- on a -- on the preparation of a drought management plan, that would be all part of the process.

MR. BOB PETERS: I think he said he was waiting for you, Mr. Warden, but I'll have to check the transcript on that and... While we're on this topic of exports and imports in the same year, if we could turn to the book of documents, Tab 35, page 78. There's a chart in response to PUB Manitoba Hydro Risk 94, so that was at Tab 35 and it's top right-hand corner, page number 78, last page, I believe, in that tab.

Mr. Cormie, when we look at the 2002/03 year that's shown in the second from the left column, the opportunity spot market sales, and it lists by acronym the Day-Ahead and the Real-Time transactions. Is that correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Would it also be correct to say that Manitoba Hydro has total control on whether or not to sell those opportunity spot sales?

MR. DAVID CORMIE: Yes, we do.
MR. BOB PETERS: And likewise, when we turn to the opportunity term, I'm equating that to the opportunity bilateral. Have I got that right?
MR. DAVID CORMIE: Yes.
MR. BOB PETERS: And for that type of an arrangement there's generally a -- a written agreement. Would that also be correct?
MR. DAVID CORMIE: Yes, there will be.
MR. BOB PETERS: The term is somewhere between two (2) weeks and six (6) months?
MR. DAVID CORMIE: Yes.
MR. BOB PETERS: And in 2002/03 this vol -- this opportunity spot market sales that were made, those would have been made before May of 2003?
MR. DAVID CORMIE: I'm not sure if I heard you correctly. You're asking whether the 2002/2003 sales would have been made before May of 2003; was that the question?
MR. BOB PETERS: Yes, sir.
MR. DAVID CORMIE: Yes, because that's -- May of 2003 is in fiscal year '03/'04.
MR. BOB PETERS: And at the time they were made it would assume good spring and summer water.

(BRIEF PAUSE)

MR. DAVID CORMIE: I'm not sure if they were made on any assumption about water conditions. Those -- that's the energy that was surplus to Manitoba's needs in Real-Time, and -- and they were sold on that basis, that -- that we either sold them or -- or we spilled the energy. So I don't really link spot-market sales to a particular assumption on water conditions.

MR. BOB PETERS: Are you assuming that if you had capacity to store it, it would have been stored instead of sold as opportunity?

MR. DAVID CORMIE: No, I'd have to see the -- the pattern of those sales throughout the year. Some of those sales may be similar to the ones that we talked about previously, where reservoirs are full in the spring. And Manitoba Hydro's required under its licence to release water from storage. That water is surplus to Manitoba's needs and is -- and is sold in the spot market.

So timing is everything in looking at these tables. Manitoba Hydro has -- relative to the volatility in the water supply, we have relatively small storage available and we don't have really sufficient storage reservoirs to be able to effectively move water

around the year to fully optimize the -- the market.

MR. BOB PETERS: Well, let's look at that last answer, Mr. Cormie, also looking at page 106 at Tab 43 of the book of documents. And we're talking, Mr. Chairman and Board members, for the 2002/03 year, looking at Tab 43 of the book of documents page 106. Mr. Cormie, it appears that the energy in storage starting the year was -- was below average; would you agree with that?

MR. DAVID CORMIE: Starting year 2003 at 6.3, is that the number you're referring to?

MR. BOB PETERS: Yes.

MR. DAVID CORMIE: yes.

MR. BOB PETERS: I -- I think I had you agree that average might be approximately 8,000 gigawatt hours in storage.

MR. DAVID CORMIE: Yes, on that basis I accept that that was below average.

MR. BOB PETERS: So we know that the energy in storage was -- was below average to start that year. We also know that Lake Winnipeg was only 712.2 feet to start the year, correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: So there would be room in storage if that was a decision the Corporation wanted to make, isn't that correct?

MR. DAVID CORMIE: Yes, and it appears, based on the peak level of Lake Winnipeg at seven thirteen point nine (713.9), that there was room.

MR. BOB PETERS: There were no flood-management or water-management requirements throughout that year that this table depicts, is that correct?

MR. DAVID CORMIE: Nothing is apparent from this table, but that doesn't say there weren't any, Mr. Peters.

MR. BOB PETERS: As you sit here, you wouldn't recall any, would you, Mr. Cormie?

MR. DAVID CORMIE: No, that was a long time ago.

MR. BOB PETERS: I appreciate that. And if for some reason you -- you choose to check that and if there were some -- some operating constraints or flood management issues that you want to bring to the Board's attention, please do that through your counsel. Would that be okay?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And we turn to opportunity terms. No, that's not an undertaking. That's just an opportunity, of course, for Mr. Cormie to come back through -- it's an option. It's not an undertaking officially for the transcript.

Is that okay, Ms. Boyd? Yeah. Thank you.

Turning to the opportunity sales, Mr. Cormie -- I'm sorry, the opportunity term sales, as they're recorded here. Manitoba Hydro would have determined before May of 2003 to enter into a fixed-price contract. And we're on page 35 -- I'm sorry, Tab 35, page 78 of the book of documents, for those who may still be looking.

MR. DAVID CORMIE: I -- I see the exhibit, yes.

MR. BOB PETERS: And my question, sir, was that Manitoba Hydro would have decided before May of 2003 to enter into a fixed contract with a counterparty?

MR. DAVID CORMIE: That's possible. I don't have the monthly summaries to refresh whether they were entered into throughout the year or in that -- in -- in the time period that you're referencing, Mr. Peters.

MR. BOB PETERS: All right. Fair enough. Would you agree that it's a significant volume that was committed under the opportunity term contracts?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And again, would those commitments have been made with the expectation that there would be good spring water flows?

MR. DAVID CORMIE: Again, that depends on

when the transactions were made, Mr. Peters, and there's nothing here to tell me when those forward transactions were entered into. They could have been made once the spring runoff conditions had already been determined. I -- it's not apparent here the timing.

MR. BOB PETERS: All right. Thank you. Turning to the dependable contracts, would the Board be correct in understanding that those dependable contracts would have been all long-term, greater than one (1) year?

MR. DAVID CORMIE: Yes.

(BRIEF PAUSE)

MR. BOB PETERS: And turning to the next year, 2003/04, on book of documents volume 2, Tab 35, page 78, we see again that there was opportunity sales made on a Day-Ahead and Real-Time basis, correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And again, would those be typically made early in the year or would those be late in the year?

MR. DAVID CORMIE: Those would probably be made daily throughout the year, based on the -- the -- the daily needs of -- of the power system and -- yes.

MR. BOB PETERS: When you say daily

throughout the year, these are sales we're talking about?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: It's not that the power system would need to make sales because --

MR. DAVID CORMIE: Well --

MR. BOB PETERS: -- you're not -- this isn't an import.

MR. DAVID CORMIE: No, but what happens is that because we -- we plan for a worst-case Manitoba load scenario, there will be more resources available on the average day than is actually required compared to the design day. And so generally, on a daily basis, there will be surplus resources available that could lead to market transactions.

For example, if the -- like, the weather that we had last week, when it was thirty (30), minus thirty (30), the difference between the Manitoba load between then and today was probably 1,000 megawatts. So Manitoba Hydro plans for a cold winter. We put resources in place for a cold winter, and -- but every day of the winter is not the -- the -- the -- not necessarily as cold as we assumed.

So on a daily basis there may be some additional energy that's in the system that -- that could go to market because we, on an average day or on a very

warm day, don't need all those resources, and we would then take those to market and -- and salvage the value of them.

So there are -- there are daily transactions just almost by design to give us the -- the resources that we need under a worst-case scenario.

MR. BOB PETERS: Or you could have left this energy in storage, correct?

MR. DAVID CORMIE: No, because the water has to be actually in the river be -- it's -- because of the travel times in Manitoba's river systems, three (3) to five (5) weeks -- three (3) to five (5) weeks from now we don't know whether we're going to have cold weather.

We have to assume that it will be cold, we release water from storage on that basis and then the weather will actually turn out to be whatever occurs, but we can't assume that we have a -- we don't have a perfect forecast four (4) or five (5) weeks in advance, so we have to make reservoir releases that meet the power demand -- the power demands under a worst-case scenario.

MR. BOB PETERS: So the decision to sell this on the opportunity market is as a result of a wrong forecast, an incorrect forecast of what energy would be needed by Manitoba Hydro for a domestic load.

MR. DAVID CORMIE: No. And I disagree

with that -- that description. It's not a wrong forecast. We have to meet the Manitoba load demand under worst-case scenario.

That means no matter what the weather is, we have to be in a position, so those resources have to be mobilized in advance, the water reservoir releases have to be made in anticipation of the cold weather, and if the cold weather doesn't show up, that doesn't mean it was a wrong decision, it means that we were protecting against an energy shortfall situation.

Then the -- depending on what weather actually shows up, we may have -- actually have some surplus. That's the nature of having an obligation to serve. We can't cut domestic load just because we have a wrong fore -- our forecast is higher than the average.

MR. BOB PETERS: So there's imprecision in the forecast, you'll go that far?

MR. DAVID CORMIE: Oh I -- I dec -- I describe it as there's uncertainty in the forecast, and we have to guard against a worst case.

MR. BOB PETERS: And when you talk sending it down the river, which river are you talking about sending down, the Nelson?

MR. DAVID CORMIE: That would be the Nelson River.

MR. BOB PETERS: And from the day it's discharged from the -- Lake Winnipeg, what's the flow time normally for the water to make it's way past Manitoba Hydro's generation stations?

MR. DAVID CORMIE: Well, the -- the -- it's -- it's between three (3) and five (5) weeks to -- for a -- the full effect of a change at the Jenpeg to reach the downstream stations.

MR. BOB PETERS: The opportunity term sales in '03/'04 also are shown in relatively the -- the same quantity as the opportunity spot, correct?

MR. DAVID CORMIE: Yes. You're referring to the four hundred and sixty-eight thousand (468,000)?

MR. BOB PETERS: Yes, sir. This isn't a diversity sale, is it?

MR. DAVID CORMIE: No, this -- this is a bilateral term transaction.

MR. BOB PETERS: And this again is a transaction that Manitoba Hydro didn't have to enter into but it voluntarily did choose to.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And at the time it chose to, it would have assumed the water flows were going to be good in 2003/04?

MR. DAVID CORMIE: Again, I don't think

that assumption is necessary. The only assumption is necessary is that to the extent that -- that we sold it, our cost of serving the sale just had to be less than the revenue that the sale generated. It didn't necessarily have to come from hydraulic resources.

MR. BOB PETERS: But this -- these opportunity term sales did come from hydraulic resources, did they not?

MR. DAVID CORMIE: They may have been purchased, Mr. Peters.

MR. BOB PETERS: You're not aware -- you're not aware then as to the -- the source of the -- the generation for this opportunity term sale?

MR. DAVID CORMIE: Well, I -- I would suspect that we probably purchased in order to make that -- make that transaction, Mr. Peters.

MR. BOB PETERS: You're saying you imported the energy and then turned around and sold it out of storage.

MR. DAVID CORMIE: No, I didn't say we sold it out of storage. I said we -- we may have -- in making the sale we may have purchased the energy and -- for -- for resale at a profit.

It doesn't imply it comes from hydraulic generation. It may be a source from the market. And so

all we're doing is ensuring that when we make the transaction we look at the worst-case scenario, and -- and under the worst-case scenario if we could purchase power cheaper than the revenue then the transaction is a good transaction financially.

MR. BOB PETERS: But it may not be a good transaction in terms of what transpires later in the year.

MR. DAVID CORMIE: Well, if it's been sourced from purchases, it has no effect on the water management -- reservoir management.

It was a purchase made to support a sale, and again, you're asking me details about transactions that occurred almost eight (8) years ago, and I only have the annual data here to respond, so I'm just creating -- I -- if you want me, I can look into those transactions but there's no -- there's nothing to indicate here that we would have sold out of storage to serve this sale.

MR. BOB PETERS: Maybe that would be a worthwhile undertaking then for the Board, Mr. Cormie, if you can determine the origin of the opportunity term sales that are shown on book of documents, Tab 35, page 78, for the 2003/04 year.

Would you be able to do that, sir?

MR. DAVID CORMIE: We'll look at it, Mr.

Peters, yes.

--- UNDERTAKING NO. 37: Manitoba Hydro to determine the origin of the opportunity term sales that are shown on book of documents, Tab 35, page 78, for the 2003/04 year

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: When we look at the dependable sales on the same chart for '03/'04, Mr. Cormie, would it be correct that Manitoba Hydro only had 4,200 gigawatt hours of committed long-term sales that it was obliged to -- to service and then entered into some additional lon -- dependable sales throughout the year?

(BRIEF PAUSE)

MR. HAROLD SURMINSKI: Mr. Peters, perhaps I could take this opportunity. Earlier you asked for the update of the 2003 Power Resource Plan. I've got some of the -- the numbers that -- that you could utilize to -- and it may help in answering this question.

MR. BOB PETERS: Please, sir.

MR. HAROLD SURMINSKI: Okay. You wanted

the hydraulic resources first of all and I said it was around twenty-one thousand (21,000). It's actually twenty-one thousand two hundred and sixty (21,260). The total of the thermal plant is four zero nine zero (4090), four thousand and ninety (4,090).

And for reference purposes in the -- the large sheet that you handed out it was four one one eight (4118), so it's very little different as I suspected, the thermal total at four one one eight (4118) in the large sheet compared to '03, four zero nine zero (4090), very similar. Do you want any other quantities on that one?

MR. BOB PETERS: Well, if you've got the additional resources that you had listed as dependable, that would be helpful, and quantify them, please.

MR. HAROLD SURMINSKI: Demand-side management, it was only sixty (60), six zero (60), as opposed two forty-four (244). Imports were five thousand (5,000) -- five zero four seven (5,047), five thousand and forty-seven (5,047) compared to twenty-seven ninety six (2,796) in '09. There were more energy guarantees. There were several other sales that had returned energy and energy guarantees.

There was Ontario, there was US sales at the time that had significantly more energy guarantees coming back. And the question that you're asking now,

what were the total contracts in that year, we had six five five eight (6,558), six thousand five hundred and fifty-eight (6,558) as the obligation for firm contracts in '03/'04.

MR. BOB PETERS: And my question was a bit finer than that, Mr. Surminski. It was how much of that was -- was the long-term contract and how much of that would have been shorter-term dependable sales?

MR. HAROLD SURMINSKI: They are all long-term contracts.

MR. BOB PETERS: And does that number that you gave, six five five eight (6,558) include diversity energy?

MR. HAROLD SURMINSKI: Yes, it does.

MR. BOB PETERS: Can you quantify the diversity portion of that?

(BRIEF PAUSE)

MR. HAROLD SURMINSKI: 486 gigawatt hours.

(BRIEF PAUSE)

MR. ROBERT MAYER: While we're doing this

calculation, Mr. Surminski, we heard some interesting stuff in a presentation today. I wonder if somebody could give you the page 1550 of the January 19th transcript. I'll give you a hint, Mr. Surminski, of what I'm talking about.

On page 6 of 13 of the brief we heard this afternoon, the description is:

> "Future construction of generating plants on the lower and upper Nelson River will eventually require a fourth transmission line. For technical reasons, this future line will need to be a 500 kilovolt alternating current line, not a high voltage direct current line, and it needs to be on the west side of the lakes."

I'm now looking at your answer to my question that is on -- starting at line 15 of page 1,550. And you say:

> "Yes, Bipole 3 at 2,000 megawatts is not sufficient to deliver the new combination of the new Keeyask and Conawapa plants. We are not thinking of Bipole 4, however. We do not require something that large at this

time. It could be an AC alternative or it could be an expansion of Bipole 3."

Was that presenter correct? Is this what you're really doing in a 500 kV alternating current line on the west side after -- rather than a Bipole 4?

MR. HAROLD SURMINSKI: No, the presenter background or the information that they used, they're not transmission planning people. They're not currently closely involved with hydro transmission planning, I'd think, and with some independent work that -- that's being referred to there.

MR. ROBERT MAYER: Mr. Surminski, you mentioned an AC alternative. And I tried to pin you down on that AC alternative and -- and you weren't prepared to go there, and you actually said it could be an expansion to Bipole 3. But a number of times during the course of this Hearing when we talked about the Bipole lines and the possibility of Bipole 4, not only today, not only on the 19th, but in prior discussions we've had about this you have mentioned the possibility of an AC alternative.

And none of us and -- could figure out exactly how you could transmit this capacity north/south on an AC alternative. But when I look at what was presented to us today, it sounds an awful lot like what you were talking about before.

Are you telling me this is not a plan, that you're not going to be sending extra power from the upper Nelson by AC current across the top of the province and over to the west side? It certainly makes sense. You wouldn't need the high voltage DC line if you're going to start shipping into -- into Saskatchewan at the border, but this is definitely not what we're talking about.

MR. HAROLD SURMINSKI: I don't see much of a difference. I see it's the same thing. Well, I was talking about an extension on -- on the same page, an extension of the Bipole 3 from 2,000 to 2,500. It just sounds like the same 500 megawatts. So whether it's AC or an extension of the Bipole 3 DC, it has not been decided at this point.

MR. ROBERT MAYER: Okay. But -- but when we talk about the AC alternative it -- it makes sense if it's going to the west side and going to go across the border more than if we're going to take it out of the lower Nelson and try to move the power down to the states.

MR. HAROLD SURMINSKI: Excuse me, what border are you talking about?

MR. ROBERT MAYER: I'm talking about -- well, firstly, the Saskatchewan border on the west side

and the American border on the south.

MR. HAROLD SURMINSKI: Oh. And why the Saska -- why is the Saskatchewan border being referenced here?

MR. ROBERT MAYER: Because it was referenced in the presentation.

MR. HAROLD SURMINSKI: It was only being near Saskatchewan. They thought that AC -- having an AC line, you could tap off into Saskatchewan. A DC line just -- you cannot tap off of it. You -- you can only tap off at the terminal stations, at the converter stations. So there's an advantage to AC if you're -- want to tap off into Saskatchewan.

MR. ROBERT MAYER: I'm aware of that, and he says that in his -- in his presentation, "make possible future sales to Saskatchewan." Okay, I guess I have your answer. I -- thank you very much.

MR. HAROLD SURMINSKI: Thank you.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Am I correct, Mr. Cormie, that before 2005 Manitoba Hydro's exports had only been the bilateral agreements?

MR. DAVID CORMIE: No, because the Ontario market opened, I believe, in 2002. And so from

2002 until 2005, market transactions with the IESO, the Independent Electricity System Operator, in Ontario were possible. So bilateral transactions in the US, yes, you're correct there. The US market didn't open up until April the 1st, 2005, but financial transactions with the market in Ontario were going since 2002.

MR. BOB PETERS: Thank you for that clarification. The Ontario transactions are relatively small in scale?

MR. DAVID CORMIE: Yes, because the transmission into Ontario at that time, I think we were transacting up to about 260 megawatts compared to a much larger interconnection into the United States.

MR. BOB PETERS: And so up until April 1st of 2005, Manitoba Hydro's export sales had to have a defined counterparty on the other end of it, agreeing to the terms of your agreements?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: You also explained that, if Manitoba Hydro had conditions of less than favourable water conditions, Manitoba Hydro had to enter into buyback arrangements where Manitoba Hydro would actually go out and purchase the energy it was going to sell to the counterparty, and then have that counterparty buy it from Manitoba Hydro, and that all had to be done through

the -- the one (1) and only counterparty that we're talking about in terms of the -- the transaction.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Would it be correct to say that if Manitoba Hydro had unfavourable water conditions such that it had to buy back, under a contract, Manitoba Hydro had to notify the counterparty that it wanted to do so? You had to phone them up, write them, email them, whatever you did back in 2005, and say that you've got unfavourable water conditions and you want to buy your way out of a contract by purchasing the energy for that counterparty and then having them buy it from you?

MR. DAVID CORMIE: Yes, we had those communications.

MR. BOB PETERS: There was no anonymity that you've now said is an advantage under the new contracts?

MR. DAVID CORMIE: That's right.

MR. BOB PETERS: And the reason that anonymity is important is that, without it, the counterparty could extract a shortage pricing premium on Manitoba Hydro, would that be true?

MR. DAVID CORMIE: Yes, the -- under those circumstances, the seller would have an advantage.

MR. BOB PETERS: Now, as we go past 2005, Manitoba Hydro takes a different position that -- that there be no ability for a counterparty -- or for there to be shortage pricing as it affects any of Manitoba Hydro's bilateral agreements into the States. Have I got that right?

MR. DAVID CORMIE: Yes, the counterparty has lost any advantage that it might have -- it might have had prior to the market because now Manitoba Hydro has a mar -- market alternative, and -- and since that date we have renegotiated those contracts so that we can serve our sale obligations using all the market mechanisms that the market allows a market participant to use in its -- make -- fulfilling its obligations.

MR. BOB PETERS: And one of the reasons Manitoba Hydro takes that position, Mr. Cormie, is that there can be as much as 138,000 megawatts of total market capacity in the MISO area?

MR. DAVID CORMIE: Right. On the -- on -- on the long-term contracts at the time, we were required to transact at the Manitoba border, at -- at the border. Delivery had to be made at the border and any buyback had to be made at the border. And now, with the market mechanisms, we're able to purchase and financially settle the transaction without worrying about physical

delivery.

The pur -- the purchase doesn't have to take place at the border. It can be settled financially in the market, and -- and the issue of transmission rights has become moot.

MR. BOB PETERS: Why has the issue of transmission rights become a moot point?

MR. DAVID CORMIE: Because the -- the Day-Ahead market is a financial market, so we will financially fulfill our obligation by purchasing from the market, telling our customer that we're -- that we're financially settling, we've already modified our agreements to allow that to happen.

No physical -- in the Day-Ahead market no physical delivery is taking place. It's a financial settlement, and so in Real-Time we don't have a financial obliga -- we don't have a physical obligation. No power needs to flow because the market will supply the -- the power to the customer rather than Manitoba Hydro.

In the -- in the -- prior to that time, we had the right to use purchased energy to serve the sale but we had to find someone who owned transmission rights at the border so that we could physically exchange the power at the border and have the -- through the buyback mechanism have the transaction net out to zero.

Now, we can do that financially in the Day-Ahead market. Physical delivery is no longer necessary. Owning transmission rights in the US is no longer an issue. And so we have much more flexibility.

And then what we're getting at -- under a financial settlement in the Day-Ahead market is the -- the lowest costs supply possible because there are -- the market is hundreds and hundreds of utilities who are making their energy available to the MISO.

And the MISO then chooses how to serve all the obligations, including Manitoba Hydro's financial obligations, in the least cost manner. And so the market works to our benefit in -- in that -- in that circumstance.

MR. BOB PETERS: Would the Board be correct in understanding that you can bid into the Day-Ahead market then without firm transmission lined up?

(BRIEF PAUSE)

MR. DAVID CORMIE: Yes, you can but you -- you are -- you are subject to curtailment risk if you do not have a firm transmission.

So on an export sale on non-firm transmission, if you are taking physical delivery on a

sale or if -- if you're making physical delivery on a sale that goes on non-firm, you're subject to market rules that can curtail those sales because they're on non-firm transmission.

And the same thing if we were purchasing and making physical delivery, buying from the market, and we were buying on non-firm transmission then we -- those transactions would be subject to curtailment risk, as well.

And so any -- any transaction that -- that involves physical delivery on non-firm transmission is a much more risky transaction then if we have firm transmission.

So we've been successful in negotiating the use of all the firm transmission northbound into Canada so that to the extent that we need to make physical delivery we do it on firm transmission, and then it's not subject to curtailment risk.

The extent that we take additional purchases on non-firm, those are subject to curtailment.

MR. BOB PETERS: Manitoba Hydro does enter into sales on non-firm transmission?

MR. DAVID CORMIE: Yes, sometimes we have no -- no choice. It's better for us to take the risk of using non-firm transmission because our firm transmission

isn't available -- the firm transmission is not available. Our counterparty may have, for -- for whatever reason, not released it for our use, and so our -- our choice is to use the non-firm transmission and take the -- the risk of curtailment. Or the alternative then is to leave the water in reservoir storage, and if that's -- if that can be done without spillage risk, that's okay. We -- we -- we'll take the energy to market at a subsequent time, but like happened in the summer of 2010, many of the sales that we made on non-firm transmission were subject to curtailment and water was subsequently spilled. So there is a lot of risk associated with non-firm transmission.

MR. BOB PETERS: In addition to those transactions where the water would be spilled because the transmission doesn't come through, Mr. Cormie, is there a financial penalty to Manitoba Hydro?

MR. DAVID CORMIE: To using a non-firm transmission?

MR. BOB PETERS: To making a sale with non-firm transmission and the transmission then is taken away for whatever market rules require.

MR. DAVID CORMIE: Yes, the way the market rules are written today, to the extent that Manitoba Hydro doesn't make physical deliver if even

using non-firm transmission. And then Manitoba Hydro is charged with what's called the RSG charges. They're called Real-Time -- or Revenue Sufficiency Guarantee Charges.

So to the extent that our power doesn't flow into the market and there has to be a redispatch of the generation in the market, which causes increased costs, then those costs get ba -- get sent back to the company who was responsible for the -- for the schedule that wasn't delivered.

Unfortunately, that's not fair and we're in the process of appealing that ruling right now with the market.

MR. BOB PETERS: How much has Manitoba Hydro been tagged under those RSC (sic) charges?

MR. DAVID CORMIE: I'm not sure what our RSG charges this year are but believe me they are -- they can be significant, yep.

MR. BOB PETERS: Are these charges found in that item for which an undertaking is going to be provided, which indicates what else was being recorded under -- I think it was under Real-Time. It was -- if, I'm going by memory here, there was transmission revenues, there was transmission charges, as well as ancillary services charges.

MR. DAVID CORMIE: I'll have to find out in which category the RSG charges are -- are allocated, Mr. Peters.

MR. BOB PETERS: And since 2005, can you undertake to provide the Board with an indication as to what RSC -- RSC charges -- sorry, RSG charges Manitoba Hydro has -- has had to pay on an annual basis?

MR. DAVID CORMIE: We can do that. And -- and, Mr. Peters, that's one (1) of the advantages among the advantages of the Day-Ahead market is that there are no -- if you offer your energy in the -- into the Day-Ahead market you're not subject to RSG charges.

If you show up on the day of delivery and say, I've got some energy to deliver, there's a penalty associated with late participation in the market and -- so that's one (1) of the main factors for offering energy in the Day-Ahead market.

And we will get you that number.

--- UNDERTAKING NO. 38: Manitoba Hydro to provide an indication as to what RSG charges Manitoba Hydro has had to pay on an annual basis

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: So what do you call the product that Hydro is bidding in without firm transmission?

(BRIEF PAUSE)

MR. DAVID CORMIE: It's electricity. It's --

MR. BOB PETERS: I probably had that coming, but, Mr. Cormie, is it -- do you categorize that as Real-Time? Do you categorize that as spot, or how do you -- how do you categorize that for reporting purposes?

MR. DAVID CORMIE: Well -- well, all physical delivery takes place in the Real-Time. And so every megawatt hour that actually goes to physical delivery is a Real-Time transaction. There are real -- Real-Time bilateral deliveries and Real-Time market transactions.

And there is no transmission associated with the delivery of anything that is sold in the Day-Ahead market. All the Day-Ahead market does is -- is set the price and there's no transmission associated with that.

MR. BOB PETERS: Okay. Maybe my question wasn't clear. As -- as the Board will understand then,

that on the Day-Ahead sales there's no risk of RSG charges coming back against Manitoba Hydro.

Is that correct?

(BRIEF PAUSE)

MR. DAVID CORMIE: To the extent that a Day-Ahead transaction, which is a commitment to physical delivery in the Real-Time, to the extent that that Day-Ahead transaction gets curtailed in the Real-Time, there -- there can be RSG charges associated with that, but it's -- it's associated with the Real-Time delivery.

MR. BOB PETERS: All right. So all of these extraprovincial sales that are subject to the RSG charges would be considered Real-Time obligations?

MR. DAVID CORMIE: Yes. So if -- if Manitoba Hydro had -- made a Day-Ahead commitment and it filled its Day-Ahead commitment in the Real-Time market, exactly as it had committed to, there are no additional charges. The -- the -- it's only if there is a deviation from the Day-Ahead would Manitoba Hydro be subject to.

The Day-Ahead market can be a commitment to make -- let's say that we were selling a thousand megawatts, Mr. Peters, and nine hundred (900) was going to go physical and we were going to settle a hundred

financially. So the hundred financially gets settled in the Day-Ahead and they're -- it's not subject then to any additional charges after that point, because we've -- we've told the market that we'll fulfill our -- that hundred megawatt obligation from the market. And -- and so, after the -- after the Day-Ahead market clears that transaction is over.

The 900 megawatts that goes to physical delivery, that is now subject to deviation charges. If, for example, Manitoba Hydro had a system problem and we had to curtail delivery on the nine hundred (900) -- let's say we only had made eight hundred (800) available. Then the -- the deviation from nine hundred (900) to eight hundred (800) would be subject to -- we'd have to buy that from the market at the market price that existed in Real-Time and we would have to pay the penalties associated with not making that delivery. And those penalties would be associated with the RSG charges.

In addition to that, any time that we use that we use non-firm transmission to make those nine hundred (900), there'll be some charges associated with the use of -- of the non-firm transmission.

MR. BOB PETERS: All right. Thank you for the clarification. Do -- does the Board take from those answers, Mr. Cormie, that the -- the product that

you're bidding in without firm transportation would command a lower price compared to that with firm transportation?

MR. DAVID CORMIE: No, if -- if -- it would -- it would get the market clearing price, whatever that -- where -- whatever that was. It's just that you would be subject to the risk of curtailment and the risk of -- of RSG charges. And you're subject to the risk that the Real-Time price that you have to buy it back at could be higher than what you sold it in the Day-Ahead market.

But the vast majority of the time, the Day-Ahead market clears at a price higher than the Real-Time market. So let's go back to my example of a thousand megawatts. If we sold a thousand megawatts in a Day-Ahead market and it cleared at let's say fifty dollars ($50), and then there was a system problem and we could only deliver eight hundred (800), we would buy back -- we would by the two hundred (200) that we had previously sold from the market at Real-Time price, and instead of buying it at -- at the Day-Ahead price, we might -- we would buy it at the Real-Time price; and that could be higher or lower than the fifty dollars ($50). But generally, the Real-Time market clears at a price lower than the -- the Day-Ahead market.

And so you'll see that -- that in a lot of days now -- even though we're in high water years, because our transactions get curtailed Day-Ahead compared to Real-Time, that we're making power purchases, and all we're doing is purchasing back the energy that we had sold a Day-Ahead. And, you know, we have an offsetting transaction because of -- we're not able to fulfill our Day-Ahead commitment, either because we had problems in our system or we were -- we were curtailed on the transmission service in the United States.

Mr. Warden always asks me, Why are we buying electricity when we're -- we're so long -- we're just wor -- that's how the market works.

MR. VINCE WARDEN: I won't ask that again.

MR. BOB PETERS: You indicated Manitoba Hydro was appealing some MISO decisions on the RSG charges.

MR. DAVID CORMIE: Yes. The -- the market rules in MISO are -- involve a stakeholder process where market participants can affect the rules. And Manitoba Hydro is -- is working to have some rules that unfairly treat market participants, especially Manitoba Hydro, adjusted. And we -- we believe we have a -- a very good argument that, when we're directed to curtail

the transaction because the market needs that transaction to be curtailed, that we should be held whole whole, that we shouldn't have to pay the penalties.

MR. BOB PETERS: You think the market should be -- should be responsible then for the additional cost?

MR. DAVID CORMIE: Well, if it's the market that's benefiting from the curtailment, then the market should bear those costs. It shouldn't be borne by -- you know, if I -- if I direct you to do something for my benefit, Mr. Peters, why would you -- why would you have to pay for that? It -- it should be me that's paying for that, because I'm the one that's receiving the benefits.

MR. BOB PETERS: And that argument is -- has been made and you're waiting for a ruling?

MR. DAVID CORMIE: We're involved in the stakeholder process and working to make that happen, if we can.

MR. BOB PETERS: Your undertaking's going to quantify the amount that's under appeal?

MR. DAVID CORMIE: I don't think it will be retroactive, Mr. Peters. We're trying -- we're trying to change the -- the market rule on a go-forward basis. We wouldn't get a lot of traction by telling MISO we want

to go back for five (5) years and -- and we want a big refund.

MR. ROBERT MAYER: Sort of like your success getting us to make retroactive awards.

MR. DAVID CORMIE: Yes. And, you know, Manitoba Hydro, as an external market participant, there -- there -- there are only a few companies that part -- that -- that participate. Generally, the market rules are designed for people to be in the market, and generally the response is, If you don't like the rules then you should join the market. And we respond, Well, we're -- we're Canadian, we've got sovereignty issues, and, you know, we need -- you need to consider that when you talk about discriminatory rules. And -- and that's the argument that we would make.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: I want to turn back with you, Mr. Cormie, to the capacity in the MISO area. And you'd -- I think you'd -- you'd agreed that it was in the ballpark of 138,000 megawatts total MISO market capacity, correct?

MR. DAVID CORMIE: It's a very large number like that, yes, Mr. Peters.

MR. BOB PETERS: And would you agree that

there's probably only about 80,000 megawatts online on average?

MR. DAVID CORMIE: Yes, and that's what creates the opportunity for -- for Manitoba Hydro to go to the market on an average basis to -- to rely on that surplus that's available on average and make purchases rather than generating it on -- on its own.

MR. BOB PETERS: All right. When Manitoba Hydro makes purchases, only a fraction of that eighty thousand (80,000) is available or accessible through transmission from North Dakota?

(BRIEF PAUSE)

MR. DAVID CORMIE: The -- the difference between eighty thousand (80,000) and a hundred and thirty-eight thousand (138,000), the 58,000 megawatts, that's spread out across the entire MISO footprint. That entire fifty-eight thousand (58,000) is not available for physical delivery due to transmission limitations within the MISO footprint.

However, it's that fifty-eight thousand (58,000) -- or that -- that eighty thousand (80,000) that sets, on average, the market clearing price. And so we're able to enjoy the price that's set by all the

generation and -- you know, when it comes to the financial aspects.

MR. BOB PETERS: But in terms of importing to Manitoba, Minnesota generally has a supply shortage or a shortfall, would you agree?

MR. DAVID CORMIE: No, no. Minnesota has sufficient generation to meet their summer peak, plus probably at this time a 20 percent reserve in the summertime. In the wintertime, they're not in their -- they're not a winter-peaker, and so there will be a much larger surplus available in the winter when -- and that's the diversity nature of our loads, and our -- we're -- our surpluses occur in the summer; their surpluses occur in the winter.

MR. BOB PETERS: And they'd take some -- some generation off line in their winter season?

MR. DAVID CORMIE: No, it's -- it's all available for dispatch. Dispatch, though, is dependent on what it costs to run that generation. The -- the only time that units would be out of service would be during periods of annual maintenance.

But a company who is -- participates in the market must offer energy, and he hasn't -- he doesn't have the option of withholding. So if that generator is available for service, the market rules require a utility

to make that available for the region as a whole to use.

So there is no held-back generation.

MR. BOB PETERS: In terms of Wisconsin, is there a modest supply of surplus in that state, sir, as to your knowledge?

MR. DAVID CORMIE: I can't speak to that, Mr. Peters. I don't have the detailed knowledge there.

MR. BOB PETERS: And what about North Dakota? Are their surpluses typically -- was it 10,000 gigawatt hours a year?

MR. DAVID CORMIE: Again, I can't speak to the states -- the state-by-state situation, Mr. Peters.

(BRIEF PAUSE)

MR. BOB PETERS: In 2006/07, Mr. Cormie, did Manitoba Hydro pay a premium on its energy purchases?

MR. DAVID CORMIE: Those energy purchases were made through the MISO market, and we would have paid the LMP price at the -- at the node -- at the MISO node -- Manitoba Hydro -- at the border between Canada and the United States, there was no premium paid at that time.

MR. BOB PETERS: Did you -- did Manitoba Hydro consider that the market price had climbed as a

result of Manitoba Hydro's shortage?

(BRIEF PAUSE)

MR. DAVID CORMIE: Manitoba Hydro's needs relative to the market needs as a whole is not significant. I don't believe that we set the -- the market clearing price when we're purchasing, Mr. Peters. Mark -- prices were up in the market as a whole because of extremely cold weather, high natural gas prices, so it wasn't because of Manitoba Hydro's activities.

(BRIEF PAUSE)

MR. BOB PETERS: How does Manitoba Hydro come to know that it has no influence on setting the market clearing price?

(BRIEF PAUSE)

MR. DAVID CORMIE: I -- I said, Mr. Peters, that we don't set the market clearing price when we're purchasing. We do influence the market clearing price when we sell, especially during the off-peak period in the summertime.

(BRIEF PAUSE)

MR. DAVID CORMIE: We have a history of market activity, and we'd studied that and -- and come to those conclusions based on a review of our -- our transactions in the market.

MR. BOB PETERS: Mr. Chairman, I want to turn to a new area with the witness panel, and this might be an opportune time for a short afternoon recess, if that suits the Board.

THE CHAIRPERSON: Very good, Mr. Peters.

--- Upon recessing at 2:41 p.m.
--- Upon resuming at 3:06 p.m.

THE CHAIRPERSON: Okay, Mr. Peters.

MR. BOB PETERS: Thank you, Mr. Chairman.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Warden, just to change -- change up the focus of some of my questions and -- can you state concisely for the Board, Mr. Warden, what is Manitoba Hydro's core business?

MR. VINCE WARDEN: Mr. Peters, I -- I probably couldn't state it anymore concisely than the --

the words that are quoted in the Act, which we reference frequently, and we reference in our annual report. And I can -- I can read you from the Act if you like, but I think it's -- it's well -- well stated there.

MR. BOB PETERS: Well, when you say you could read from the Act, you'd be looking at Tab 26 of the book of documents, and page 5 of the book of documents, the top right-hand corner?

MR. VINCE WARDEN: Yes, exactly.

MR. BOB PETERS: And you'd be wanting to read to the Board, if they were inclined to listen, you're -- you're rec -- recanting Section 2 of the legislation?

MR. VINCE WARDEN: Yes, Mr. Peters.

MR. BOB PETERS: And I don't want Mr. Williams to take any credit for this being in the book of documents, because he gets none for it. It was going to be in there long before his opening comments.

But let me summarize it, Mr. Warden. You see it as the core business to supply power adequate for the needs of Manitobans?

MR. VINCE WARDEN: That's part of it, Mr. Peters.

MR. BOB PETERS: And the other part is to market and supply power extraprovincially?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Before we go to page 5, let's turn back to page 4 of the book of documents under Tab 26. And for the record, we're referring to PUB Exhibit 16, Mr. Chairman and Board members.

In Tab 26 there's some fascinating legal points that I'm sure your counsel can appreciate. But I've gone back into the archives, so to speak, and I've pulled out what I call the pre-1997 legislation, starting on page 4.

Have you found that, Mr. Warden?

MR. VINCE WARDEN: Yes, I have it here.

MR. BOB PETERS: And in your tenure with Manitoba Hydro you would be able to confirm that prior to 1997, Section 2 -- Section 2 of the Manitoba Hydro Act was as stated on page 4 at Tab 26 of the book of documents?

MR. VINCE WARDEN: Yes, I can confirm that.

MR. BOB PETERS: And would you agree that in reading Section 2 on the pre-1997 version it speaks of providing adequate power for the needs of the province?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Would you agree that it doesn't speak to extraprovincial sales directly in that?

MS. MARLA BOYD: Mr. Peters, the statute speaks for itself. As I mentioned to you before, Mr. Warden is not a lawyer, and if you're looking for legal opinions -- we're happy to address these issues in argument, but it's not appropriate for -- for cross-examination.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Warden, in the pre-1997 days of Manitoba Hydro, would it be correct to say that exports were seen as a -- essentially a byproduct of the supply of electricity adequate to the needs of Manitobans?

(BRIEF PAUSE)

MR. VINCE WARDEN: Well, I never -- I never in those days referred to the export sales as being a byproduct. It was an integral part of operating and managing a hydraulics -- generation system.

MR. BOB PETERS: Would you agree that the generating stations that were constructed were generally constructed on the premise that it was needed at the time of construction for the supply of power to Manitobans?

MR. VINCE WARDEN: Pretty much so until

Limestone was -- was constructed and put into service, the final unit put into service in 1992, Limestone was actually advanced by one (1) year to take advantage of export opportunities.

MR. BOB PETERS: So prior to Limestone, any surplus electricity to the needs of Manitobans was seen as available for exports.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: It wasn't that exports drove the construction of any generating stations --

MR. VINCE WARDEN: That's right.

MR. BOB PETERS: -- prior to 1997.

MR. VINCE WARDEN: That's correct, yes.

MR. BOB PETERS: Would it also be --

MR. ROBERT MAYER: What about 1992?

MR. VINCE WARDEN: I'm sorry, I -- I think we were talking prior to Limestone, and Mr. Peters and I were agreeing that prior to Limestone there was not -- any generating stations were not built for export.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: All right. And I -- I was on the same page as you, Mr. Warden; obviously not the same page as the Vice Chair. But, excluding Limestone, that was the -- the intention.

MR. VINCE WARDEN: Yes, I agree.

MR. BOB PETERS: And in terms of Limestone being advanced for generation, you've -- you've attributed only one (1) year of advancement of Limestone being done for the purposes of -- of export.

MR. VINCE WARDEN: Yes, it did set the precedent though of generation being added for the express purpose of serving the export market.

MR. BOB PETERS: Mr. Warden, then if we -- if we go to 1996 and '97 and turn the page to page 5 of Tab 26 of the book of documents, the legislation changed post 1997, correct?

MR. VINCE WARDEN: It did.

MR. BOB PETERS: And we've already discussed that in terms of the core business it was not only to supply power adequate for the needs of Manitobans, but it also now had some expressed provisions for the marketing and supply of power extraprovincially.

MS. MARLA BOYD: Again, Mr. Peters, the legislation speaks for itself.

MR. BOB PETERS: Your mic.

MR. VINCE WARDEN: Yes, Mr. Peters, I would agree with that. And I think Limestone sort of -- well, no doubt Limestone -- the -- the fact that we advanced Limestone for the purpose of export, the Act was

not explicitly clear as to whether or not it permitted Manitoba Hydro to do that. So one of the reasons for the changes in 1996 was to make that explicitly clear, that Manitoba Hydro did have that authority.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: It was to explicitly provide Manitoba Hydro with the authority to construct generating stations for the sole purpose of export.

MR. VINCE WARDEN: Well, Mr. Peters, there were -- there were other things as added into this same section that we are referencing.

MR. BOB PETERS: No, that -- that's fair, Mr. -- Mr. Warden, and I -- I don't -- I'm not -- you know, your counsel's already kicked me a couple times here to keep away from that section and -- and I -- and I understand her point. But I want to understand from Hydro's perspective, prior to the change in legislation, Manitoba Hydro, as I understood your evidence, was building generating stations for the purposes of serving the domestic load, albeit a one (1) year exception for Limestone I think we've agreed on.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And then -- and then, going forward, there was a degree of, you say,

uncertainty as to, you know, whether the legislation said -- said something that was amenable to the Corporation's plans or not. That was one (1) of the reasons that Manitoba Hydro thought it -- it might want to revise its legislation.

(BRIEF PAUSE)

MR. VINCE WARDEN: Mr. Peters, I think there -- I'm advised there were -- there was some uncertainty at the time as to whether or not we had that authority. By embedding it in the Act as we did that removed that -- that uncertainty.

MR. BOB PETERS: All right. Fair enough. That uncertainty was now such that, in management eyes, regardless of what the legislation says word for word, the planning and the operation of the business, Hydro didn't have the same concerns about whether it could build for exports only.

MR. VINCE WARDEN: That definitely clarified it from a management perspective, yes. I'd absolutely agree with that.

MR. BOB PETERS: What is it that you recall, if anything, back in 1996/97, that led the Corporation to want to perhaps explore exports and

building for exports more than it did before the legislation changed? Was there anything that -- that drove that decision?

MR. VINCE WARDEN: Mr. Peters, ultimately, generation is built to serve the Manitoba load, there's no question about that. So it's -- it -- when we -- when we construct generation today, as we're doing with Wuskwatim, it's clear that it will be required to serve the Manitoba load at some point.

However, when we originally committed to Wuskwatim, it was being built a merch -- merchant plant solely for the purpose of export. Whether we would have had that express authority with the act as it was previously written was somewhat of a question, if not from a legal perspective, at least from a management perspective.

MR. BOB PETERS: All right. I shouldn't have forgotten Wuskwatim, as I -- as I may have, but that's a prime example of the intention. When Wuskwatim came onto the drafting table, it was -- you called it a merchant plant, which would mean it would be built primarily for exports, and then only in the later years would it be turned over and used for domestic supply.

MR. VINCE WARDEN: Well, ultimately it would be turned over and used for domestic supply. It

was just a question of timing.

MR. BOB PETERS: And -- and you used the word "ultimately" in your second-last answer to me. That suggests that any northern generation that Manitoba Hydro undertakes will ultimately, in your words, be needed for Manitobans only.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And ultimately is a long time?

MR. VINCE WARDEN: It is, but the generating stations are built for a very long time.

MR. BOB PETERS: Hundreds of years?

MR. VINCE WARDEN: At least a hundred (100) years anyway.

MR. ROBERT MAYER: Isn't a much better example of that Conawapa 1? You built -- or you started building Conawapa based on an export contract with Ontario, correct?

MR. VINCE WARDEN: Yes, that is a good example, Mr. Mayer. Again, it would have been, you know, after the Ontario sale terminated. It would be -- would have been used for the Manitoba load.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: But Conawapa 1, as the

Vice Chair has referred to it, that all took place in the late '80s and the early 1990s, didn't it, before the legislation changed?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Mr. Surminski, to give Mr. Warden a break, can you indicate, in the pre-1997 days, wasn't it the case that Manitoba Hydro relied almost totally on hydraulic generation for its domestic sales?

(BRIEF PAUSE)

MR. HAROLD SURMINSKI: Mr. Peters, there's at least -- well, there's two (2) parts to it. I'll let Mr. Cormie talk about the contracts themselves.

But it's -- it's not correct. We -- we always use non-hydro resources to firm up -- what we call firm up our hydro that's not dependable. So we make -- we -- our criteria counts on dependable energy for domestic, or -- or firm sales, but we could firm up additional above dependable hydraulic, what we would call non-dependable hydraulic, by -- I mean by firming up in a -- in a -- just using non-hydro resources in the lowest flow years.

If it's only 10 percent of the time that

you require -- because of the variation in our flows, so if it's only 10 percent of the time that you require non-hydro resources, it makes sense to sell this hydro for the 90 percent of the time in a firm contract and -- and only count on your non-hydro for your 10 percent. So we've always counted on non-hydro support.

MR. BOB PETERS: The -- the non-hydro support, back in those pre-1996/97 days, Mr. Surminski, we're talking primarily coal generation and imports?

MS. HAROLD SURMINSKI: Yes, correct.

MR. BOB PETERS: Although I didn't ask about firm contracts in my question to Mr. Surminski, Mr. Cormie, if you had something you wanted to add on that, you're certainly welcome to do that.

MR. DAVID CORMIE: Yes, Mr. Peters. We started our major program of developing the Nelson River with the Kettle generating station in the early '70s.

And all through the 1970s as we developed Kettle, Long Spruce, and Jenpeg, part of that development package was to build interconnections to mark -- to allow us to market the surplus.

And once we had that interconnection in place to market the surplus, we also then had access to the large energy surpluses that were available in the -- in the United States.

And so there -- the original 500 megawatt sale to Northern States Power had a one and a half (1 1/2) million megawatt hour annual energy guarantee under adverse water conditions. I remember the 1987 firm sale to Ontario for 200 megawatts had a similar provision.

And -- and what that allowed Manitoba Hydro to do was to rely on the surpluses that other utilities have in energy surpluses and avoid building the thermal plants in Manitoba. And we could take advantage of their surplus capability, use the firm transmission and -- and achieve a -- as a dependable supply of power for Manitobans at a lower cost because we weren't having to build our own thermal plants in Manitoba. We could rely on the -- the surplus capability other utilities had.

So this history of energy imports became -- has been going on for a long time, and it became possible with the construction of -- of the interconnections to Saskatchewan, Ontario, and the United States.

MR. ROBERT MAYER: Mr. Cormie, normally your dates and accuracy are impeccable, but in 1968 I sat in what I -- what was described to me as the largest PUB in North America and it was in the camp at the Kettle generating station, 1968.

MR. DAVID CORMIE: Yes, I -- but I think first -- wasn't first power, Mr. Mayer, in 1971?

MR. ROBERT MAYER: I -- I'm not sure when first power was. You did indicate though you started working on the southern -- or the lower Nelson and you clearly started that long before 1968.

MR. DAVID CORMIE: Oh, yeah. I -- I agree. Like it takes many years to -- from -- from exploration through construction, but the inter -- I think the first in -- major interconnection with the United States was in 1972 to NSP, and it was followed with one (1) to Minnesota Power, and then in 1976 the 500 kV line was put in with Northern States Power, coincident with the in-service date of Long Spruce.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Surminski, since we're playing on history here, can you confirm to the Board that since Lake Winnipeg Regulation, Manitoba Hydro's hydro generation exceeded domestic load in every year except 2003/04?

(BRIEF PAUSE)

MS. HAROLD SURMINSKI: If that was a

response that we had provided, I can confirm that.

MR. BOB PETERS: Well, I thank you for your willingness but let's just make sure that's factually correct.

I was just flipping over to Tab 41 of the book of documents on page 98, and it -- it only goes back, maybe not quite to pre-Lake Winnipeg Regulation, but 1978/79 in any event. And looking at the hydraulic generation, I believe it's correct, Mr. Surminski, but I -- I want you to give the Board the -- the true answer. You're the one who's taken the oath here.

(BRIEF PAUSE)

MR. BOB PETERS: Would -- would that be a fair assessment, sir, to the best of your knowledge?

(BRIEF PAUSE)

MR. BOB PETERS: You're not comfortable answering that, Mr. Surminski?

MR. HAROLD SURMINSKI: We don't have the information for the --

MR. BOB PETERS: I'm sorry.

MR. HAROLD SURMINSKI: -- loads.

MR. BOB PETERS: All right.

(BRIEF PAUSE)

MR. BOB PETERS: Our information from one (1) of your power resource plans is that back in 1989/90 the -- sorry, a load forecast back in 1989/90, the domestic generation was -- I'll start again. Mr. Surminski, looking at a load forecast information from Manitoba Hydro back in 1989/90, the energy was 17,298 gigawatt hours that would have been used by the Manitoba domestic customers. Does that sound reasonable?

MS. MARLA BOYD: Mr. Peters, if this is important, perhaps we can take it away and confirm it for you rather than trying to piece together stuff from 1989. It doesn't appear to be something that's on the record, so we can pull it together for you if you'd like an undertaking.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: All right. Well, then the question -- the undertaking question, Mr. Surminski, is to confirm or otherwise that since Lake Winnipeg Regulation, which I think was 1976, sir -- and so undertake to advise the Board that since Lake Winnipeg

Regulation, starting in 1976, whether Manitoba Hydro's domestic -- the -- the hydraulic generation exceeded domestic load in every year except the '03/'04 year?

MR. HAROLD SURMINSKI: Yes, we could undertake to investigate that.

MR. BOB PETERS: I appreciate that, sir. Thank you.

--- UNDERTAKING NO. 39: Manitoba Hydro to indicate to the Board if, since Lake Winnipeg Regulation, starting in 1976, whether Manitoba Hydro's hydraulic generation exceeded domestic load in every year except the '03/'04 year

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Cormie, in a -- in an answer that you'd given, your last answer, sir, does that suggest that post-1997 Manitoba Hydro was not only -- was no longer just exporting surplus only, but they would also actually import to support exports? You had that capability?

MR. DAVID CORMIE: We've been undertaking

those transactions as long as we've been interconnected. Nothing changed in 1997, Mr. Peters.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Warden, back to you. In terms of the drought situations in Manitoba's -- Manitoba Hydro's history, 1988 and 1989 were two (2) of such years. Have I got that right?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And in each of those years Manitoba Hydro lost money?

(BRIEF PAUSE)

MR. VINCE WARDEN: When you say lost money, Mr. Peters, are you referring on a bottom-line basis?

MR. BOB PETERS: Negative net income. Is that the accounting way to say it?

(BRIEF PAUSE)

THE CHAIRPERSON: Mr. Peters, while you're looking at that page 98 in your book of documents,

just a question has come up amongst the three (3) of us here. The annual hydraulic generation going back to '78/'79, does that include the old Winnipeg Hydro operation?

MR. BOB PETERS: Our understanding is it will include that, sir.

THE CHAIRPERSON: I thought it might.

MR. BOB PETERS: Yeah.

(BRIEF PAUSE)

MR. DAVID CORMIE: Yes, unfortunately, Mr. Peters, the reference for this page 98 refers to PUB/MH-1-79, which only deals with precipitation. There's no reference to annual generation, so we don't know whether these numbers are correct or -- and we don't know what the Manitoba load is. We need to do -- we need to find out what those numbers are and -- and -- before we can comment on this table.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: And I think Mr. Surminski had already agreed to undertake to do that. Have I got that right, Mr. Surminski?

MR. HAROLD SURMINSKI: Yes, for the --

MR. BOB PETERS: All right. Thank you. Mr. Warden, this wasn't meant to be a major point, but the last time Manitoba Hydro had a drought of some significance was the '88/'89 time frame.

MR. VINCE WARDEN: Yes, I've already agreed with that, Mr. Peters. What I was looking to confirm as to the amount of the loss, if any, incurred in that year -- and I don't have that right at my fingertips, actually.

MR. BOB PETERS: All right. Would you take, subject to check, that in 1988 there was an $18 million negative net income?

MR. VINCE WARDEN: Yeah, I'll accept that.

MR. BOB PETERS: And then in 1989 it was a $26 million -- I call it loss. Maybe you call it negative net income.

MR. VINCE WARDEN: Loss or -- yes, net loss is usually how we describe it.

MR. BOB PETERS: All right. And in those years, the loss was ostensibly due to serving the Manitoba load and having to deal with its export contracts. That would be -- that wouldn't be an unusual explanation for why the company would have lost money?

MR. VINCE WARDEN: Yes, in those years,

we wouldn't have been deriving quite the extent of export revenue -- or the percentage of export revenue as we do today. We don't -- wouldn't have depended on it quite to that extent. But, yeah, in low water years we run the risk of running a lo -- a loss, yes.

MR. BOB PETERS: And there was discussion with the Vice Chair about Limestone coming in service in about 1991/92 time frame.

MR. VINCE WARDEN: Yes, the final unit was placed in service in 1992.

MR. BOB PETERS: And Limestone was the last major generating station built before Wuskwatim?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Some twenty (20) years earlier.

MR. VINCE WARDEN: Right.

MR. BOB PETERS: When Manitoba Hydro says that the in-service date was advanced to take advantage of export opportunities, was that to enter into a long-term contract?

(BRIEF PAUSE)

MR. VINCE WARDEN: Mr. Peters, the -- the long-term contract that we had in place at that time was

-- had been in place since 1976, so the advancement was to take advantage of spot-market opportunities.

MR. BOB PETERS: Is it public record with whom that long-term contract was, the 1976 contract?

MR. VINCE WARDEN: I believe so, yes, Northern States Power.

MR. BOB PETERS: And so Manitoba Hydro advanced Limestone to take advantage of what they'd hoped would be favourable export prices.

MR. VINCE WARDEN: Well, we advanced Limestone to take advantage of what were considered to be a favourable construction climate at that time, and, yes, our forecast of export prices.

MR. BOB PETERS: Would it be correct to say that those favourable export prices didn't pan out the way Manitoba Hydro had thought because Manitoba Hydro lost money in 1993?

MR. VINCE WARDEN: No, I think we had, at the time, projected a loss the first -- the -- in the first year of in-service of Limestone. So, no, I wouldn't attribute that to the export prices. I think our forecast at the time was -- was reasonably accurate in terms of export prices. I -- I -- I'd have to confirm that, though, to be -- to be certain.

MR. BOB PETERS: Well, you can...

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Warden, you said Manitoba Hydro expected to lose money after the new generating station was put in service, correct?

MR. VINCE WARDEN: Well, I'm harkening back to the forecasts that were prepared at that time, and, yes, there was an expectation that, just be -- because of the magnitude of the -- of the fixed plant that was being added to Manitoba Hydro's assets at that time, there was an expectation for a loss in the first -- in the first year, in the first year of operation.

MR. BOB PETERS: And you told the Board earlier in these proceedings that, when Limestone, as an example, would come in service, all of the costs that Manitoba Hydro had capitalized, in my words, crystallize and have to be recovered through the rate structure.

MR. VINCE WARDEN: Yes. Once any unit of plant is placed in service, the fixed costs are added to rate base and either have to be recovered from domestic customers or from export revenues.

MR. BOB PETERS: But you didn't have an export revenue class back then against which to allocate the costs?

MR. VINCE WARDEN: No, but that didn't

mean we didn't have export revenues, and export revenues were allocated back to the customer classes on -- on a -- a basis that was considered to be acceptable at that time.

MR. BOB PETERS: And would you take, subject to check, that the export prices back in 1992/93 were around a penny and a half a kilowatt hour, maybe went up to two and a half (2 1/2) cents a kilowatt hour in 1993/94, based on the annual report filings of Manitoba Hydro?

MR. VINCE WARDEN: Yeah, I'd accept that, yes.

MR. BOB PETERS: That's about the ballpark that -- that electricity was selling for in the export market back then?

MR. VINCE WARDEN: I agree.

MR. BOB PETERS: The cost to produce electricity out of Limestone was greater than a penny and a half a kilowatt hour, was it not, Mr. Warden?

MR. VINCE WARDEN: Yes, considering all the -- the fixed costs, yes.

MR. BOB PETERS: And so, in 1993, if Manitoba Hydro's export revenues -- they -- they appear to increase. And I was looking at, I believe, some annual report summaries. Manitoba Hydro would have had

to take into account additional finance expense and additional depreciation expense in that year?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And in ballpark terms, the finance expense that came in in 1993 would have been about $80 million extra for that year? That doesn't sound unreasonable?

MR. VINCE WARDEN: Well, just thinking, the cost of Limestone, about 1.5 billion. Yeah, that would be approximately the amount of finance expense, yes.

MR. BOB PETERS: And then add another 20 million for depreciation expense approximately?

MR. VINCE WARDEN: Yeah, recognizing that depreciation expense is not a cash outlay but it's a recovery of the cost of the plant over its useful life. But, yes, that's the -- the amount that would have been added to the -- to the income statement at -- at that time.

MR. BOB PETERS: And appreciate that clarification on the depreciation expense, but even if export sales increased by 50 million that year, there was still a $24 million loss, net loss, that year.

MR. VINCE WARDEN: Well, Mr. Peters, I think we're going down the same road as we did with --

with Wuskwatim and I'm a little uncomfortable in talking about a net loss based on some -- somewhat back-of-envelope type calculations.

MR. BOB PETERS: All -- all right, and -- and that's certainly a fair comment, Mr. Warden. I believe my source was on a -- an annual report from Manitoba Hydro, but I -- you -- I'm suggesting the loss was in the neighbourhood of 24 million a year; that doesn't sound quite right to you?

MR. VINCE WARDEN: Well, Mr. Peters, I -- I understood your comments to be that you were attributing that net loss solely to Limestone?

MR. BOB PETERS: No, I was just saying on the financial statements, the finance expense increased, the depreciation expense increased, export sales revenue increased, but there was still a $24 million loss that year.

MR. VINCE WARDEN: Yeah, I'll accept the $24 million loss; I'm just not agreeing that it's attributable solely to Limestone.

(BRIEF PAUSE)

MR. BOB PETERS: Is there -- is there a way, Mr. Warden, that you can -- you can check that, and

show that to the Board that it's not attributable to Limestone when the finance expense goes up 80 million, and depreciation goes up 20 million, and export sales only increase by 50 million? That -- that the $24 million loss -- loss shouldn't be attributed to Limestone --

MR. VINCE WARDEN: Well --

MR. BOB PETERS: -- coming in service?

MR. VINCE WARDEN: Again, Mr. Peters, I -- your -- your numbers may be right but I would like to -- before I agree with them, I -- I'd like to review those numbers, and if it's important, I can -- I can undertake to do that.

MR. BOB PETERS: The -- the point that I now want to just understand, Mr. Warden, when you say that the loss isn't attributable to Limestone, or may not be attributable to Limestone, is that your suggestion? There may have been something else that resulted in that loss that year?

MR. VINCE WARDEN: Well, there -- there's a number of factors that contribute to the bottom line profitability or loss of the Corporation, and I'm hesitant to attribute the loss that was -- that was incurred in that year solely to Limestone.

There may be some other things that were

going on that I would have to review to confirm that.

MR. BOB PETERS: All right, then I -- I will ask through your counsel, if you could undertake to advise the Board if there were other factors that contributed to the loss in 1993. To -- to advise the Board of that in a -- in an undertaking.

MR. VINCE WARDEN: We can do that.

--- UNDERTAKING NO. 40: Manitoba Hydro to advise if there were other factors that contributed to the loss in 1993

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Warden, I want to turn with you to the early 1990s, and the Vice Chair gave a -- a thought that, would you agree that by the early 1990s Manitoba Hydro had all the generation it needed for Manitobans at that time?

MR. VINCE WARDEN: Are we talking now post Limestone?

MR. BOB PETERS: Well, we're -- we're getting close. Let's start -- let's say 1990, you -- you were building Limestone. It was coming on early for export, at least a year early.

But whatever wasn't needed for export on the opportunity side would be available for Manitobans, correct?

MR. VINCE WARDEN: In 1990 we were building Limestone. It didn't come fully into service until 1992, which was a year earlier than what needed -- was needed to serve the Manitoba load.

MR. BOB PETERS: And there was no shortage of man -- for the Manitoba load in the early 1990s. You had that taken care of by the existing generation as well as the -- the new Limestone plant.

MR. VINCE WARDEN: Yes, that's right.

MR. BOB PETERS: But as the Vice Chair indicated that in the early 1990s Manitoba Hydro was considering building another merchant plant called Conawapa, and selling 100 percent of that output, I believe, to Ontario Hydro.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And under that terminology, that would have been considered a merchant plant back then as well?

MR. VINCE WARDEN: Under that terminology, yes, it would be. We could -- we could have called it a merchant plant, yes.

MR. BOB PETERS: Yeah. It's your term --

it's Manitoba Hydro's terminology, correct?

MR. VINCE WARDEN: I don't recall attributing that term to Conawapa. We might -- we might have at the time but certainly we -- we did with Wuskwatim earlier on.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Warden, to make sense to build Conawapa and sell 100 percent of the output to Ontario Hydro, is it correct for the Board to understand that the revenues from Ontario Hydro had to exceed Manitoba Hydro's cost of construction and operation?

MR. VINCE WARDEN: Oh, yes, there was an extensive business case prepared at the time to support the construction of Conawapa and the sale, and there was definitely a -- a net benefit to Manitoba Hydro over that entire term of the sale.

MR. BOB PETERS: Such that you could conclude, and I believe it was concluded by the Public Utilities Board that Ontario Hydro's payments had to exceed the costs incurred by Manitoba Hydro to -- to run the plant?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Yeah. And there may have even been targets in the negotiation back then as to what profitability Manitoba Hydro was seeking. Do you recall that, sir?

(BRIEF PAUSE)

MR. VINCE WARDEN: There was definitely profitability targets. What they were specifically, Mr. Peters, I don't recall.

MR. BOB PETERS: You do recall that the Public Utilities Board issued a report on the proposed Ontario Hydro sale and the construction of Conawapa?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: That's a public document, is it not, sir?

MR. VINCE WARDEN: I believe so, yes.

MR. BOB PETERS: And if -- if Manitoba Hydro had not negotiated with Ontario Hydro such that Ontario Hydro was going to pay the costs related to construction and operation, if that didn't happen it would mean that Manitoba consumers would have to subsidize the sale to Ontario. Would that be correct?

(BRIEF PAUSE)

MR. VINCE WARDEN: Yeah, that make -- that follows.

MR. BOB PETERS: And what did follow is that after the project got the green light at some point Ontario Hydro cancelled it, and you've already, I think even in an undertaking, indicated how Manitoba Hydro treated the costs that Hydro had incurred as well as those that had been recovered and unrecovered as a result of the ensuing litigation?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Mr. Warden, when we talked of the 1997 legislation change, can you indicate to the Board, was the change in legislation instituted by Manitoba Hydro or by the Manitoba government? Do you have any recollection of that?

MS. MARLA BOYD: Mr. -- Mr. Chairman, that matter is one (1) that is not within the privy of Manitoba Hydro to comment on.

(BRIEF PAUSE)

MR. BOB PETERS: I suppose what I was asking, Ms. Boyd, is whether or not -- and we've already talked about the change in legislation that was -- that was enacted, and it's in Tab 26 of the book of documents.

Is the Corporation at liberty to indicate whether that was a -- an amendment pursued by Manitoba Hydro or was it pursued by the Province of Manitoba on behalf of the prov -- on behalf of Manitoba Hydro?

MS. MARLA BOYD: The matter is covered by legislative privilege. Manitoba Hydro is not in a position to waive that privilege and can't comment.

(BRIEF PAUSE)

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Warden, can you comment about a historical -- I'm sorry, I'll give you a minute. I was asking if, Mr. Warden, you can comment. Historically, did the province of Manitoba set up a Manitoba export agency to consider the exports of Manitoba Hydro's energy?

MR. VINCE WARDEN: Yes. Yes, there was a export agency set up, which, as I recall, was short-lived.

MR. BOB PETERS: When did it arise and when did it -- when was its demise, do you recall approximately?

(BRIEF PAUSE)

MR. VINCE WARDEN: Mr. Peters, it was the mid-'80s. I think that's probably about the best we can do at this point in time. I think -- yeah. No. You know what, I -- I don't want to speculate on that. So, again, if it's important, we can -- we can probably find that information for you.

MR. BOB PETERS: Do you recall it being prior to Mr. Eliason becoming the Hydro chair? Any recollection of that?

MS. MARLA BOYD: Again, Mr. Peters, if it's relevant, we can perhaps take it away and look at it, but we're having a bit of trouble determining the relevance of a committee that's been ex -- long and done away with since the mid-'80s.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Well, Mr. Warden, did the committee in fact do anything with Manitoba Hydro's exports?

MR. VINCE WARDEN: I think the concept of the agency was to -- the framework was set up to -- to apportion -- some of the profits of Manitoba Hydro from the export sales into that agency. That never transpired though. We never -- we never got to that point. And as I mentioned, it was short-lived and never -- never really

functioned as it -- as it was originally envisioned, to my recollection.

MR. BOB PETERS: Do you recall what the initial envision was for that agency, sir?

MR. VINCE WARDEN: There -- there was a terms of reference, as you would expect. Exactly what those terms of reference were though, I would have to -- I would have to research that.

MR. BOB PETERS: No, I'm not asking that at this time, Mr. Warden. Mr. Surminski and -- and Mr. Cormie, back in the late 1990s, early 2000s, would it be correct to say that in some years Hydro would rely on imports for about 15 percent of total domestic and export sales?

MR. HAROLD SURMINSKI: Generally, I would say, yes. I was giving examples of ten (10), but fifteen (15), twenty (20), yes, it could be in that area, and depends on the balance of -- of load and -- and supply, so it would vary as load grows. But as a general statement, I would agree with that.

MR. BOB PETERS: Nothing surprising in that suggestion.

MR. HAROLD SURMINSKI: No.

MR. BOB PETERS: No. And would it also be correct, Mr. Warden, that in the same -- you know, the

late 1990s to early 2000s the foreign exchange rates were favourable to Manitoba Hydro?

MR. VINCE WARDEN: Well, it -- it depends. Favourable in what context, Mr. Peters? We've had an exposure management program which we have reviewed on numerous occasions before this Board that left the Corporation pretty much indifferent to what the foreign exchange rates were at any given time.

MR. BOB PETERS: All right. Would you agree that a significant percentage of the export revenues in the late 1990s, early 2000s, was due to foreign exchange gains?

MR. VINCE WARDEN: Well, again, the -- the revenues would -- to the extent that foreign exchange were favourable on the revenue side, they were offset on the expense side, on finance expense.

MR. BOB PETERS: I'm not disagreeing with you, Mr. Warden. But back at Tab 8 of the book of documents; this is in Volume I, PUB Exhibit 15, ma -- we went through this. I think Mr. Rainkie was -- was the witness.

But in the -- from 1999/2000 up to probably the second test year, if the Board was to add up the foreign exchange gains, it's -- it's over $900 million. Would you accept that?

MR. VINCE WARDEN: No. No, I wouldn't. Foreign ex -- what line are you referring to to -- to calculate the foreign exchange gains?

MR. BOB PETERS: All right. What I did, Mr. Warden, to put my math on the record, is I took the -- in the middle of the page, there is -- let's take the -- the year 2000 to 2001. It looks like the US revenue line of 370 -- $397 million. Do you see that number? Have you located it, sir, under the 2001 fiscal year actual, under -- under the line item that says "US three hundred and seventy (370) -- three ninety-seven (397)"?

MR. VINCE WARDEN: Oh, yes, yes.

MR. BOB PETERS: And that's -- that's in Canadian dollars, what your US sales were that year. That's your understanding?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And then, if I subtract from that 370 million the US dollar number at the bottom of that column, the three hundred and twelve (312) -- the three hundred and -- and -- $312 million, that will -- that will give us the -- the foreign exchange gain, will it not?

MR. VINCE WARDEN: No. No. That was my point, Mr. Peters, is that's only on the revenue side. To the extent that our exposure management program was

effective, you would see the exact opposite effect on finance expenses. There would be no -- no bottom line impact.

MR. BOB PETERS: Okay, and I'm not arguing that point at all, Mr. Warden. I'm just suggesting that, back in the -- in the early 2000s, the foreign exchange was favourable to the export revenues side of the -- the ledger, not taking into account its exposure management program.

MR. VINCE WARDEN: Okay. You -- you've expressed it differently that time, though, Mr. Peters.

MR. BOB PETERS: Well, fair enough.

MR. VINCE WARDEN: You -- you referred to it as a foreign exchange gain. It was not a foreign exchange gain.

MR. BOB PETERS: All right. I perhaps used the wrong word, and I apologize.

MR. VINCE WARDEN: Oh, you don't have --

MR. BOB PETERS: It's probably an accounting word.

MR. VINCE WARDEN: You don't have to apologize. It's just I wanted the record to be clear.

MR. BOB PETERS: What -- what I see this as -- and you can correct me if I'm wrong, as you have, Mr. Warden -- that -- and I'll pick -- let's pick 2001/02

actual, middle of the page. As a result of the foreign exchange of the day, Manitoba Hydro's export revenues were $170 million greater than they would have been had the dollars been trading at par.

MR. VINCE WARDEN: Yes, but to leave it at that is not the complete picture, as --

MR. BOB PETERS: All right. That's fair. And the complete picture, you're going to tell the Board, is you have to look at the foreign exchange management program you had on your -- on your debt side.

MR. VINCE WARDEN: Yes, absolutely.

MR. BOB PETERS: All right. And -- and I think they've got the point. My suggestion when we started this was that the foreign exchange levels have been -- they've contributed a significant percentage to the export revenue line.

MR. VINCE WARDEN: I'll -- I'll agree with that.

MR. BOB PETERS: If I went --

THE CHAIRPERSON: If I could, Mr. Peters, just for one (1) second, other than sort of vicariously enjoying the fact that we no longer -- I think Flaherty called it where we're no longer the peso of the north compared to these particular days, but just one (1) comment just to make sure I understand.

I understand the point about the -- that you're both making, the -- the one (1) on the conversion of US dollars into Canadian dollars at exchange rates like that, and then your debt going the other way and the finance costs. But the -- the sales price includes, you know, a number of different components of expenses, correct? Like finance, OM&A, depreciation, et cetera, et cetera, where the finan -- the other part of the equation is roughly a quarter of the sales price is made up by finance, isn't that correct?

Maybe you could think about that, because it might help my thinking. I'm just pointing out that the -- that the sale price of -- of the good contains all elements of costs, if you like, to arrive at net -- but the -- the debt component of your costs is only one (1) of the cost components.

MR. VINCE WARDEN: Yes. So, Mr. Chairman, if I'm interpreting your question correctly, finance expense would represent approximately 25 percent of our tot -- net revenue line, or our total revenue line, yes.

THE CHAIRPERSON: Yes.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: When you agreed with me,

Mr. Warden, that the foreign exchange rates contributed a significant percentage to the export revenue line, I had initially suggested to you that that total over what's depicted on page 39 at Tab 8 of the book of documents, summed to approximately 900, or $913 million, you wouldn't disagree with -- with that, subject to checking it?

MR. VINCE WARDEN: I wouldn't disagree with it as long as we both agree it's a somewhat meaningless number.

MR. BOB PETERS: It doesn't show -- it doesn't show -- it -- what it -- the reason you say it's meaningless -- I guess the gloves are coming off.

Mr. Warden, the reason you suggest it's meaningless is because whatever foreign exchange benefits are seen on the export revenue line of your IFF, those would have been dealt with elsewhere and offset on the finance-cost side of the IFF.

MR. VINCE WARDEN: Yes, not only the IFF but also on the actual revenues and expenses recorded in the respective years.

MR. BOB PETERS: I'm -- I'm going back in my memory banks, Mr. Warden, but I think Mr. Rainkie had told us that it wasn't a perfect hedge against your debt, but it was an offset of 75 or 80 percent?

MR. VINCE WARDEN: Well, it -- it depends in -- in any one (1) year, and -- and we don't -- it -- it depends to a large extent on water conditions because revenue -- export revenues are subject to fluctuation.

When we look at the IFF going forward, we -- we manage within a -- a 20 percent plus or minus hedge relationship with our -- our export revenues and debt servicing costs.

So -- but in any one (1) year, it has to be recognized it can fluctuate significantly.

(BRIEF PAUSE)

MR. BOB PETERS: Mathematically, Mr. Warden, can we agree that the price per kilowatt hour would be lower with the Canadian dollar at par?

MR. VINCE WARDEN: On the revenue side, yes.

MR. BOB PETERS: I want to turn -- try to finish this if we can today, the discussion on 2002/03, we went through that with some detail with Mr. Cormie, but in that year the drought hits and Manitoba Hydro has firm export commitments in that year that we've talked about, correct Mr. Cormie and Mr. Surminski?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And one (1) point that might bear some clarification, that Manitoba Hydro's hydraulic generation in 2003/04 on an actual basis was about 18,500 gigawatt hours?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And why is it then that this afternoon, Mr. Surminski, you said you went back and checked your power resource plan for 2003/04, and I'm not sure if you're going to file that in writing, but you suggested the hydraulic generation that year was twenty-one thousand two hundred and sixty (21,260).

Do you recall that?

MS. HAROLD SURMINSKI: That is the dependable energy and it does not change by -- by load year other than the slight depletion for -- for water supply exemption.

Dependable energy is -- is the maximum capability if you actually require that -- a maximum quantity in a year. In -- in other words, if the system is -- is stressed to the maximum.

MR. BOB PETERS: It was stressed to the maximum in 2003 -- 2003, was it not, Mr. Surminski?

MR. DAVID CORMIE: No, it wasn't, Mr. Peters.

MR. BOB PETERS: So to -- to -- even

though the hydraulic generation was eighteen five (18.5), you're saying that that was a voluntary decision, it could have been as much as twenty-one two sixty (21.260) had it been needed?

MR. HAROLD SURMINSKI: Yes, if -- if we -- if the supply demand -- if the supply were unbalanced to demand, we would have to utilize maximum hydraulic energy, but we were overinstalled in that year, so by having excess generation capability available it was not a requirement to generate maximum hydraulic dependable energy of twenty-one thousand two hundred (21,200).

MR. BOB PETERS: To calculate that 21,000 gigawatt hours of minimum hydraulic generation capability, Mr. Cormie, and Mr. Surminski, does Manitoba Hydro consider a portion of that to be from energy in storage?

MR. DAVID CORMIE: That's -- that's correct, Mr. Peters. If during the critical flow period, at the onset of that critical flow period, if reservoirs are full and it's necessary to drain reservoirs during the critical flow period, that water that's taken out of reservoir storage can be added to the inflows in that year, and that would result in the dependable hydro of the 21 terawatt hours that Mr. Surminski said the system was capable of.

MR. BOB PETERS: And looking back at Tab 43 of the book of documents, page 106, it appears that the energy in storage was just over 6,000 gigawatt hours that year?

MR. DAVID CORMIE: That's not Manitoba Hydro's energy in storage, Mr. Peters.

(BRIEF PAUSE)

MR. BOB PETERS: And you're saying that because Manitoba Hydro doesn't control 100 percent of that -- that energy?

MR. DAVID CORMIE: That's right. To the extent that Manitoba Hydro needs to count on storage withdrawals it's kept in reservoirs under Manitoba Hydro's control so that if we're forced to drain reservoirs to serve load then we have that option.

However, you'll note that we only drain reservoirs if we're forced to. And if there is an alternative available in the non-firm energy market we will exercise that prior to draining reservoirs. Draining reservoirs is not a good strategy.

MR. BOB PETERS: What assumed inflows did Manitoba Hydro make in the 2002/03 year, Mr. Surminski, that would give Manitoba Hydro the -- the dependable

hydraulic generation of 21,260 gigawatt hours?

(BRIEF PAUSE)

MR. HAROLD SURMINSKI: Mr. Peters, we're not quite sure -- I -- I believe that you're talking about the year before the dependable year. Is that correct? What storage -- what inflows did we have in the year preceding our worst year that we consider for dependable?

MR. BOB PETERS: I was talking the 2002/03 fiscal year in my question. That is the year before the '03/'04 year.

MR. HAROLD SURMINSKI: Yes. You're -- you're actually talking about an actual calendar year or fiscal year we're talking about here. In de -- in determining dependable energy it's not related to -- to that year at all. It's related to the hydrologic sequence that we have, and if our lowest flow year is '40 -- 1940/41 we preceded that with 1939/40 and that's -- that's what is -- basically you can assume that's the inflows that we would have implied in 2002/03 in order to determine the dependable energy in '03/'04.

MR. BOB PETERS: Okay. I see how you got there, Mr. Surminski, but what number would you have --

would you have assumed from your -- from your data flows?

MR. HAROLD SURMINSKI: I don't have it off the top of my head, but it's available in our rela -- we -- we gave energy -- or the quantities either in CFS or in -- in gigawatt hours have been supplied in undertakings -- or in -- in information requests.

MR. BOB PETERS: When you come up with the dependable figure that you've put on the record, Mr. Surminski, of twenty-one thousand two hundred and sixty (21,260), what minimum inflow for generation did you assume in coming up with that number?

MR. HAROLD SURMINSKI: So you're talking about now the -- the critical flow year, the dependable energy. The inflow component converts into something like fifteen thousand six hundred (15,600), if I remember off the top of my head, so just natural inflows into the system would produce energy generation of fifteen thousand six hundred (15,600). So to get to twenty-one thousand two hundred (21,200), the remaining part must be coming out of storage.

MR. BOB PETERS: And in 2003 -- sorry. In 2002/03, that's in fact what -- what it did to come up with your 21,260 gigawatt hours.

MR. HAROLD SURMINSKI: Yes, it's coincidental that your 6 terawatt hours is consistent

with -- I think it's more coincidental because of the way you're measuring, but it's -- it -- in either case, it's -- it's about 6,000 gigawatt hours.

MR. BOB PETERS: And what would have happened if -- if we look to the 2003/04 year, when the energy in storage is actually lower than 6 terawatt hours; then you're dependable -- your dependable number wouldn't be correct, would it?

MR. HAROLD SURMINSKI: Can you repeat the question, please? I don't quite understand it.

MR. BOB PETERS: You were suggesting that you and I arrived at the same matter, but I may have got there coincidental, or accidentally, probably more accurately. But I'm taking you now to the next year, when we -- you would still use the 15,000 gigawatt hours of -- of assumed inflow, would that be correct, in calculating the dependable energy from hydraulic resources?

MR. HAROLD SURMINSKI: I think I know where you're going. We know that the end droughts -- that the drought ends at the end of the sequence in 1941, so we do not plan for another drought year following that. So -- so in determining dependable energy, it's the years leading up to our critical year. And -- and we know that in our planning work that the next year flows

improve and we don't have to have any more in storage because there is enough to survive.

MR. BOB PETERS: Mr. Cormie, what do you tell your counterparties when you're negotiating a long-term contract about what is Manitoba Hydro's level of dependable hydraulic energy on an annual basis?

MR. DAVID CORMIE: Our counterparties are told that we have sufficient resources to serve the sale obligation in each year of the contract as long as the river flows remain within the historical range starting in 1912. And -- yes, that's what we tell them.

MR. BOB PETERS: Do you provide them with numerical information as to what that hydraulic dependable energy is?

(BRIEF PAUSE)

MR. DAVID CORMIE: I don't have a recollection of having provided them that information, no. But if they were to ask, we would provide it to them.

MR. BOB PETERS: To invoke any adverse water condition clauses, Mr. Cormie, don't you need to have a baseline below which you can invoke the clause quantified for the counterparty?

MR. DAVID CORMIE: yes, and that baseline is described under the definition of adverse water conditions in each contract, Mr. Peters.

MR. BOB PETERS: In the '02/'03 drought example, would the Board's understanding be correct that there were provisions in the export contracts that could have been exercised by Manitoba Hydro to reduce its delivery obligations?

MR. DAVID CORMIE: No, there were no -- there were no unexercised provisions in the contract. We met our contract obligations fully and completely, and to the extent that we had options, we used them; to the extent that we had obligations, we fulfilled them.

MR. BOB PETERS: Were there options to Manitoba Hydro to reduce the deliveries that it in fact made, either physically or financially?

MR. DAVID CORMIE: Would you repeat the question, please?

MR. BOB PETERS: Did Manitoba Hydro, in its long-term contracts in 2002/03, '03/'04, have options in its contracts that would have permitted Manitoba Hydro to either deliver less physical energy or not settle financially as it did?

MR. DAVID CORMIE: No.

MR. BOB PETERS: What options did

Manitoba Hydro have?

MR. DAVID CORMIE: Manitoba Hydro never felt it was in the position where it had to -- that continued deliveries of its export contracts put the Manitoba load at risk, and at no time did we experience, on an annual basis, river flow conditions that were worse than the historical worst-case conditions, and so it was not a force majeure. Therefore, we fulfilled our contract obligations as they are written in the contract.

What we did, though, is that we made our customers aware that droughts of greater severity and duration than exist in the historic record are possible, and that draining reservoirs to satisfy our obligations put their contracts at risk should drought continue at a level greater than Manitoba Hydro had planned for.

And, secondly, we said to them that we had generation options that were more expensive than -- than generation options that they had as utilities, and we would like to enter into transactions that would save us money because we could avoid the use of our expensive generation and -- and have them take advantage of a purchase opportunity from Manitoba Hydro.

So for those book-out transactions, it was a win-win for Manitoba Hydro, and, to the extent that they -- they entered into such transactions, that would

allow Manitoba Hydro to preserve water in storage should the drought continue, and we would then avoid the risk of having to declare a force majeure and walk away from our obligations.

And it was in the interests of everybody to maximize the reliability of the entire electrical system and not -- and not have Manitoba put in a situation where it had to curtail export deliveries in order to protect Manitoba customers.

And they -- they know, under their contracts, that they are secondary in the -- in the delivery stack, that Manitoba load always has priority; and, to the extent that we can preserve the -- the reliable supply of the contract, it was in their interests and it reduced their risks associated with legitimate curtailments that -- that Manitoba Hydro could impose under the curtailment provisions of the contract.

MR. BOB PETERS: Can I summarize that, Mr. Cormie, by saying that, rather than have the curtailment provisions come into force in a subsequent year, the counterparties made agreements with Manitoba Hydro to allow Manitoba Hydro to settle out some obligations on a financial basis?

MR. DAVID CORMIE: Yes, in -- only in those months where they felt comfortable that physical

delivery wasn't absolutely required. So we made physical delivery to them under the contracts in the months where they actually wanted the electricity, during the period from June the 15th to September the 15th when their peak air conditioning load required an actual supply of electricity.

They didn't have surplus in those months, and so for us to financially settle, and leave them hanging in -- in a period of extreme need would -- would not be satisfactory to them.

And so we -- we made physical deliver in the op -- in the times that they absolutely needed it. In the times when a -- a book-out, or a financial arrangement was -- worked for them, we -- we worked with them, including -- and -- and we included other counterparties in there as well to -- to minimize the overall cost of -- of delivered service.

MR. BOB PETERS: By not, in your words, leaving them hanging and arranging for physical delivery, that ended up costing additional monies for Manitoba Hydro though, did it not?

(BRIEF PAUSE)

MR. DAVID CORMIE: No, I think -- I think

what that meant is that during the summer season, we -- we generated more hydraulic energy, and -- and drew reservoir storages lower than we would have liked to.

We would have liked to have -- have booked out the entire transaction in order to maximize reliability, but that would have put them at risk. And -- and so through several meetings to manage the joint portfolio, and the -- and -- and plan how together we were going to deal with the drought of 2003, we worked out an arrangement that was mutually satisfactory -- satisfactory to both parties, and beneficial to -- to both parties.

The -- the cost of the drought would have been significantly more had Manitoba Hydro run its expensive gas fired generation at Bran -- at Selkirk and at Brandon than if we had financially settled, even considering the fact that -- that there were some -- some fees that had to be paid in order to incent them to -- to the table.

MR. BOB PETERS: Mr. Chairman, I might leave Mr. Cormie with the last word today, and suggest this might be an appropriate time to adjourn for the day, and we'll pick it up tomorrow at 9:30.

(PANEL RETIRES)

THE CHAIRPERSON: We look forward to it, Mr. Peters. Thank you to the panel. Thank you to yourself.

--- Upon adjourning at 4:23 p.m.

Certified Correct

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Cheryl Lavigne, Ms.