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 26, 2011
Pages 2111 to 2290

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
Delanie Coad	(np)	)SCO
Denise Pambrum	(np)	)City of Winnipeg
Gavin Wood		)Independent Experts

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EXHIBITS

UNDERTAKINGS

--- Upon commencing at 9:34 a.m.

THE CHAIRPERSON: Okay. Good morning, everyone. Ms. Ramage, you have an undertaking to go --

MS. PATTI RAMAGE: Yes.

THE CHAIRPERSON: -- to be turned into an exhibit.

MS. PATTI RAMAGE: That is correct. We have one (1) Undertaking, number 14, to file this morning, and this undertaking deals with the expenditures in the -- or out of the affordable energy fund during the past year, and by our account, that is Manitoba Hydro Exhibit Number 31.

THE CHAIRPERSON: Thank you.

--- EXHIBIT NO. MH-31: Response to Undertaking 14

THE CHAIRPERSON: Just before we begin and move over to Mr. Peters, I'm wondering if we could get an undertaking from Manitoba Hydro on -- on a point.

The presenter of, I guess it was yesterday, Mr. Derry made an oral presentation and also filed a written submission that was incorporated into the record. Mr. Derry requested that his questions be posed to get Manitoba Hydro's responses. Rather than go through each question now, and also as a courtesy to Mr. Derry, would Manitoba Hydro undertake to file a written response in these proceedings to Mr. Derry.

Is that possible?

We use this mechanism, by the way, in the MPI hearings when we have presentations. Usually what happens is MPI responds to the presenter and a copy goes onto the record.

MS. PATTI RAMAGE: I was relegated to the back row yesterday, Mr. Chair, so I didn't actually see the presentation but certainly we would look at it, and take that under advisement. Yeah, and I -- I expect we'll be doing it.

THE CHAIRPERSON: Thank you.

--- UNDERTAKING NO. 41: Manitoba Hydro to provide a written response to Mr. Art Derry's questions

THE CHAIRPERSON: 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. Good morning, Mr. Chairman, Board members, ladies and gentlemen.

Mr. Warden, Mr. Cormie, let's talk profit this morning. It's not a bad word, Mr. Warden.

MR. VINCE WARDEN: It's a good word.

MR. BOB PETERS: It's a good word. When it comes --

MR. VINCE WARDEN: Oh, well, sorry. Well, I was just going to add to that, Mr. Peters. That profit to Manitoba Hydro is good but to the extent that it's beneficial to ratepayers.

MR. BOB PETERS: What kind of profit does Manitoba Hydro ever have that's not to the benefit of ratepayers?

MR. VINCE WARDEN: Well, exactly. And I just wanted to make sure we -- we were one (1) and the same in this discussion that we'll probably get into more so as we proceed, but the profit of Manitoba Hydro is entirely to the benefit of ratepayers.

(BRIEF PAUSE)

MR. BOB PETERS: And with the exception

of legislation that commanded a special payment to the provincial government, that's held true but for that exception?

MR. VINCE WARDEN: Well, it's the prerogative of government to introduce legislation as they deem appropriate. There are payments to government that we make as a matter of course, which go -- go to government for their purposes. But, to the extent we're talking profit, though, after all those payments are taken into account, the profit is to the benefit of -- of Manitoba's rate -- Hydro's ratepayers.

MR. ROBERT MAYER: Some of us on this panel don't believe that the payment to the province was somehow not beneficial to ratepayers. In fact, some of us believe that the payments to the province under those special circumstances were to the benefit of not only ratepayers but to all Manitoba citizens.

MR. VINCE WARDEN: We don't -- Mr. Mayer, we don't know specifically what the funds were used for, but, to the extent that government spends money, I would certainly agree with that statement.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: So the profitability of Manitoba Hydro accrues to the benefit of its ratepayers, correct?

MR. VINCE WARDEN: Correct.

MR. BOB PETERS: And when we look at the firm long-term contract sales, how does Manitoba Hydro define those sales as being profitable?

MR. VINCE WARDEN: Well, Mr. Cormie will, I'm sure, have something to add to this, but from my perspective, the contracts, long-term contracts, are -- are negotiated such that they return all the costs incurred by Manitoba Hydro plus a margin of profit.

MR. BOB PETERS: In what time period are you calculating that profit of a long-term contract, Mr. Warden?

MR. VINCE WARDEN: Each and every year.

MR. BOB PETERS: Does that answer suggest that the contract has to return a profit each and every year?

MR. VINCE WARDEN: For every kilowatt hour sold under that contract there would be a profit associated with that, yes.

MR. BOB PETERS: And when it comes time to talking about the costs that are incurred by Manitoba Hydro, we had a previous discussion. I believe we were dealing with words like embedded cost and incremental cost. Which cost does this have to -- which costs do those kilowatt hours have to return to Manitoba Hydro to be profitable from a long-term contract, Mr. Warden?

MR. VINCE WARDEN: Well, they're -- you can call them embedded. There's fixed cost and variable cost associated with producing that electricity, but the fixed or embedded costs would typically be the financing and the depreciation costs of -- of the assets in place to serve that contract.

MR. BOB PETERS: When Manitoba Hydro calculates its embedded costs, Mr. Warden, are you calculating an average of all of the system resources that would serve that contract?

MR. VINCE WARDEN: It -- it would depend on the circumstances, but typically when a contract is negotiated, they would look at all the resources necessary to serve that -- serve that contract, and that would -- certainly in the case of the contracts that are currently under negotiation, that includes the incremental costs of new generation and transmission.

(BRIEF PAUSE)

MR. BOB PETERS: Is the measurement of profitability on a long-term contract different if you're selling peak energy compared to off-peak energy?

MR. VINCE WARDEN: Well, the price for -- for on-peak, off-peak's going to be different, but it's all factored into the profitability of -- of the contract.

MR. BOB PETERS: So the calculation doesn't change, and that is that the contract has to return, for every kilowatt hour sold, the embedded costs to serve that, including any incremental costs of new generation?

MR. VINCE WARDEN: Well, certainly for the fixed portion of that contract. Now, the way the contracts are -- are being structured, there is some -- there are some opportunity sales that form part of that contract, and those will be at rates which may or may not recover all of the fixed costs. I may -- might let Mr. Cormie speak to -- to that component of -- of the -- of the contract, and I'm not sure how far he wants to go with this in terms of contracts that are currently being negotiated.

MR. DAVID CORMIE: Mr. Peters, whether the -- the sale involves the construction of new generation or transmission assets in Manitoba or whether a sale is entered into from existing resources, the analysis that is done measures what Manitoba Hydro's revenues and costs would have been without the sale and compares those to the revenues and costs that would be incurred with the sale, and the difference is either the -- the -- would be -- would be considered the net present value of the benefits of the sale.

And -- and there may be times that a sale obligates Manitoba Hydro to sell energy in the off-peak. To the extent that that reduces Manitoba Hydro's opportunity sales, that reduction in opportunity sale revenue is charged to the sale as a -- as a cost, so it's a -- it's a complete with and without comparison.

And as Mr. Surminski has explained on several occasions, that analysis looks at the possibility of each of the ninety-six (96) river flows occurring in each and every year of the sale and measures the -- those incremental benefits in each and every year of the sale over all the possible flow cases, and that's what de -- used to determine the net benefits of the sale.

MR. BOB PETERS: When it comes to assessing the profitability of bilateral opportunity sales, how is profitability defined?

MR. DAVID CORMIE: Exactly the same.

MR. BOB PETERS: You -- you conduct the same long-term analysis even though the bilateral opportunity sale would be a much shorter term?

MR. DAVID CORMIE: Well, fortunately, the

-- the opportunity sales, the bilateral term sales, are -- are within the existing year, generally within a month or two (2) of the time that delivery commences. So water conditions are -- are well established under that -- those circumstances, so we don't need to go through ninety-six (96) possible scenarios. They're entered in generally with water flow conditions well defined.

And what -- what we don't have well defined for those conditions is the -- the variability that could occur in the Manitoba load in the short-term because of short-term weather effects. So we do a simulation of the costs of serving the sale assuming that the last sixty (60) years of weather were to repeat during the time of the sale, and we measure the incremental costs of the sale under that -- that set of possible Manitoba load conditions.

And that -- that analysis gives us confidence that we have the resources available in Manitoba to serve the sale under extreme weather conditions so that there's sufficient capacity left to meet Manitoba load obligations and that the incremental costs of serving the sale even under those conditions are considered and -- and become part of the -- of the analysis and -- and profitability of the transaction.

And with res -- with -- with regard to the alternatives, which would be the no-term sale transaction. We have our -- our short-term forecasts of what the -- what the brokers are -- are -- are selling for and what the market is likely to be in the day-ahead in the real-time, and we compare the -- the -- the price that's been negotiated to that as our alternative.

And we have to be better off in that case as well. So doing nothing and leaving it to the spot market is the option, and we have to convince ourselves that there's a significant margin over -- over the do-nothing scenario, and that's all part of that term analysis.

MR. BOB PETERS: Do you call the do-nothing scenario the -- the real-time and day-ahead sales into the market?

MR. DAVID CORMIE: Yes, that's the, I mean, essentially, the risk-free transaction. Wait until the day you actually want to take the energy to market. And if it's needed for Manitoba load you don't sell it. If it's not needed you sell it and you take the price that exists in the market at that time.

MR. BOB PETERS: When you price the -- the day-ahead or the real-time sales, do the parameters of measuring profitability change, Mr. Cormie, Mr. Warden? That is, rather than measure it against the embedded costs that you've talked about before, you are then only measuring it against the, I think what you called "incremental costs", Mr. Cormie?

MR. DAVID CORMIE: The same business logic applies in the day-ahead and the real-time. We will offer our energy into the market in the day-ahead based on our costs plus what margin is required so that if our offer is accepted that it will be accepted at a minimal profit and all our costs will be recovered.

And -- but we have the expectation in most cases because our incremental costs are so low that the market will clear substantially above that. And -- and -- and so usually in normal water years that's not really a -- a significant risk. Market clears at forty (40) or fifty (50) or sometimes a hundred dollars a megawatt hour, and -- and our -- our costs are -- are a small fraction of that.

But there are times when we're offering in our gas turbines and we assume in offering our gas turbines in that the full cost of starting the gas turbines, running them for one (1) hour, and shutting them down are recovered, plus all the costs of the natural gas that would be consumed, plus the incremental cost of operating those units for an hour recovered.

So we need full cost recovery plus we need a margin to ensure that those costs that aren't specifically identified are also covered, and there would be a contribution to reserves or to retained income as a result of that hourly transaction.

So there -- whether it's a long-term, short-term, or a -- an hourly transaction, there has to be an expectation of profitability before Manitoba Hydro will enter into the transaction.

MR. BOB PETERS: Mr. Cormie, it wasn't clear as to how Manitoba Hydro would know at the time of sale that the costs of energy are -- are more than say, water rentals or the repurchase of that energy on the spot market. How would you know that at the time of sale?

MR. DAVID CORMIE: Are -- are you talking -- which transaction, Mr. Peters?

MR. BOB PETERS: Well, we'll talk the day-ahead or the real-time.

MR. DAVID CORMIE: The MISO market provides a forecast of hourly prices going out for up to ten (10) days. And the replacement cost of energy is the cost of having to buy that energy back from the market, having -- if -- if that's the -- if that's going to be the source.

If -- if water is taken out of storage it needs to be replaced. It'll be replaced from the lowest cost hour in the future and that becomes our -- that -- that becomes our -- our marginal cost of supply.

And then -- and then to that transaction we need to -- we need to add a margin to offset the uncertainty in that price. So there is a -- a forward-looking price curve that is used to value the water in rev -- in energy storage, and that curve becomes the incremental cost to serve hydraulic generation if purchases are -- are going to be used to repla -- to supply the sale.

If -- if we're just -- the all -- if -- if the -- if the energy is being served solely out of hydraulic generation then we know that our -- what our -- what our incremental operation and maintenance costs are, and we know what our water rental costs are, we know what the losses are, and so we can establish a price, and then to that we add the margin necessary to ensure that those -- that -- that there is a contribution to retained earnings.

MR. BOB PETERS: The cost -- it -- it sounded like one (1) of the measures of cost, Mr. Cormie, that you're telling the Board is that you measure against what it would cost to re-buy that in the MISO market.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Rather than Manitoba Hydro's own internal costs, you would look to the -- to the market for quantifying what the cost would be.

MR. DAVID CORMIE: Well, for example, Mr. Peters, in a week if the Manitoba energy demand was 500 gigawatt hours, and hydraulic generation was only 450 gigawatt hours, Manitoba Hydro would be purchasing 50 gigawatt hours to serve the Manitoba load.

If we entered into an incremental export sale on-peak, then that would mean that we would now have to purchase an incremental quantity of energy in the off-peak to supplement the fifty (50) that we are already buying.

So at every -- at -- every day when we do our forward energy planning, we know for the next two (2) weeks where marginal energy is going to be coming from, and to the extent that we enter into an on-peak sale that requires us to run our hydraulic generation, and therefore force us to make a future purchase.

We are purchasing that energy from the market in the off-peak, and then arbitraging it into the on-peak, and capturing the spread between the on -- off-peak purchase price and the on-peak sale price.

That's a -- that's -- that's planning that goes on every day, and it looks out forward for the next ten (10) to fourteen (14) days, and that happens every day of the year.

MR. BOB PETERS: When you bid in the price of the thermal SCCT generation, Mr. Cormie, the embedded costs of the Corporation are included in that bid price, I take from your answer.

MR. DAVID CORMIE: No, those are some costs. Those costs are not included in the cost of -- of the CTS.

MR. BOB PETERS: I'm sorry, help me understand that. When you bid in, in your thermal -- your thermal generation energy, you're not including your embedded cost in the calculation of what you're -- what you're asking for that --

MR. DAVID CORMIE: No, in the same way we don't include the embedded costs of hydraulic generation in our -- in our offer to the mark -- in our -- in our bid, as well.

Those costs that -- the interests, the depreciation, those costs are all fixed. What we do include is all the variable costs, so to the extent that -- that that unit is operated to serve a market transaction, we know what those costs are.

And we -- we, at a minimum, recover those costs plus an additional 10 percent to ensure that those costs that we don't know about that could occur are -- are covered, and hopefully that will all flow into retained earnings.

MR. BOB PETERS: And so the embedded costs for the SCCT would be picked up by the Manitoba ratepayers.

MR. DAVID CORMIE: Well, to the extent that your cost of service study doesn't allocate any of those costs to the export class, I -- I guess -- I would suggest that that's correct.

MR. VINCE WARDEN: Those -- those costs will be incurred in any event, Mr. Peters, so that's why they're referred to as fixed.

They're go -- they're -- they will be incurred regardless, so whatever Mr. Cormie can receive on the variable market over and above the variable costs is a contribution towards those fixed costs.

(BRIEF PAUSE)

MR. BOB PETERS: I think your answer probably is the same as Mr. Cormie's on that, Mr. Warden. What you're saying to the Board is that you're going to incur those fixed costs whether or not you fire up the gas turbine.

And those will be paid for out of the existing rates, whether or not you use the gas turbine, so anything more that can be sold will go to pay off the variable costs, and bring back at least hopefully a -- a profit.

MR. VINCE WARDEN: And a contribution towards those fixed costs, yes.

MR. BOB PETERS: Well, the profit would be the contribution towards the fixed cost, would it not?

MR. VINCE WARDEN: Well, the profit on the individual sale would be a contribution towards those fixed costs. It wouldn't necessarily flow as a -- as a profit to the bottom line, depending on the extent to which those fixed costs may or may not be recovered.

MR. BOB PETERS: If the Board considered, hypothetically, Manitoba Hydro had no long term contracts, then how would the embedded costs ever be recovered?

MR. VINCE WARDEN: If we had no customers in the export market, then all of those costs, all those embedded costs, would be -- would be recovered from Manitoba ratepayers. But your question may have been not so much the absence of export contracts, but you're -- you're talking specifically long-term contracts, are you, Mr. Peters?

MR. BOB PETERS: I was referring to long-term in my question.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Cormie and Mr. Warden, what costs are included as embedded costs in the various sales is not determined in accordance with the cost of service study that the Corporation has. You don't -- you don't turn to the cost of service study and say: On whose side of the ledger does this cost go? And, therefore, we will or will not include it in our cost of our export. Would that be fair?

MR. VINCE WARDEN: That's fair.

MR. BOB PETERS: The cost of service study would be a tool after the fact. Well, I suppose it's prospective, so it would be before the fact in terms of what you would expect is going to happen and who Manitoba Hydro wants to be responsible for certain costs.

MR. VINCE WARDEN: Yes. The cost of service studies are conducted independent of any considerations for contract negotiation purposes.

MR. BOB PETERS: Is anyone on the panel aware as to the bulk power revenues of the Corporation? And when I say bulk power, I'm looking at the -- the bulk power revenues for generation and transmission minus the -- I guess it'd be minus the fuel and power purchased and -- and water rental, to come up to a bulk power cost. Do you remember those calculations that were done? I think I remember the MIPUG evidence doing it probably the last GRA.

MR. VINCE WARDEN: I remember the calculation being done, Mr. Peters; I don't know the specifics of the calculation, though.

MR. BOB PETERS: Would you expect that the bulk power revenues have risen over the past five (5) years from approximately three (3) cents to three and a half (3 1/2) cents a kilowatt hour?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Would you -- you -- you would expect that to be the case?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And why would you expect that to be the case? Is that as a result of rate increases and --

MR. VINCE WARDEN: It would be strictly as a result of rate increases, yes.

MR. BOB PETERS: All right. And in terms of net export revenues, after you deduct those fuel and power purchases and the water rentals, in the past five

(5) years the average export rates have been relatively flat or declining by maybe a penny and a half a kilowatt hour, at least most recently, according to what you've indicated?

MR. VINCE WARDEN: Yes, definitely declining, probably more than a penny and a half, especially over the last two (2) years.

MR. BOB PETERS: Right.

(BRIEF PAUSE)

MR. BOB PETERS: What you're telling the Board, Mr. Warden, is that -- that the net export revenues, after deducting fuel and power purchases and water rentals, they may have been relatively flat in the last five (5) years but the last two (2) years they've started to -- they've declined perhaps strongly by at least a penny and a half a kilowatt hour.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Is it Manitoba Hydro's expectation that the domestic bulk rates are likely to remain above average net export revenue rates until Manitoba Hydro brings on its next contract with NSP in 2015?

MR. VINCE WARDEN: No, I believe that our financial forecast is projecting a recovery in economic conditions over the next twelve (12) to eighteen (18) months and the revenue from export sales, the unit price will go up accordingly.

MR. BOB PETERS: Is it Manitoba Hydro's expectation that that unit price will exceed -- the unit price from exports will exceed the unit price from domestic customers in that time frame, Mr. Warden?

(BRIEF PAUSE)

MR. VINCE WARDEN: So I think, Mr. Peters, your question was do we expect that the average price in the export market will exceed the price in the domestic market over the next twelve (12) to eighteen (18) months. And I -- I think it would be a qualified "yes". It does depend, to some extent, on -- or to -- perhaps to a large extent, on water conditions. With water conditions being as -- as good as they are, at least for Manitoba Hydro, we're selling a lot of energy in the off-peak hours which tends to dilute the price -- average price per kilowatt hour.

So if we're selling more of that energy in the off-peak -- or the on-peak mark that is with a return to more normal water conditions then the unit cost will -

- will increase correspondingly.

MR. BOB PETERS: Does that answer apply, Mr. Warden, if you deduct the fuel and power purchases and the water rental costs from -- and -- and calculate it as a bulk rate versus the average export rate?

(BRIEF PAUSE)

MR. VINCE WARDEN: It -- it depends, Mr. Peters. I think when you say "deduct water rentals," we typically do that to drive a net export revenue number; however, of course, that's not totally fair. If we were going to -- going to do a domestic versus export calculation there would have to be an apportionment of those water rentals back to the domestic customers as well.

I haven't really done that calculation more -- very recently to look at one versus the other. We could -- we could undertake to do that and look at how those numbers are, not only currently, but in accordance with our forecast if that would be helpful.

MR. BOB PETERS: I think it would assist the Board. So if you could provide the undertaking that you've offered, that would be greatly appreciated.

MR. VINCE WARDEN: We will do that.

--- UNDERTAKING NO. 42: Manitoba Hydro to compare the average revenue per kw.h. received by Manitoba Hydro from domestic customers versus extraprovincial customers net of water rentals, and fuel and power purchased allocated to both classes of customers

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Warden, would it be correct then to summarize part of our discussion about the opportunity sales as concluding that they do not contribute to fixed costs except to the extent that they are in excess of the variable costs?

MR. VINCE WARDEN: That's right.

MR. BOB PETERS: And to the extent that they're in excess of the variable costs, I suppose to some extent that's the art of negotiation or where the market is on any particular day relative to -- to Manitoba Hydro's variable costs?

MR. VINCE WARDEN: I think it depends on what category of sale we're talking about. But, yes, if it's on the opportunity market it's largely driven by the

-- the prices in -- in the day-ahead market.

(BRIEF PAUSE)

MR. BOB PETERS: I want to get a little bit of information for the Board with respect to the Minnesota Power contract possibility. And again, I'm not asking for any information that this Board has concluded should remain confidential. So please make sure your -- your answers don't assume that I'm looking for that information.

But would the -- first of all, these two (2) -- there's a sale to Minnesota Power and a sale to Wisconsin Power -- Wisconsin Public Service, that is we -- we've called them the subject -- they're -- they're the subject matter of term sheets. That's the words we've used?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And term sheets, and there's no legal intent here, but it's -- what you're trying to do is establish the parameters under which the two (2) counterparties, Manitoba Hydro and the counterparty will enter into a binding long-term agreement?

MR. DAVID CORMIE: Yes, Mr. Peters. From

my perspective, if the parties can come to a -- to an early agreement on the major terms and conditions of the transaction, such as price, start and end date, the volume, the nature of the product, and other such significant items, there's a -- a basis for making a commitment to negotiate the balance of the terms and for also taking that power off the market.

And, you know, in effect you've got a -- a -- a preliminary commitment. And -- but the -- the term sheets have expiry dates, and when they -- if those dates come and go and -- and the parties agree that negotiations are no longer useful the -- they will expire.

So an expiry date is part of that process.

MR. BOB PETERS: Manitoba Hydro had term sheets with Minnesota Power and Wisconsin Public Service at the last General Rate Application before this Board, did they not?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: It's the same term sheets we're talking about today as we perhaps talked about at the last General Rate Application?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: By memory, Mr. Cormie, can you advise the Board as to wh -- what date is on those term sheets? When -- when were they first signed, I guess?

MR. DAVID CORMIE: The Minnesota Power term sheet was signed in December of 2007 and the Wisconsin Public Service term sheet was dec -- signed on March 31st, 2008.

MR. BOB PETERS: And those are the same term sheets that -- that we're talking about in the evidence that's filed before this Board in these proceedings, sir?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: I'd like to get clear on the record, Mr. Cormie, subject to any concerns the Corporation has, in terms of the energy commitments under those term sheets, and I suppose we'd have to assume those term sheets would be contracts, and that's how my questions will be posed. Is that acceptable?

MR. DAVID CORMIE: The process of negotiation will result in a -- signed contracts at some point, yes.

MS. PATTI RAMAGE: Mr. Peters, just to help me, I wasn't quite clear when you said the term sheets are contracts. If -- if you could maybe elaborate on that assumption, I would -- because they're not.

MR. ROBERT MAYER: I thought they sai --

I -- I thought I heard the word "agreement" come out of Mr. Cormie's mouth. To me an agreement is a contract.

MS. PATTI RAMAGE: The -- the term sheets represent a -- a moment in time, how -- how much has been accomplished to a moment in time, and I think Mr. Cormie explained that well.

Certainly from a lay perspective, but there's many terms still to be negotiated. It's just some major terms to kind of look back to have parameters around the negotiations.

So I just wanted it clearly understood; there's no signed contract and no obligations to deliver under those term sheets.

MR. ROBERT MAYER: But there is an agreement to take that power off the market. I heard that com -- that comment, that -- that that potential power has to be removed from the market and is held to satisfy that contract if and when those term sheets turn into contracts.

Isn't that what I heard?

MR. DAVID CORMIE: What I said, Mr. Peters (sic), is that Manitoba Hydro won't be shopping that energy to another counterparty during the negotiations.

It's the good-faith negotiations that

implies that, you know, Manitoba Hydro is satisfied with the price, and the major terms and conditions, and -- and we're committed to that customer, and we're not going to come back after a week and say, Oh by the way we found somebody else.

We may -- we may, at the end of the -- at the end of the -- at the expiry date of the term sheet decide that the transaction is -- no longer works for Manitoba Hydro, and at that point we would take it back to the market, but we won't take it back to the market prior to the expiry of the term sheet.

MR. ROBERT MAYER: That's what I thought I heard, and that's what I thought was a binding commitment. And that's --

MR. DAVID CORMIE: It's not a contract though, Mr. Mayer.

MS. PATTI RAMAGE: I think the -- the distinction, Mr. Mayer, is that could the counterparty sue us if we did that, and I -- that's -- that might be the distinction that we're looking at, versus Mr. Cormie's good-faith negotiations.

MR. ROBERT MAYER: I -- I'm not going to give a legal opinion on that.

MR. DAVID CORMIE: Now, one (1) of the terms of the term sheet, Mr. Mayer, is that we will enter into good-faith negotiations. And good-faith negotiations doesn't involve going out and trying to find another customer at the same time. We have -- we made a commitment and we'll do our best to bring it to conclusion.

But it's subject to good-faith negotiations on agreement on the balance of terms and conditions, and if -- if the balance of terms and conditions means that we disagree over credit, or we disagree over Manitoba Hydro's curtailment stack, or things like that, and those become deal breakers, then we wouldn't -- we wouldn't -- we couldn't finalize the transaction, even though we have already agreed to the price.

So what we're saying to the con -- we're not negotiating price anymore. We've already set the price. Now we're talk -- talking about the balance of the terms and conditions, and ultimately we have to be satisfied that -- that those are in Manitoba Hydro's best interests, as well.

MR. ROBERT MAYER: Mr. -- Mr. Cormie, I understand what you said, and I understand what -- what Ms. Ramage said, but as -- as a number of us who know who have been involved in certain labour negotiations, the idea of bad faith negotiation in itself becomes -- can become actionable.

You have, as I understand it, made certain commitments, admittedly only binding over the period of the term sheets which can expire. I think I have a disagreement with Ms. Ramage with respect to what is a contract and what isn't a contract, and I don't suppose we're going to resolve that here and now. Thank you.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Cormie, can you advise the Board of the expiry date of the Minnesota Power term sheet?

MR. DAVID CORMIE: I'm -- I'm not -- I don't have that date at hand right now. It has been extended several times, and the parties have the option of extending it if -- if they both agree that that's to their mutual benefit, and we do that.

MR. BOB PETERS: Has the Wisconsin Public Service term sheet had an expiry date that's ex -- that has been extended?

MR. DAVID CORMIE: Similar to the Minnesota Power one (1), we've extended the expiry dates on that as well.

MR. BOB PETERS: You don't have the current expiry date?

MR. DAVID CORMIE: I -- unfortunately, Mr. Peters, that's confidential information, and even if I knew it I wouldn't be able to tell it to you.

MR. BOB PETERS: Then -- then I'm getting comfort from that. You -- you -- are you able to tell the Board what the previous expiry dates were?

MR. DAVID CORMIE: No, I can't.

MR. BOB PETERS: Is that -- is that something you expect the counterparties could play off as against each other? Is that the -- the reason?

MR. DAVID CORMIE: Well, it's part of the -- it's part of the terms and conditions in the term sheets, and the term sheets are bound by confidentiality agreements, and -- and it's one (1) of the clauses that I can't speak about.

MR. BOB PETERS: All right, and I thank you for that explanation, sir. Under the Minnesota Power Term Sheet, would the Board be correct in understanding it as a 250 megawatt arrangement?

MR. DAVID CORMIE: Could you ask that again, please?

MR. BOB PETERS: I'm sorry, yes. Under the Minnesota Power Term Sheet, would the Board be correct in understanding that that transaction contemplates a 250 megawatt agreement?

MR. DAVID CORMIE: Yes, it's 250 megawatts of system participation power delivered seven (7) days a week, sixteen (16) hours a day.

MR. BOB PETERS: Seven (7) days a week, sixteen (16) hours a day. Five (5) by sixteen (16), we've -- we've called that peak energy, correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And five (5) by sixteen (16) would translate into about 1,040 gigawatt hours?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And that is considered on-peak, the highest demand component of the day that this contract would -- if it comes to fruition, would service?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: You also said it was a seven (7) by sixteen (16), meaning that, in addition to five (5) by sixteen (16), you're also selling energy on weekends, is that correct?

MR. DAVID CORMIE: Yeah.

MR. BOB PETERS: That's not peak energy.

MR. DAVID CORMIE: Well, it's in the peak hours of the -- of -- of the weekends. It's -- it's not overnight energy, so -- and, generally, weekend prices are a little bit softer than they are Monday to Friday, but Saturday and Sunday prices can be the highest prices of the week in those hours. So it's -- it's -- it's -- it's not the five (5) by sixteen (16) hours; it's generally a lower -- those are hours that our prices are slightly lower.

I think, if my memory serves me, Saturday prices are about 80 percent of weekday prices, and Sunday prices are about 60 percent of weekday prices, but, generally, those Saturday and Sunday prices are higher -- much higher than overnight prices.

MR. BOB PETERS: You're equating the balance of the off-peak to be overnight?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And so the two (2) by sixteen (16) component will bring -- will obligate Manitoba Hydro to sell about 416 gigawatt hours to Minnesota Power?

(BRIEF PAUSE)

MR. DAVID CORMIE: What was your number again, Mr. Peters?

MR. BOB PETERS: Four hundred and sixteen (416) gigawatt hours.

(BRIEF PAUSE)

MR. DAVID CORMIE: I think that number is way too low, Mr. Peters, but I'll have to check on it.

MR. BOB PETERS: I'll share my math with you if you share yours with me. I just took the -- the commitment that you told the Board of 1,040 gigawatt hours on five (5) by sixteen (16) and multiplied it by two-fifths (2/5).

MR. ROBERT MAYER: Rather than --

MR. DAVID CORMIE: Well, there are -- there are 250 megawatts for sixteen (16) hours a day, three hundred and sixty-five (365) days a year. It's 1.460 terawatt hours, or -- or 1,460 gigawatt hours a year, Mr. Peters. That's why I'm suggesting that your number is way too low.

(BRIEF PAUSE)

THE CHAIRPERSON: I don't think we should be doing this from the back of the envelope, Mr. Peters.

MR. DAVID CORMIE: Well, five (5) by sixteen (16) is 20,000 megawatt hours a week. There are fifty-two (52) weeks in a year. That's 1 million megawatt hours. We have an obligation to deliver seven

(7) by sixteen (16), so it's more than a million megawatt hours. It's not anywhere close to the four sixty (460), Mr. Peters, so.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: You understood my four sixteen (416) was referenced to the weekend energy only?

MR. DAVID CORMIE: Oh, weekend energy; that's what you're asking.

MR. BOB PETERS: That's what I intended to ask.

MR. DAVID CORMIE: Oh, okay.

MR. BOB PETERS: I'm not certain that I did, Mr. Cormie, but I'm surprised we're not agreeing on our math here.

MR. DAVID CORMIE: Well. Yes.

MR. BOB PETERS: If we look to the Wisconsin Public Service term sheet, Mr. Cormie, it's understood by the Board, I believe, to be a 500 megawatt arrangement.

Would that be correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: So in essence, we can take whatever our numbers were for Minnesota Power and just multiply them by two (2) to come up with the energy that would be provided under that arrangement.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: That arrangement is also what you've called a seven (7) by sixteen (16) arrangement.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: So we've agreed, I think, on 1,465 gigawatt hours a year to Minnesota Power, and we can double that to close to 2,900 gigawatt hours for Wisconsin Public Service.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Are you able to advise the Board, Mr. Cormie, as to whether any of the two (2) by sixteen (16) portion of the Minnesota Power agreement can be curtailed?

(BRIEF PAUSE)

MR. DAVID CORMIE: Mr. Peters, both those contracts have adverse water provisions in there that allow Manitoba Hydro to curtail under those conditions.

(BRIEF PAUSE)

MR. BOB PETERS: Is the curtailment of

which you speak, Mr. Cormie, related only to the two (2) by sixteen (16) energy?

MR. DAVID CORMIE: Yes.

(BRIEF PAUSE)

MR. BOB PETERS: When I referred to the term sheets with Wisconsin Public Service and Minnesota Power, Mr. Cormie, the understanding is that these will result in long-term contracts, correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Included in the long-term contracts will be a fixed price for certainly the five (5) by sixteen (16) energy.

MR. DAVID CORMIE: Unfortunately, Mr. Peters, I can't discuss the nature of the pricing under the contracts -- or under the term sheets, but there -- there will be fixed revenues associated with the -- the transactions for sure, yes.

MR. BOB PETERS: Can you -- and please be careful in your response, but can you go so far as to indicate that also pursuant to the agreement there will be non fixed-price sales?

(BRIEF PAUSE)

MR. DAVID CORMIE: As with almost all our transactions, Mr. Peters, we structure our -- our transactions -- we're structuring our transactions so that if there is additional energy above Manitoba Hydro's obligations under the contract, that -- that we will -- we will want that opportunity to exist in the contract.

And -- and the reason for that is that these contracts attract the construction of firm transmission. And Manitoba Hydro wants to be able to use that transmission as a firm outlet to the market and -- so in general, and not being specific about any particular contract, they always allow for additional energy sales that are of mutual benefit both to the buyer and to the seller.

MR. BOB PETERS: Thank -- thank you for that answer, Mr. Cormie. I'm not sure if you were trying to deflect me intentionally or not, but I -- I was more concerned with the -- any indication, if you can provide one (1) to the Board, as to whether under the term sheets and the expected contracts, there will be energy committed under the seven (7) by sixteen (16) arrangements that will not be priced pursuant to a -- long-term fixed prices?

MR. DAVID CORMIE: Well, now -- now you're being too specific, Mr. Peters, and I --

MR. BOB PETERS: All right.

MR. DAVID CORMIE: -- I just hope that you can imply from my previous answer that -- that -- just I think you just need to read -- read my previous answer in the transcript and that'll be the answer. Yeah.

MR. BOB PETERS: Thank you for that, sir. Mr. Cormie, you mentioned to the Board that curtailment of a portion of the expected agreements with Minnesota Power and Wisconsin Public Service could be curtailed under adverse water conditions. Would that be correct?

MR. DAVID CORMIE: Yes, again, as I indicated with the pricing, that's a pretty routine clause that we embed in our contracts. And -- and that's part of the structure of these ones as well.

(BRIEF PAUSE)

MR. BOB PETERS: Can you provide the Board with a specific, including a numerical example, of when the adverse water conditions would reduce or eliminate Manitoba Hydro's obligation to supply Minnesota Power and Wisconsin Public Service?

MR. DAVID CORMIE: I'd -- I'd -- I'd rather not speak in specifics about those contracts, but

I can speak in general terms how these clauses work. When Manitoba Hydro is unable to serve the sale -- the energy in the sales from its own resources. And actually when it expects to not be able to serve the sale from its own resources, that generally creates a situation described as adverse water conditions.

So as Manitoba Hydro does its energy planning it looks to the future under a very pessimistic scenario that anticipates the occurrence of low water conditions. It looks at the available resources that it has in its system and compares that to its -- the demands on the system. And if -- if -- if there is a shortfall between what Manitoba Hydro can generate on its own system to its total demand, including the forecast demand from Manitoba customers, that would declare it -- that would provide the opportunity for Manitoba Hydro to declare adverse water. And then --

MR. BOB PETERS: Mr. --

MR. DAVID CORMIE: And under adverse water conditions it would have the right to curtail deliveries up to the amounts of -- of -- allowed in the contract and exercise its adverse water rights.

MR. BOB PETERS: Thank you, Mr. Cormie. Just so the Board is clear, yesterday we reviewed the information from Manitoba Hydro's dependable resources from the Power Resource Plan found at Appendix 47 of these proceedings. It's also in the book of documents at Tab 32.

And -- you remember that from yesterday?

MR. DAVID CORMIE: Could you say that agin, Mr. Peters?

MR. BOB PETERS: Yes, sorry. I was just wanting the Board to follow your -- your last answer. When you said that if Manitoba Hydro is unable to serve the export contract from its own resources, that by definition would be adverse water conditions.

Did I understand that correctly?

MR. DAVID CORMIE: It's -- it's whether it can serve its -- its -- all its commitments, not just its export commitments.

So when it -- it looks at its total energy requirement, and that is at Manitoba Hydro's sole discretion to determine what that energy requirement is, and if -- you know, in using good utility practice we will determine that amount.

And if we compare that to our supply, and again that's at Manitoba Hydro's sole discretion, if we determine that there is a shortfall, we can exercise our adverse water rights which would allow us to curtail delivery.

So what adverse water rights do is allows Manitoba Hydro to avoid having to go to the market to purchase energy to serve a portion of the firm export contract that is -- has -- is curtailable. That's in effect what the adverse water rights do. But again, that's something that is completely under Manitoba Hydro's control.

MR. BOB PETERS: When we look at the -- at the power resource plan, Mr. Cormie, does that have a bearing in determining whether or not Manitoba Hydro can serve all of its commitments from its own resources?

MR. DAVID CORMIE: Manitoba Hydro plans its new resources, assuming that those rights would be exercised.

MR. BOB PETERS: You're telling the Board that Manitoba Hydro will go into any particular year intending to serve its domestic customers, and its committed export long term agreements, based on the power resource plan resources.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And so if Manitoba Hydro has the sole discretion to determine whether or not it can serve its domestic load and its export commitments, wouldn't it be bound by what the dependable resources are on the power resource plan?

MR. DAVID CORMIE: No. The dependent resources in the resource plan is the capability of the power system, but Manitoba Hydro only -- only needs to have enough resources to meet its load in any particular year. It isn't -- doesn't need to have extra.

So imagine the situation where we have just installed Limestone, for example. It -- it all of a sudden created huge additional dependable resources. That didn't br -- that doesn't require Manitoba Hydro to keep its reservoirs full under that circumstance because we don't have a load -- a firm load obligation that comes anywhere close to the potential capability of -- of the power system.

If you add a new station, like Limestone or -- or Conawapa, you'll add 7 gigawatt hours to the dependable capability, but we don't have 7,000 gigawatt hours of new dependable load that we have to serve.

So that's the theoretical capability. Manitoba Hydro only has to plan its operations so that it has enough resources to serve its load demands and that -- and -- and those -- those will -- could necessarily be much lower than what the dependable capability is.

If we've only -- if -- if we put in Conawapa, it increases dependable capability by -- it says 4,500 -- 4,500 gigawatt hours, and -- and the

Manitoba firm load has only gone up by a hundred, we don't necessarily have to be capable of generating the entire forty-five hundred (4,500). We only have to be capable of adding 100 gigawatt hours to the system.

So that gives us discretion in operating our reservoirs. But what Mr. Surminski has done, he's given Manitoba Hydro the ability, if it had to, if its load -- load requirements were such that it needed to have all those dependable resources available, then as an operator I would be able to operate the power system such that that load could be met.

It's like -- a good analogy is the gas tank in your car: you can -- you can go a thousand miles on a full tank of gas, but if your trip is only five hundred (500), you don't really have to keep the gas tank full when you start. You'd say, I can get -- I can get to Regina on half a tank, even though the capability of the car was a thousand, you only need five hundred (500) miles of gas, so you only put five hundred (500) miles of gas in the tank.

And that's the difference between the dependable capability and how much gas you actually keep in the car, and that's the -- exactly the way we manage the reservoirs. We -- we only keep the -- the minimum amount necessary in the reservoirs, because if we keep more than that, high water years come along and that extra has -- runs the risk of being spilled, and that becomes an uneconomic activity for Manitoba Hydro. So there's a difference between the capability and what is actually required year to year.

MR. BOB PETERS: Thank you for the distinction, Mr. Cormie. Under adverse water conditions, where Manitoba Hydro would be unable to serve all of its commitments from its own resources, those own resources have to include Manitoba Hydro's thermal generation, correct?

MR. DAVID CORMIE: Every contract defines what those resources are, Mr. Peters. They may or may not include all the resources. We negotiate those specific adverse water terms and conditions with each customers. Some may include it, some may not; that's a matter of negotiation.

And some companies are -- the risk is best shared -- some companies can bear the risk and some but -- companies are -- are better capable of share -- of carrying the risk or not, and that ends up being part of the package: Who's best capable of sharing that risk? And -- and we negotiate all of those terms about what adverse water means, and that's why we keep these very confidential and -- because everyone is different.

MR. BOB PETERS: Does that same answer apply, Mr. Cormie, with respect to Manitoba Hydro's import capabilities, as forming part of its own resources?

MR. DAVID CORMIE: Import capabilities may or may not -- may not be included in the resources that are used to trigger adverse water rights.

Maybe, Mr. Peters, as background, historically we have -- and I'm not speaking about any particular contract, but historically we have backed the sales with market purchases, but -- but as the market has -- has evolved and has become much more volatile and Manitoba Hydro has gas resources in its own system, we've tended to shy away from backing any of the sales with -- with resources over which we can't control the price of.

And -- and that's been an evolution in the nature of our -- our -- our obligations, is that -- and -- and -- and -- and under the Minnesota Power and Wisconsin Public Service, we're building new hydraulic generation to serve the sale, and so new hydraulic generation doesn't carry any price risk with it. It's -- it's -- those sales are being served out of hydro plants that we don't have to go to market for that energy; that energy will always be there.

So the new hydraulic -- the new sales are served solely out of new, dependable hydro, not from the entire basket of assets that Manitoba Hydro has -- has available to it. So in -- if -- from that perspective, they are much less risky from a replacement power perspective compared to the contracts that were negotiated several decades ago.

MR. BOB PETERS: Thank you for that, Mr. Cormie. I think that will assist the Board in understanding that matter. Under these adverse water condition clauses, and recognizing, I think, as you've said, they -- they vary depending on the counterparty, because counterparties all have different capabilities and risk tolerances, I suppose.

That's what you're indicating, correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And would it be correct that, under these adverse water conditions, if it is declared by Manitoba Hydro, it's -- it's not subject to -- to an audit by the counterparty or some external party?

(BRIEF PAUSE)

MR. DAVID CORMIE: Again, speaking generally, Mr. Peters, there are no audit provisions associated with the declaration of adverse water. But I would suppose that a counterparty could feel that Manitoba Hydro's in breach of its obligations and -- and take other remedies, but there are no audit provisions. The -- these provisions are generally at Manitoba Hydro's sole discretion because, ultimately, it's the Manitoba load that people put at risk, and we don't want to -- we want to be able to control the -- control that aspect.

MR. ROBERT MAYER: Having a drought wouldn't exactly be a secret to people in Minnesota or Wisconsin.

MR. DAVID CORMIE: No, it wouldn't, and -- and we don't intend to keep it a secret, Mr. Mayer. These relationships with these companies are longstanding and we want them to be customers well into the future, and there's nothing to be gained through not being open and -- and -- with them with regard to how we were operating the power system.

Ultimately, because of Manitoba Hydro's curtailment rights, the risk is actually borne by them, and -- and I think it's just part of Manitoba Hydro's practice of doing business that -- that we treat them with respect and we're open and -- and that -- I think that stands in our good stead.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Would it also be correct though, Mr. Cormie, recognizing that the marketplace has changed since 2003, that in 2003/04 there may have been advantages to Manitoba Hydro to keep its energy situation and supply situation as confidential as possible?

MR. DAVID CORMIE: You know, I -- I think that would have been -- if that had been the option -- an option, that would have been per -- something we would have liked to have had. Unfortunately, the nature of our -- our -- who controls the transmission lines in the United States didn't give us that option, and we have to be -- we had to do joint energy planning, Mr. Peters.

MR. BOB PETERS: All right. Just trying to finish up on this adverse water condition for now, Mr. Cormie, would the Board's understanding be correct that if Manitoba Hydro declares adverse water conditions, then Manitoba Hydro can, in essence, walk away from the obligation to supply the energy pursuant to the arrangements with counterparties?

MR. DAVID CORMIE: I don't like the word -- the words "walk away." We are -- we would be exercising our legitimate rights under the contract, Mr. Peters, to -- to reduce the deliveries from -- as allowed under the contract. It's not a walking away of anything. It's just exercising an option that Manitoba Hydro negotiated and nobody would view that as Manitoba Hydro walking away from it's obligations. We have that -- we have that right and that option and we are exercising it. That's...

MR. BOB PETERS: Certainly those are my words, Mr. Cormie, and I was -- I was using it for effect, and it did catch your attention. But all it was suggested to mean is that if Manitoba Hydro declares adverse water conditions, it's Manitoba Hydro's understanding that it does not have an obligation to deliver the energy either physically or financially.

MR. DAVID CORMIE: Yes, and we don't plan under design conditions to supply that energy, and our counterparties are quite aware of that, so this is not something that is a surprise to them. And as they have the right to exercise provisions in the contract that are to their benefit, they expect that we will do the same. There -- there are no surprises here, Mr. Peters.

MR. BOB PETERS: Mr. Chairman, I'm going to turn to the NSP contract, but this might be an opportune time for a morning recess.

THE CHAIRPERSON: Very good, sir.

--- Upon recessing at 10:48 a.m.
--- Upon resuming at 11:11 a.m.

(BRIEF PAUSE)

THE CHAIRPERSON: Okay, Mr. Peters.
MR. BOB PETERS: Thank you, Mr. Chairman.

CONTINUED BY MR. BOB PETERS:
MR. BOB PETERS: I may have been premature in speaking before the break about moving on to the NSP contract, Mr. Cormie. I -- I want to just cover up, I think, another area on the NSP -- I'm sorry, on the WPS and the MP as we've been calling them, Minnesota Power and Wisconsin Public Service term-sheeted agreements, if that's the correct use of the word.
From your evidence you were indicating to the Board that the term sheets were, in my words, to nail down the -- the key points of any agreement going forward if possible. And then maybe work out some of the other agreements or other provisions related to the long-term contract.
Would that be a correct simplification?
MR. DAVID CORMIE: Yes, I think -- I -- we had talked about earlier, that was the -- there was an agreement at that moment in time and enough agreement that both companies would invest in further discussions. And I think the -- the -- the idea that they're actually

-- we actually locked in those key points may have been overstated.

I think that as the negotiations go on the customer may -- may change their requirements and ask for some more optionality, and that may result in price adjustments and -- and that's what happens through the negotiations as we talk through the details, you know, we -- we will -- the -- the terms and conditions of the term sheet, even the major ones, may be adjusted but they're all subject to the negotiation process.

MR. BOB PETERS: When you say optionality, what should the Board understand you to be referring to? Can you provide examples of that?

MR. DAVID CORMIE: Yeah, one (1) example might be, you know, Manitoba Hydro in a particular negotiation may want to index the price of power to natural gas prices and that's the basis of our setting the price and its adjustment with time. The customer may decide that natural gas is not something he wants to tie the price to any more and he may suggest an alternative. Manitoba Hydro would accept the alternative and we would determine what the incremental cost of -- of moving from one (1) index to another index, and we could adjust the price on that basis.

There may be a provision -- other -- other provisions of the contract that we can monetize and turn into a price adjustment, or there may be terms and conditions that -- that -- that are favourable to Manitoba Hydro that we would like and there may be terms and conditions -- adjustments to the terms and conditions that they may like and there could be a -- a swap of -- of what would be deemed to be of equivalent value.

So they don't all necessarily result in a price adjustment, but -- but price adjustments can be made to the basic -- to the opening price that was established in the term sheet, subject as the negotiations go on.

MR. BOB PETERS: It sounds like those pricing adjustments are relatively minor relative to the -- the main fixing of the price for the long-term energy.

MR. DAVID CORMIE: They can be significant, Mr. Peters, because of -- you know, I -- I wouldn't say that they are -- are always minor. They are -- they can be significant.

MR. BOB PETERS: You're not able to tell the Board what, if any, fact situation has given rise, without identifying the counterparty, to changes in pricing provisions?

MR. DAVID CORMIE: I -- I can't speak in any detail about specific cases, but I think just your --

your comment that -- that these are just minor adjustments to price, I think that -- that is a -- not gen -- it's not necessarily always true.

MR. BOB PETERS: What is true, Mr. Cormie, is that when Manitoba Hydro entered into the term sheets with Minnesota Power and Wisconsin Public Service, Keeyask was on the capital expenditures forecast at about $3.8 billion, correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And I was referring to CEF, the capital expenditure forecast of '08. What's happened since then is the capital costs of Keeyask have gone up 50 percent to about $5.6 billion in Capital Expenditure Forecast number 10, correct?

MR. DAVID CORMIE: Yes, subject to check.

MR. BOB PETERS: And the energy to serve the Minnesota Power and/or Wisconsin Public Service term-sheeted arrangements was to come from new generation, including Keeyask, correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And just as Keeyask has gone up 50 percent from Capital Expenditure Forecast '08, Conawapa has gone up 56 percent from Capital Expenditure Forecast '08 to Capital Expenditure Forecast '10. Do you agree with that?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Recognizing the capital costs have increased significantly for Manitoba Hydro, and that's on the generating station side, the Bipole 3 costs have gone up even greater by as much as 82 percent from the capital expenditure forecast of a couple of years ago until the most recent one (1), sir?

MR. DAVID CORMIE: Yes, but those costs are not related to the sales.

MR. BOB PETERS: You can't get the Conawapa power to Minnesota Power or Wisconsin Public Service without Conawapa, can you?

MR. DAVID CORMIE: No, but Manitoba Hydro is building Bipole 3 whether it builds Conawapa or not.

MR. BOB PETERS: I see. You -- your suggestion is that Manitoba ratepayers will pay for the Bipole 3 and it won't be considered as a factor in the -- in the export sales assessment.

MR. DAVID CORMIE: To the extent that there are costs associated with the sales, those costs will be included in the -- the analysis of the transactions with Minnesota Power and Wisconsin Public Service.

MR. BOB PETERS: Will those costs incur -- include any costs attributable to Bipole 3?

MR. DAVID CORMIE: I -- I don't know that answer, whether there are any -- to the extent that there are costs they will be incl -- included in the analysis. There may be some minor costs. I don't -- I don't have that answer.

MR. VINCE WARDEN: But maybe I can just add, Mr. Peters, we do compare the sale scenario versus the no-sale scenario, so we know the benefits of the sale scenario as a package, which -- it provides assurance that the benefits, in fact, are there versus not proceeding with the sales.

MR. BOB PETERS: The suggestion in that answer, Mr. Warden, is that none of the two point two (2.2), or perhaps $4 billion, attributable to Bipole 3 will be considered as costs to affect the new term-sheeted sales?

MR. VINCE WARDEN: Well, I think Mr. Cormie was answering that Bipole 3 is required for reliability purposes, which it is, and it would be there in both the sale and no-sale scenarios. So, when comparing the two (2) scenarios, what we want to assure ourselves of is that the sale scenario is advantageous in terms of net benefits to Manitoba, Manitoba ratepayers.

MR. BOB PETERS: But --

MR. ROBERT MAYER: Accepting your concern about, or at least your comments about, Bipole 3 being required in any event, in a related matter, if you didn't have Bipole 3, would you require Riel Converter Station?

MR. VINCE WARDEN: We would not require the converter station, no.

MR. ROBERT MAYER: Am I correct in assuming that what I saw when I last drove by there is you are in fact at this moment constructing Riel?

MR. VINCE WARDEN: That's not the converter station, though, Mr. Mayer; that's the Riel station, which is required regardless of whether Bipole 3 is built.

MR. ROBERT MAYER: The construction I saw then doesn't relate to the converter station. Did I in fact find the right place this time, however?

MR. VINCE WARDEN: Yes. The site is the same.

MR. DAVID CORMIE: The -- the new Riel Station, Mr. Mayer, is to move the termination point of the 500 kV interconnection to the United States from Dorsey to Riel so that we don't have all that transmission concentrated in that same location. So that's part of the Riel sectionalization project.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Warden, just a point of clarification on the Vice Chair's question that if the -- if the Bipole 3 was not constructed, it wouldn't need the Riel Converter Station, and there's also the converter station in northern Manitoba that wouldn't be needed?

MR. VINCE WARDEN: That's right.

MR. BOB PETERS: Mr. -- Mr. Warden, help me with the accounting here. If you include the costs of Bipole 3 in the sale scenario and compare that to the costs of the no-sale scenario, the no-sale scenario will also include the costs of Bipole 3, correct?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: So it washes itself out or it cancels itself out?

MR. VINCE WARDEN: In effect, yes.

MR. BOB PETERS: Yeah.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Cormie, Mr. Warden, can Manitoba Hydro provide the Board with any comfort or assurance that, while the capital costs of Keeyask and Conawapa have -- have gone up by 50 and 56 percent, that the price of the energy in the contracts or the term sheets that have been signed back in December of 2007 and March 31 of 2008 have been adjusted to reflect the additional costs that Manitoba Hydro will have to incur to serve those agreements, if they come into fruition?

MR. DAVID CORMIE: Mr. Peters, maybe I can describe the process that will take place before those sale agreements are approved and before Manitoba Hydro commits itself to these projects.

My responsibility is to negotiate the best possible value for Manitoba Hydro under the sales agreements, and once I have done that, I -- Manitoba Hydro turns that transaction over to -- to an independent analysis of revenues and costs associated with the sale, and justifies -- I don't justify the business case; the business case is justified by an independent area of Manitoba Hydro. And then that business case is taken forward to our executive and to our Board of Directors, and -- and -- and that business case will be made based on all the costs associated with the sale and the expected revenues.

And if -- if we can't make that business case, our Board of Directors and our executive will not go forward with the -- with the sale transactions. This is not a foregone conclusion but -- and -- and so there is -- there's -- there's more to be done than just negotiating a transaction.

Then we have to do our due diligence and -- and our internal reviews at Manitoba Hydro to en -- to ensure that in spite of the cost increases associated with these -- construction of these new projects that it still brings value to Manitoba Hydro.

MR. VINCE WARDEN: I might just add too, Mr. Peters, as we have stated previously, that there will be a needs for and justification to review -- or the NFAAT review that will be conducted prior to these sales being approved and new generation being constructed to serve those sales. So I think this Board can take considerable comfort from the fact that that proceeding will be conducted at a future date.

MR. ROBERT MAYER: Mr. Warden, it is difficult to take comfort when this Board neither knows when nor by whom such a review will be conducted.

MR. VINCE WARDEN: Well, Mr. Mayer, I think I did give some timelines as to when we expected that would be. The by whom part is a decision of government, yeah.

MR. ROBERT MAYER: I understand that.

MR. DAVID CORMIE: And I think one (1) last point, Mr. Peters. Each of these contracts requires Manitoba Hydro to -- to build major generation. And there are conditions precedent in the contracts that -- that require the approval of these projects by the Manitoba Hydro Board and completion of all the regulatory processes. And so even today, if the analysis was done and it showed it to be a positive thing, the -- the day of actual commitment to the new generation is many years away.

And so, if Manitoba Hydro chooses not to build new generation and -- and the decision to let the general civil contract is in 2018, there's still six (6) years of time that the -- the Board of Manitoba Hydro may decide at that point we don't have to build -- we're not prepared to build new generation. Manitoba Hydro has the right under the contract to terminate it. It's subject to the -- to the decision by Manitoba Hydro to -- to build facilities. And if the Board, for whatever reason, chooses not to, the -- the contract allows -- the -- the contract stops; our obligation ceases.

So there's -- there are very -- there are many steps that are -- are trigger points in -- in the contract that -- that -- actually, that process begins with the signing of the agreement. It doesn't make the commitment to build generation; it says that that's the direction we're going to go. And if Manitoba Hydro's situation changes over the next five (5), eight (8) years either because we don't get regulatory approval in Canada or the US, or the new transmission line doesn't get constructed, or we choose not to build new generation because it's no longer a good deal, those conditions have been established in the contract as reasons for not proceeding.

THE CHAIRPERSON: Mr. Warden, if I could just follow up on that. In considering the business case, assuming the negotiations conclude and the process that Mr. Cormie and yourself were outlining follows through, I take into account -- would it be fair to say that the business case would take into account the significant expenditures that are being incurred and have been incurred towards implementing the preferred development plan?

MR. VINCE WARDEN: Certainly the financial analysis will take into account the sunk costs. The economic analysis typically doesn't do that, but the financial analysis will. Those costs have to be recovered from somebody. So certainly going forward in the sale/no-sale scenarios we do take into account the costs that have been incurred to date.

THE CHAIRPERSON: Thank you, sir.

(BRIEF PAUSE)

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: In that last answer, Mr. Warden, you're telling the Board that you didn't agree with me when I said hundreds of millions of dollars, but $25 millions of dollars a month being spent on the Keeyask and Conawapa projects currently. That money would be -- you called it a sunk cost. It would be a cost that would be written off if the project didn't proceed?

MR. VINCE WARDEN: Well, that would be one (1) of the options if the project didn't proceed. If the sales didn't proceed, it probably would be a more accurate way of describing it. If the sales didn't proceed then we would look at the options for the next generation to serve solely the Manitoba load or perhaps some other options. Perhaps a sale with another counterparty could be -- could be negotiated.

So a writeoff of those costs would be a very last resort. I -- I do expect these facilities will be built and the costs will be recovered in those -- the future rates that are associated with those facilities.

MR. BOB PETERS: But Manitoba Hydro has said that with all of its northern generation, that any expenses made for northern generation, Manitoba Hydro will capitalize those in the expectation that someday those facilities would be built regardless of where they are?

MR. VINCE WARDEN: Well, the accounting rules have tightened up a little bit on that under IFRS, and what we previously referred to as planning studies were -- by we would capitalize those costs and amortize them over fifteen (15) years. Not -- we're not -- don't have the same latitude to do that.

So going forward we would have to have some assurance that those facilities would be built before we could capitalize and -- and defer those costs. Otherwise, planning studies would be charged to the period in which they're incurred.

MR. BOB PETERS: Well, that's putting the hundreds of millions of dollars a year that's being spent on Keeyask and Conawapa right now at risk then, is it not?

MR. VINCE WARDEN: No. No, because we would consider Conawapa and Keeyask to be projects for which there is reasonable assurance they will proceed. So reasonable assurance is the key term in -- in making a decision as to whether or not those costs will be capitalized or written-off in the period in which they're incurred.

MR. BOB PETERS: What's the reasonable

assurance if the term-sheeted arrangements with Minnesota Power and Wisconsin Public Service don't come to fruition?

MR. VINCE WARDEN: Well, we still believe that the sites for Conawapa and Wis -- and Keeyask are extremely valuable and we'll be -- and we will be -- those facilities will be built. We're firmly of that -- of that view.

(BRIEF PAUSE)

MR. BOB PETERS: Would the Board's understanding be correct, Mr. Cormie and Mr. Warden, that as you go down this path with the term sheets, if -- the counterparty essentially can change its position, or in my words, back out at any time without penalty. Would that be correct?

(BRIEF PAUSE)

MR. DAVID CORMIE: Yes, the -- the term sheets allow for that.

MR. BOB PETERS: And there's no financial commitment required by the term-sheeted counterparty in the event they want to walk away from the term sheets at this point in time?

MS. PATTI RAMAGE: I'm not -- I'm not sure it's beneficial for Manitoba Hydro or its ratepayers for witnesses to start opining on what counterparties can -- what we think counterparties may or may not be allowed to do under the term sheets.

I -- I'm concerned about the line of questioning.

MR. DAVID CORMIE: And my -- I think, Mr. Peters, I -- I don't think I can answer that question at this time because that would be revealing the terms and conditions of the term sheet, and -- and I'm not prepared to do that.

(BRIEF PAUSE)

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Let's turn, if we can, to the Northern States Power, NSP, Agreement, Mr. Cormie. You've told the Board you have an existing one (1) that expires in 2015, and you want to renew that one (1) so it runs for a further ten (10) years past 2015 all the way out to 2025. Have we got that right?

MR. DAVID CORMIE: There's an existing one (1) that expires in 2015 and then the -- there are two (2) diversity agreements that expire shortly thereafter, and so there are three (3) agreements that are approaching their expiry date. And these -- the -- the current -- the new agreements extend those agreements out to 2025.

MR. BOB PETERS: And we should -- the Board should consider the three (3) agreements as -- as part of a package.

MR. DAVID CORMIE: They are a package, yes.

MR. BOB PETERS: And correct me if I'm wrong, Mr. Cormie, but the Board would understand from your previous evidence that the contract with NSP anticipates the fixed-price component to be, I believe, about 25 percent of the potential sales obligation?

MR. DAVID CORMIE: Do you have a reference for that, Mr. Peters?

MR. BOB PETERS: I -- I remember discussing the provisions with you, Mr. War -- or Mr. Cormie, where a percentage of the arrangement was long-term. Then there was some diversity and some opportunity, and I thought we had agreed that it was roughly 25 to 30 percent, or maybe 33 percent fixed, and the balance would have been the -- the non fixed-price portion.

You don't recall that discussion?

MR. DAVID CORMIE: I -- I don't remember discussing on the record that -- those quantums, but -- but there is a fixed component to the transaction, and there's a variable pon -- component to the transaction.

MR. BOB PETERS: All right. And you don't want to put on the record what the -- what the quantity is of each?

MR. DAVID CORMIE: No.

(BRIEF PAUSE)

MR. BOB PETERS: Would the Board's understanding be correct that the fixed-price component of the NSP contract will contribute essentially a full share of the embedded costs incurred by Manitoba Hydro but the balance would be a function of the market?

MR. DAVID CORMIE: There are no em -- embedded costs to recover associated with this contract, Mr. Peters. This is being done out of -- out of existing facilities and -- so there -- there are no embedded costs to consider here.

MR. BOB PETERS: You're telling the Board that the -- the measuring stick on the NSP arrangement is then the incremental costs that would be incurred to serve the arrangement?

MR. DAVID CORMIE: Yes. There are times when Manitoba Hydro will be incurring additional costs to run its generating system and participate in market activities to serve the -- to the sale. There aren't -- but there aren't -- we are not spending any capital dollars in order to facilitate the sale.

(BRIEF PAUSE)

MR. BOB PETERS: When you say there are no capital dollars being expended to serve the NSP sale, you're telling the Board that it can be served under existing Manitoba Hydro resources without the need for Wuskwatim or any other generating station.

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And because of that, Manitoba Hydro wouldn't notionally charge any of the costs of new generation against the NSP arrangement.

MR. DAVID CORMIE: The third agreement of the -- of the sale, the 125 megawatt system participation power sale agreement has -- is -- is dependent on the construction of new generation in Manitoba, and -- and that may -- because of that linkage, there could be that effect that you're talking about, but, as of now, Manitoba Hydro is not obligated to exercise that option. We haven't committed to building new generation. We haven't made that decision, and we'll make that decision at some time in the future.

MR. BOB PETERS: Can you explain to the Board, Mr. Cormie, Manitoba Hydro's obligation to supply summer energy to NSP when adverse water conditions have not been declared?

MR. DAVID CORMIE: Under the -- the 375 -- 325 megawatt sale agreement, Manitoba Hydro is obligated to sell to NSP 375 megawatts, sixteen (16) hours a day, five (5) days a week, during the summer season.

MR. BOB PETERS: That'd be approximately 780 gigawatt hours of energy, Mr. Cormie? Seven hundred and eighty (780) maybe?

MR. DAVID CORMIE: Yes, thereabouts, yeah.

MR. BOB PETERS: Is there also an obligation in the summer to sell weekend energy that we've previously referred to as two (2) by sixteen (16)?

MR. DAVID CORMIE: No.

MR. BOB PETERS: Can you tell the Board whether that is optionally available to NSP?

MR. DAVID CORMIE: Manitoba Hydro has the right but not the obligation to sell additional energy to NSP above and beyond the five (5) by sixteen (16) obligation, and -- and NSP has an obligation to buy it. But it's an -- it's at -- always at Manitoba Hydro's option.

(BRIEF PAUSE)

MR. BOB PETERS: Is the same arrangement, but to -- but only to 325 megawatts, the situation in the -- in the winter, Mr. Cormie?

MR. DAVID CORMIE: Yes, with the exception that the hours of delivery change from sixteen (16) hours a day to twelve (12) hours a day.

MR. BOB PETERS: And again, there's -- there's no obligation to provide weekend firm energy, but if Manitoba Hydro chooses, then there'll be an obligation on behalf of the counterparty to purchase it?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Would you be able to advise the Board, Mr. Cormie, if NSP would have an obligation to purchase any additional energy that Manitoba Hydro could make available during the peak periods of either the summer or the winter?

MR. DAVID CORMIE: Yes, Mr. Peters.

There's 892 megawatts of firm transmission connecting Manitoba to Minnesota that is controlled by Northern States Power, and if Manitoba Hydro has additional energy above and beyond the -- the capacity amount, whether it's three hundred and seventy-five (375) in the summer or three hundred and twenty-five (325) in the winter, Manitoba Hydro can require NSP purchase the additional energy that might be available above the capacity amount, up to the total of 892 megawatts. So we have the right to put energy above the fixed energy amounts and NSP has an obligation to buy, and -- and that's true on or off-peak, Mr. Peters.

(BRIEF PAUSE)

MR. BOB PETERS: In terms of, Mr. Warden, the prepare -- the preparation of the IFF, and Mr. Cormie and Mr. Surminski you can maybe help, does the IFF include the five (5) by sixteen (16) as well as the five (5) by twelve (12) energy, totalling 1,365 gigawatt hours of Manitoba Hydro's must supply?

MR. HAROLD SURMINSKI: Yes, it does.

MR. DAVID CORMIE: Mr. Peters, there's a difference between supplying and -- and selling. We're obligated to sell it to them. We're not obligated to supply it to them. We can use the market mechanisms to supply it. And we have an obligation to offer. So I think just -- but -- but I think Mr. Surminski's answer is right. The revenues that would flow to Manitoba Hydro are there.

(BRIEF PAUSE)

MR. BOB PETERS: What -- what I think you're clarifying on the record, Mr. Cormie, is that if Manitoba Hydro had to supply that energy, then the IFF would include a larger -- a larger number.

MR. DAVID CORMIE: No, I'm just im -- implying that -- that the revenues are exactly the same; it's just that the choice of your word "must supply" is different than must sell.

MR. BOB PETERS: All right. Leave that with me and I'll -- I'll work my way through those -- through those comments.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Cormie, Manitoba Hydro's obligations to supply when adverse water conditions have not been declared is the five (5) by sixteen (16) and five (5) by twelve (12)?

Are you going to say, no?

MR. DAVID CORMIE: Our obligation to supply off Manitoba is limited to our must-offer obligation, which is the capacity amount for four (4) hours a day for each day of the week. And if our offer's accepted, if it's in merit, then we must be able to supply that.

Must sell is we must -- what we're -- what we have -- we have an obligation to sell to NSP but we may choose to purchase the energy to serve the sale, so selling and supplying and offering are three (3) different activities.

MR. BOB PETERS: All right, the light's starting to go on for me. I thank you for that, Mr. Cormie.

I want to turn to a situation where, under the diversity arrangements, if adverse water conditions have been declared, would NSP have to supply energy greater back to Manitoba than what Manitoba Hydro provided to NSP in the first place?

(BRIEF PAUSE)

MR. DAVID CORMIE: If Manitoba Hydro

exercised all its adverse water rights under the contract, Manitoba Hydro has the right to more energy than it is obligated to sell to Northern States Power. So from that perspective there are more energy resources available to Manitoba Hydro under its adverse water rights than it's required to sell back to Northern States Power.

So from -- were sold in the first place. So the -- the sale is not only self-supporting, it actually ha -- there are actually additional resources about what's required.

MR. BOB PETERS: Meaning Manitoba Hydro can purchase under the diversity more than it sells under the diversity?

MR. DAVID CORMIE: More than it sells under the diversity and under the -- the three seventy-five (375)/three twenty-five (325), yes. There are more resources available than -- or we -- we can purchase more than we're required to sell.

MR. BOB PETERS: Manitoba Hydro also has rights to purchase additional win -- winter energy in -- in block increments, does it not?

MR. DAVID CORMIE: The adverse water provisions are all winter energy, Mr. Peters. And -- and some of it's available under the three seventy-five

(375)/three twenty-five (325) agreement and some of it's available under the Diversity Agreement.

MR. BOB PETERS: How do you know under which agreement the -- the provision would apply?

MR. DAVID CORMIE: We have the choice.

MR. BOB PETERS: The choice would be exercised dependent on the price?

MR. DAVID CORMIE: That would be one (1) of the factors, yes.

MR. BOB PETERS: What would be another factor, if any?

(BRIEF PAUSE)

MR. DAVID CORMIE: I -- I'm not -- I can't think of a -- a circumstance, but I would just suggest that it's not always limited to price. The -- the heat rate call option has -- the conditions under which that ex -- would be exercised are -- are quite onerous, and it may that -- be that Manitoba Hydro would want some flexibility in -- in making its decision and -- and that flexibility may have value and that may offset some of the -- the price issues.

So we have to -- we would decide at that time what would the appropriate thing would be to do given -- given that price is surely a significant item. And it all -- it also looks at where the market is at that -- at that time, relative to the price that's set in the contract.

MR. BOB PETERS: Can you explain to the Board when the heat rate call option would become operational or at least an option to be considered?

(BRIEF PAUSE)

MR. DAVID CORMIE: Manitoba Hydro has to exercise that right by September 15th of the contract year to exercise the heat rate call option.

(BRIEF PAUSE)

MR. BOB PETERS: And it would only be exercised under a declaration of adverse water conditions?

MR. DAVID CORMIE: We would have to have -- we would have to declare adverse water conditions in order to exercise that right, yes.

MR. BOB PETERS: Can you explain to the Board the mechanics of how the heat rate call option would impact Manitoba Hydro's costs to serve the NSP arrangement?

(BRIEF PAUSE)

MR. DAVID CORMIE: The -- the heat rate call option is one (1) of -- of several options that Manitoba Hydro could use to fulfill its obligation to NSP during the winter season.

One (1) option is to -- is to buy the energy in the spot market, and risk the volatility of that market. One (1) option is to enter into a bilateral arrangement, and purchase the energy from a third party. One (1) option is to commit to our own generation in Manitoba.

And each of those options will have various advantages and disadvantages, primarily price, and -- and if the -- the heat rate call option is attractive, given Manitoba Hydro's circumstances as a supply option, that -- that's when Manitoba Hydro would exercise that.

MR. BOB PETERS: But the heat rate call option is not -- is not related to Manitoba Hydro's thermal generation, is it?

MR. DAVID CORMIE: Not directly. It's -- it's not dir -- it's not directly related, no.

MR. BOB PETERS: Would it be the Board's understanding -- would it be correct for the Board to understand that if Manitoba Hydro could thermally generate the electricity cheaper than exercising the heat rate call option, it would, of course, take the self-generation rather than the -- the heat rate call option?

MR. DAVID CORMIE: Yes, I think that would be fair to say. But we know what -- if -- if that situation were to occur this winter, our thermal generation, our combustion turbines, are -- are relatively inefficient to the market, and -- and something significantly would have to happen either in the market or in Manitoba Hydro's system to change that relationship.

MR. BOB PETERS: Meaning that the -- the heat rate call option will likely be the cheaper of the two (2) sources to satisfy a contractual obligation?

MR. DAVID CORMIE: Well, the heat rate call option has some scheduling limitations that forces Manitoba Hydro to commit to each and every hour of the winter season in uniform blocks, and -- you know, so you would be making a multimillion dollar decision each time you exercise the -- the heat rate call option each -- every time you exercise the decision to purchase a block.

Whereas relying on your Manitoba Hydro,

although it may, on a unit cost basis, be more expensive, you may end up having a very warm winter where it actually is not necessary in spite of the fact that you've planned for a warm winter, and so you have the dispatchability of the existing combustion turbines.

That -- that -- instead of having to run them each day for the winter season in a committed fashion like the nature of the heat rate call opinion, you have the discretion each and every day of deciding whether you need them or not.

So those kind of costs can -- like you would be risking -- you -- you're risking a lot of money up front when you exercise the heat rate call option whereas you may -- when you run your own combustion turbines you may -- you'll just take the day -- take the -- meet the load on a day-by-day basis, and if you need them you'll run them, and if you don't you don't.

And given that Manitoba Hydro plans for the worse case, and -- and prepares for that, that may be -- and then on average things are better than that, that may be the attractive thing to do at that time.

But ultimately we know that the -- if -- if the worse case happens, that -- or something else happens that -- that we can, in effect, make the winter obligation to sell energy to NSP go away by exercising that option, the heat rate call option.

But again, that's one (1) of the factors that will have to be decided in each year, whether to exercise the adverse water conditions.

MR. BOB PETERS: Thank you. Mr. Chairman, with that answer, this might be an opportune time to take the lunch recess.

THE CHAIRPERSON: Very good, Mr. Peters. See you all back at 1:15.

--- Upon recessing at 12:01 p.m.
--- Upon resuming at 1:23 p.m.

THE CHAIRPERSON: Okay. Welcome, everyone. Ms. Ramage, you have some more undertakings turned into exhibits.

MS. PATTI RAMAGE: Yes, we do. The first is Manitoba Hydro Undertaking number 19, and that dealt with the summary paper received from the big four (4) accounting firms, and that is by our count Exhibit Manitoba Hydro number 32.

--- EXHIBIT NO. MH-32: Response to Undertaking 19

MS. PATTI RAMAGE: And the second is

Manitoba Hydro Undertaking number 40, which is dealing with factors contributing to the net income loss in 1993, and for the record that would be Exhibit Manitoba Hydro number 33.

--- EXHIBIT NO. MH-33: Response to Undertaking 40

THE CHAIRPERSON: Thank you. We'll have a look at these.

Mr. Peters...?

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Thank you, and good afternoon. Mr. Cormie, I would like to try to clarify a question about the diversity arrangement with the Northern States Power agreement, by way of hypothetical example, if I might.

MR. DAVID CORMIE: Sure.

MR. BOB PETERS: Let's assume Manitoba Hydro buys the maximum amount of energy in the winter of year one (1) from Northern States Power, and then in the summer of year two (2) Manitoba Hydro finds itself with only average flow conditions.

Can you envision that happening?

(BRIEF PAUSE)

MR. DAVID CORMIE: I suggest anything is possible, Mr. Peters.

MR. BOB PETERS: All right. Then continuing, in the situation that I've described, would Manitoba Hydro refuse to sell anything more than the minimum required back to NSP under diversity?

MR. DAVID CORMIE: The purchase and sale obligations under the diversity agreement aren't linked. And maybe just to clarify that, what I'm saying is that to the extent we sell energy to NSP, or we buy energy from them, that does not relate to subsequent transactions. There is no obligation to return the energy. They're not -- they're not linked.

MR. BOB PETERS: Would the Board be correct in assuming that, historically, Manitoba Hydro sells more to NSP on diversity than it purchases from NSP on diversity?

(BRIEF PAUSE)

MR. DAVID CORMIE: Yes, but historically those transactions have -- those historic transactions have different terms and conditions than the transactions that are possible under the new diversity sale agreement.

MR. BOB PETERS: And your previous answers when we were giving the hypothetical were under the new arrangement, correct?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: Are the terms of that minimum obligation under the new agreement public?

MR. DAVID CORMIE: Yes, there's no minimum obligation to supply Northern States Power with any energy under the diversity agreement. We have an obligation to offer, but we have no obligation to supply. And they are public, yes.

MR. BOB PETERS: Is that minimum obligation that you have to offer, four (4) hours a day, five (5) days a week?

MR. DAVID CORMIE: It's four (4) hours a day, seven (7) days a week during the peak hour of the MISO load demand.

MR. BOB PETERS: Is the MISO load demand peak different than that of the counterparty?

MR. DAVID CORMIE: It -- it may be, Mr. Peters, but it has -- it's -- the offer obligation is not related to Northern States Power's needs.

MR. BOB PETERS: And while Manitoba Hydro may have that minimum obligation to offer four (4) hours a day, seven (7) days a week, there is no corresponding obligation on the counterparty to purchase from Manitoba Hydro.

MR. DAVID CORMIE: No.

MR. BOB PETERS: I may have used the negatives the wrong way. But you're -- you're agreeing with me that there's no obligation on the counterparty to purchase what Manitoba Hydro offers.

(BRIEF PAUSE)

MR. DAVID CORMIE: Manitoba Hydro has the right to sell, and NSP has the obligation to buy, but Manitoba Hydro can -- in order to determine whether it's actually going to make a delivery, can price the energy to either clear the market or not clear the market. And through the setting of the price, it will determine whether there is actually a transaction, but Manitoba Hydro, in all cases, has the -- has the option.

For example, if Manitoba Hydro was offering in its combustion turbines, and once you included the all-in costs of starting and stopping, and just say hypothetically it was priced at three hundred dollars ($300) a megawatt hour and the market cleared at -- at fifty ($50) dollars, Manitoba Hydro offered, it met its obligation. It didn't really want to supply energy, but it -- it created a price that fulfilled its obligation to offer and -- but the energy would not be accepted in MISO because there were other more attractive supplies available which was indicated by the market clearing price of fifty (50).

However, if Manitoba Hydro wants to move energy, it would offer its energy in at a price that would make it attractive to the MISO market. Let's say it offered in at its water rental rates of -- let's say it was five ($5) and the mark -- and with the expectation that it would clear. To the extent that it does clear because it's in the money, then NSP has an obligation to buy all the energy that clears the market and -- and we have the right to -- to manage our affairs in that manner.

MR. BOB PETERS: All right. Thank you for that clarification. The diversity arrangement with NSP is -- in the summer months it's a twenty-four (24) hours a day, seven (7) days a week obligation to have 350 megawatts of capacity available?

MR. DAVID CORMIE: During the -- during either season, whether it's winter or summer, the purchaser has the right to the capacity at all times.

MR. BOB PETERS: And while they have the right to the capacity, that doesn't mean they have to call upon the energy from that capacity.

MR. DAVID CORMIE: Right. There's no minimum obligation to take delivery of any energy.

MR. BOB PETERS: In essence, could that be seen, Mr. Cormie, as tying up 350 megawatts of Manitoba Hydro's capacity just to have it on standby, so to speak?

MR. DAVID CORMIE: It does tie up Manitoba Hydro's capacity, but capacity without energy -- it's the energy that brings value, the ability to deliver energy at Manitoba Hydro's discretion. So we control whether energy will actually flow.

NSP can -- can claim the capacity on their books and take the -- avoid the -- the requirement to build their own capacity, and in the same manner, Manitoba Hydro can utilize the capacity to meet its capacity obligations in the winter, but there's no -- there are no energy obligations unless Manitoba Hydro exercises its options. So NSP can't force us to deliver energy at times when we're not prepared, even though they have the right to the capacity.

MR. BOB PETERS: What does Manitoba Hydro see as the value to the counterparty of having this capacity available but not utilized?

MR. DAVID CORMIE: I would be speaking for NSP in that situation, but they have a -- an obligation to have sufficient capacity and energy available to serve their load, just as Manitoba Hydro does, and the purchase of our -- the -- the availability of our capacity product helps them meet their -- their obligations to have sufficient resources available to meet their -- meet their load.

MR. BOB PETERS: It amounts to -- when it's not called upon, Mr. Cormie, it's -- it -- it amounts to idle capacity on the system?

MR. DAVID CORMIE: And it would only be idle if Manitoba Hydro did not have energy that it wanted to move to market. So in a drought situation when Manitoba Hydro was -- was determining that it needed to conserve its energy supplies, we would have no obligation to supply energy to NSP. But that doesn't detract from the value of the capacity that they would achieve. They -- they have the rights to call the capacity their own.

MR. BOB PETERS: It's analogous to the curtailable rates program, if you will, that Manitoba Hydro offers to its domestic customers?

MR. DAVID CORMIE: We can -- yes, we can exercise a call on -- under the capacity curtailable rates program for a load reduction. We have no obligation to call on it, but if we need it we can.

MR. BOB PETERS: And Manitoba Hydro can use its thermal capacity, as well as imports, to meet the NSP capacity commitment, correct?

MR. DAVID CORMIE: The -- the capacity is sold off the entire system capacity that's available, which is the sum of all the generation resources that have a capacity rating.

MR. BOB PETERS: It amounts to having -- what you're saying the -- to the Board in that last answer, Mr. Cormie, is Manitoba Hydro doesn't necessarily identify the asset from which the capacity comes; it's just on the system?

MR. DAVID CORMIE: It's a system participation power product, yes.

MR. BOB PETERS: And while it's being held as capacity for the Northern States Power diversity agreement, Manitoba Hydro is precluded from selling that capacity to anybody else, any other counterparty?

MR. DAVID CORMIE: Yes. We've -- we've assigned that to NSP, and in the wintertime NSP assigns a similar amount of capacity for Manitoba Hydro's use. It can't be sold twice.

MR. BOB PETERS: All right, and -- and I -- but -- and I was coming to that point is if in

Manitoba you have a customer to whom you provide capacity, but they don't draw energy through it to a sufficient level, they would be faced with demand charges on that, correct?

MR. DAVID CORMIE: Certain customer classes would face demand charges, yes.

MR. BOB PETERS: And what you're telling the Board is that on this diversity agreement you do not charge NSP demand charges, and likewise, NSP doesn't charge Manitoba Hydro demand charges on its end of the diversity agreement?

MR. DAVID CORMIE: Yes, the nature of a diversity agreement is that there's a swap of capacity at no charge.

MR. BOB PETERS: Turning, if I can, to situations, Mr. Warden, Mr. Cormie, you'd agree that Manitoba Hydro's hydraulic generation is limited on an annual basis by the water in its reservoirs, I suppose as well as the ability to have tie-line capacity to take it out of the province?

MR. DAVID CORMIE: Among other factors, Mr. Peters.

MR. BOB PETERS: Well, Mr. Cormie, after a -- I think you said to the Board earlier, a low winter precipitation from October of 2009 to say February of

2010, as well as low spring precipitation, 2010 turned into a high-flow year, I think you said starting at about May 22nd when -- when the rains came?

MR. DAVID CORMIE: I think many of us remember that long weekend, yes.

MR. BOB PETERS: The washed out long weekend?

MR. DAVID CORMIE: That's the one (1).

MR. BOB PETERS: M-hm. And when Manitoba Hydro finds itself in a high-flow situation it has no perceived need to import power, does it?

MR. DAVID CORMIE: There -- there would be -- there would be no need to import energy, but there may be times of the year when it's necessary to purchase power during emergency conditions, during peak hours in the winter when it would be -- in spite of running all its hydraulic generation it still needs additional generating resources to serve its obligations and the purchase of power at the time of the system peak might be the most economical way of serving that load rather than starting its combustion turbines.

Examples like that would require the purchase of power and even, potentially, the import of power under emergency conditions.

MR. BOB PETERS: All right. Leaving

aside emergency and peak conditions then, Mr. Cormie, Manitoba Hydro would expect to be able to meet its domestic load from hydraulic generation in those high flow years?

(BRIEF PAUSE)

MR. DAVID CORMIE: Well, I think, Mr. Peters, it also depends on how the -- the water supply develops. For example, there was a record flood in 1970 -- in the spring of 1979, which was immediately followed by the onset of drought through the winter of 1979/1980 and it proceed -- continued into 1981. And so in spite of 1979 being a high water year the winter of '79/'80 we -- we were purchasing.

So the timing is a key factor in -- in how that -- how that water supply is -- is managed, especially if reservoirs are full at the onset of the flood and the flood flows need to be passed through the system and they can't be stored because there's no storage space, and then immediately you're needing to draw on reservoir storage to offset the low flows that occur during the fall and the subsequent winter, much similar to what happened in the summer of 2006 and going into the winter of 2007.

I think that's the year we've been talking about. So timing in the distribution of the flow over the year is -- is crucial. If you had a high flow year where every month was equally high, I think you would be -- your -- your -- your simplification would be a good -- a good situation where it would not be necessary, but if you have it all, the surplus, concentrated in the spring, and -- and followed by a very dry summer and fall, it's not necessarily possible to avoid purchasing power in the subsequent winter.

MR. BOB PETERS: All right. We'll -- we'll maybe come to a couple of examples, but in general terms, if you weren't restricted by those timing constraints, or emergency or peak winter hours, you'd also expect to be able to meet your firm export sales from hydraulic generation.

MR. DAVID CORMIE: The same issues relate to the delivery of export sales, especially those ones that -- where we have an obligation every day of the year.

During the summer season, that's a very fair statement that summers generally those export obligations can be met hydraulically. The Manitoba load is down from its winter peak. There's sufficient water. Lake Winnipeg acts as a very effective reservoir in the summer.

But winter sales generally attract some purchases, even in high water years. And then the last factor is whether you have just built new generation, and if you've just added a 1,400 megawatt generating station, like we did at Limestone, those winters immediately sub -- immediately following the construction of that plant, you don't need to purchase energy.

But as you approach the in-service date of the next plant, as the Manitoba load grows it becomes more and more likely that winter energy needs to be complemented with power purchases of thermal generation.

(BRIEF PAUSE)

MR. BOB PETERS: In those high flow situations, Mr. Cormie, Manitoba Hydro would then sell as opportunity exports the surplus from the -- from the firm or dependable requirements?

MR. DAVID CORMIE: In those high flow years, there will be -- there would be opportunity sales, yes.

MR. BOB PETERS: And in '08/'09, and '09/'10, those would be considered high flow years, sir?

(BRIEF PAUSE)

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: And you'd agree that even in those high flow years of 2009 -- fiscal 2009 and fiscal 2010, Manitoba Hydro imported about 1,000 gigawatt hours of -- of energy?

MR. DAVID CORMIE: Subject to check, that sounds right.

MR. BOB PETERS: And we could check at Tab 6 of the book of documents, and look at the summary on page 20 -- 28.

And Mr. Cormie, while your colleague is flipping up that page, if you wanted to do that check, and I'm not suggesting you have to, would it be correct that in those high flow years the reason for importing 1,000 gigawatt hours of energy could also have been an attempt to improve the bottom line or to make money?

(BRIEF PAUSE)

MR. DAVID CORMIE: Mr. Peters, I'm just looking at page 28, and it -- you've actually restated the answer that we provided in PUB/MH-2-3, and you've described these as import transactions, and I don't know whether these are purchases or imports, so that makes a difference.

MR. BOB PETERS: All right. And I think what you'll find is what is bolded on page 28 is the addition and what's not bolded is what was provided by Manitoba Hydro in first instance, so let me check it.

MR. DAVID CORMIE: But are the -- are the gigawatt hours purchases or imports?

MR. BOB PETERS: Well, the -- the question asked for imports, Mr. Cormie, but I think Mr. Surminski may have suggested that while the question asked for imports the information may have been, if I've got his words right, distorted by some extraneous information, including wind purchases, but you can perhaps check with Mr. Surminski on that.

(BRIEF PAUSE)

MR. DAVID CORMIE: I -- I believe, Mr. Peters, subject to check, that that would be a combination of -- of both types of transactions. Those that actually -- where we took physical delivery of energy and those where we were meeting our export sale obligations with the financial settlement; both of those would result in a transaction.

And physical deliveries generally would be those where we were purchasing at night in order to serve Manitoba load and allow us to re-pond (phonetic) the reservoir for the subsequent day. And the purchases would be those where we have made an obligation to sell in the day-ahead market and in real-time we needed to settle financially that resulted in a purchase, so there's a combination of transactions shown under the real-time transactions.

MR. BOB PETERS: There might have been an undertaking, Mr. Surminski, to -- to break that information out. Do you recall that, sir?

MR. HAROLD SURMINSKI: No, I don't believe it was this one at all. We agreed the wind energy purchases were in the dependable area.

MR. BOB PETERS: But under real-time there was a number of components that made up the real-time values, including things like transmission charges, transmission credits, ancillary market charges, if I've said that correctly, as well as some summer capacity issues. Do you --

MR. DAVID CORMIE: Yeah, tho -- those costs would be potentially in the -- in -- in the cost, but -- but generally that issue was associated with the sale of real-time energy rather than the purchase of real-time energy. Real-time energy purchases would generally only include the cost of the energy there's -- and there -- there are -- there would be -- we don't buy ancillary services; we sell them. So I would suggest that this is just purely energy transactions.

MR. HAROLD SURMINSKI: And further, Mr. Peters, together with the Undertaking number 3 we are still working on, the '09/'10 would provide -- we -- we were providing the actuals for that year, so for half the answer the actuals will be provided. And as Mr. Cormie says, there's none of those categories on the purchase side.

MR. BOB PETERS: Thank you, Mr. Surminski. I'll move along. But will -- will that undertaking break down, as Mr. Cormie has indicated, the physical imports versus the financial settlement transactions that are shown under the real-time line item?

MR. DAVID CORMIE: We're not intending to, no.

MR. BOB PETERS: Can that be done, sir?

MR. DAVID CORMIE: Yes.

MR. BOB PETERS: I'm getting there. I'm trying to get there.

MR. ROBERT MAYER: Mr. Peters, if we keep adding to number 3 are we ever going to see number 3?

MR. BOB PETERS: Well, I guess that's certainly a concern. I -- I when I asked initially, I wasn't aware of the -- of the energy and the revenues for -- for the associated energy coming from financial settlement sources, and I just wondered if that could be broken out in the same answer with -- with the Undertaking number 3.

MR. DAVID CORMIE: We'll provide that information.

--- UNDERTAKING NO. 3 (ADDITION): Manitoba Hydro to break down the physical imports versus the financial settlement transactions that are shown under the real-time line item

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Cormie, 80 percent of the imports are in the wintertime, is that approximately correct?

MR. DAVID CORMIE: It -- it's a function of -- of the water supply conditions, Mr. Peters, so in a low-flow year, the imports can be spread out, you know, formally out over the year. So it -- I -- I'm prepared to accept that as a -- a general case, yes.

MR. BOB PETERS: Would it also not be the case that wintertime would be the time when water flows are above average to -- to high flows in the -- in the fiscal year '09 and fiscal year '10? Wouldn't that have been the case?

MR. DAVID CORMIE: I -- I think, Mr. Peters, in the -- in the long run, if you looked at the monthly flows on the Nelson River month to month, you'll see that they're -- the average is pretty consistent over the year. And so what regulation of the Nelson River has done is maintained a relatively uniform flow over the year. I don't have handy the hydrograph for the Nelson River right now but -- let me just see what I have.

But as we talked about several days ago, the -- the ideal situation would be for Manitoba Hydro to be able to transfer the summer surplus into the winter so that it could -- it could maximize its hydraulic generation in the wintertime when the loads are greatest.

Unfortunately, the ice restrictions at the outlet of Lake Winnipeg make it impossible to meet the power demand in the wintertime on the Nelson River because not enough water gets to the generating stations, and in spite of the fact that probably eighteen (18) years out of twenty (20) we're at maximum discharge out of Lake Winnipeg. So we're -- we're releasing the maximum possible amount out of Lake Winnipeg, we're releasing the maximum out of Churchill River Diversion, and there's a greater power demand at the generating stations than -- than there's water supply.

And the way that Manitoba Hydro manages its hydraulic generation is we concentrate the hydraulic generation in the hours of greatest demand, which means we fill up the on-peak hours with our hydraulic generation first and back our hydraulic generation off in the off-peak so that that creates the opportunity to buy energy at night to serve the Manitoba load, and that's the manner that brings the greatest value to -- to Manitoba Hydro, recognizing that the energy supply -- or the water supply is con -- is restricted in the wintertime.

If we had -- if the -- if the ice issue at the -- at the outlet of Lake Winnipeg didn't exist, we would be able to go to maximum discharge in the wintertime and avoid those purchases, but that's not the nature of our hydraulic system. It's severely energy constrained in the wintertime because of the ice conditions at the outlet of Lake Winnipeg.

MR. BOB PETERS: Well, let's maybe take that to some specific examples, Mr. Cormie, and maybe we can start with the 2008/09 year, for example, and use those same statistics that you were looking at, if you're satisfied with them, from back on Tab 6, page 28 of the book of documents, also on page 27.

In 2008/09, Manitoba Hydro purchased -- it says 891 gigawatt hours of -- of energy, and that would have been at an approximate five point three (5.3) cents a kilowatt hour?

(BRIEF PAUSE)

MR. DAVID CORMIE: What was the price that you were indicating?

MR. BOB PETERS: Five point three (5.3) cents a kilowatt hour back in '08/'09, sir.

MR. DAVID CORMIE: No, but that -- that price includes the dependable energy, Mr. Peters, which is mostly the wind purchase.

(BRIEF PAUSE)

MR. DAVID CORMIE: I understood you were talking about the day-ahead and the real-time transactions.

(BRIEF PAUSE)

MR. BOB PETERS: Well, if we look at the individual items, wouldn't the -- wouldn't the wind come in about the average price of the other ones in any event?

MR. DAVID CORMIE: Well, if your table is correct, the day-ahead average two point seven eight (2.78) and the real-time was four point three six (4.36), so given that the day-ahead volume is much smaller than the real-time, the price should be more like four (4) cents, not five point three (5.3).

MR. BOB PETERS: And then if you look at what Manitoba Hydro sold at that time on the day-ahead market, Mr. Cormie, back on page 27, and for 2008/'09 it sold about 4,000 gigawatt hours at an average price of three point zero (3.0) cents?

MR. DAVID CORMIE: Yes, and unfortunately, Mr. Peters, I don't have the monthly breakdown, because I suspect both in 2008/'09 and in 2009/'10, that Lake Winnipeg was at -- reached the maximum full supply level in the -- in the summer, forcing Manitoba Hydro to dump energy into the market which resulted in very high volumes of off-peak sales early in the year.

And that's what's driving the average sale price down and -- and it -- and those transactions aren't related to the need to buy energy back in the wintertime.

(BRIEF PAUSE)

MR. BOB PETERS: Another example that maybe you can explain to the Board, Mr. Cormie, found at Tab 9 of the book of documents. It's some information provided in respect to a response starting on page 43. In '08/'09 we go back to that year where Manitoba Hydro sold under NEB permits, and to pick two (2) numbers, permits 33 and 34 are shown in June of 2008 as well as July, August, and September.

And those sales would have been at or about three and a half (3 1/2) cents, sir?

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

MR. BOB PETERS: Well, I was referring to June, July, August, and September, just looking at some of the relative pricing in and about that time.

MR. DAVID CORMIE: And you're on page 43?

MR. BOB PETERS: Starting on 43, yes,

sir.

MR. DAVID CORMIE: Yes. And -- and, Mr. Peters, not to belabour the point, but the flood of 2009 on the Red River was significant. Lake Winnipeg reached 715.5 feet, 1/2 foot above the operating level for power. Manitoba Hydro was at maximum discharge that summer. We -- we had to release water for water management reasons as required by our licence.

We spilled a huge amount of energy at our generating stations, and to the extent that we could take some of that generation to market, we did, to salvage the value. And -- and those are some of the transactions that you're seeing under the National Energy Board permits. Now very low-priced energy but better than -- better than -- better than nothing and -- and it's not something that Manitoba Hydro had any discretion in -- in doing.

So -- and I would refer again to 2008, Lake Winnipeg reached the -- the -- the full supply level of Lake Winnipeg. Again, we were at maximum discharge. Water management requirements forced us to release water that subsequently could have been much better made use of had we had adequate storage supplies, but that's not the system that we have. So the results are we're forced to sell in the summer, and if water conditions don't sustain themselves through the fall and the winter, we are forced into the opportunity to purchase energy off-peak in order to meet our on-peak requirements.

And I suspect that will be identical to the situation that we experience this coming summer.

MR. BOB PETERS: Well, then you've answered a few questions in that last answer, Mr. Cormie. Under the conditions that we've experienced, the -- the maximum profit for Manitoba Hydro comes from the firm dependable sales? That would be your largest profit product?

MR. DAVID CORMIE: I -- I think you can come to that conclusion when you look at the sales over the long run, but there -- there clearly are transactions that occur in -- in high-price periods that dwarf the profitability of the long-term transactions.

But those are -- those aren't normal, and when you look at our sales activities over the long run, the -- the firm sale agreements achieve the highest average price compared to spot-market tran -- and -- transactions.

MR. BOB PETERS: All right. You're telling the Board that in general it's your long-term contracts from which the best profit margin is derived, although on the opportunity side there are -- there are peaks and valleys.

MR. DAVID CORMIE: And -- and again, Mr. Peters, I'm only speaking from a -- from the energy perspective.

The profitability of long-term sales needs also to include the -- the -- any additional costs that Manitoba Hydro may have incurred to achieve them, and -- but if you just took a look -- you're just comparing energy prices on a day-to-day basis, we'll -- once you roll in the demand changes I -- you'll -- I think you'll come to that conclusion that the longer-term sales are -- are more profitable.

MR. BOB PETERS: Mr. Cormie, would it be correct that for the last decade, Manitoba Hydro's hydraulic generation surplus available for exports has equalled or exceeded the annual seven (7) by sixteen (16) peak period tie-line capacity available to Manitoba Hydro?

(BRIEF PAUSE)

MR. DAVID CORMIE: I -- I haven't done that calculation, Mr. Peters, so I can't confirm that.

(BRIEF PAUSE)

MR. DAVID CORMIE: And -- and the issue that that question raises is in the wintertime most of our generating capacity is dedicated to serving the Manitoba load.

This last -- this pre -- the previous week to this week the Manitoba load averaged probably around 4,000 megawatts of continuous demand. We have around 4,600 megawatts of hydraulic generation that can be used on a daily basis, so that means at the time of peak only about 600 megawatts is surplus, if -- if there are no units out.

So if we only have 600 megawatts of surplus generation, and we have a tie-line that's capable of 1,900 megawatts, whether we have 1,900 megawatts or 1,100 megawatts, we don't have enough generation to put it on to fill that line up.

So the calculation that you are suggesting is possible assumes that at all times we have surplus generation capable of loading up the tie-line, and -- and our loads are just much more higher in -- higher in the wintertime and -- and we don't have generating capacity available to fill the lines, so I can't -- I don't think I can support your calculation.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Cormie, are the overnight sales that you spoke about to the Board an attempt to extract some value for the water as opposed to no value for the water?

MR. DAVID CORMIE: Yes, and even with the overnight sales, the same pricing policy applies. We determine what our marginal cost of generating that kilowatt hour is. And if that's just the avoided water rental cost, that's -- that's what it is, to which we add our incremental O&M costs, and then we adjust it for losses, and that determines the price that we will offer it into the market at.

Sometimes the market clears at a price lower than that. And under those circumstances it doesn't make sense for Manitoba Hydro to incur -- to even incur the water rental costs in order to make a sale. And so there are times when the prices are too low, or they actually go negative, and it makes sense for Manitoba Hydro to spill the energy and to buy during those periods of negative pricing. But whether it's an on-peak sale or an off-peak sale, whether the prices are low or high, the same criteria is used to pricing the energy.

MR. BOB PETERS: The option to store that overnight energy in the example that you gave me, Mr.

Cormie, is that it's not available, and, therefore, it's a choice of either sell it spill it. Is that what you -- is that correct?

MR. DAVID CORMIE: Yes. The main reservoirs are full, which drives reservoir releases. The forebays at the generating station are full and there is no room to store, the energy must be either generated or spilled; that's the choice.

MR. BOB PETERS: And Manitoba Hydro does that knowing it may have to, later in the year or the winter that's coming up, buy energy at prices higher than what it achieved on its sale prices.

MR. DAVID CORMIE: That -- that may be the -- that -- that may be the case, yes. But to the extent that we can avoid those circumstances, we do, but sometimes it's not an -- we're not -- we don't have the choice -- the economic dispatch choice. We're forced by reservoir regulation rules that determine how the water is managed.

(BRIEF PAUSE)

MR. BOB PETERS: Has Manitoba Hydro quantified that risk, Mr. Cormie, on an annual basis?

MR. DAVID CORMIE: I -- I don't believe

it's a risk, Mr. Peters. It's -- it's the nature of our system. If you -- if you made the assumption that all energy that -- all water could be converted into electrical energy in the system through having sufficient generating capacity, in the highest inflow year there might be about 50 terawatt hours of energy available as a -- as an approximate number.

Manitoba Hydro has never generated more than 37 terawatt hours of hydraulic generation, and I think we achieved that in 2005, or maybe in the flood of 1997, I'm not sure which particular year, but I know the 37 terawatt hours is the maximum. Yeah, 2005 was the year.

So the difference between the thirty-seven (37) and the fifty (50) is in -- in -- kind of in the worst-case scenario, the 13 terawatt hours of energy that -- that was -- was spilled. But Manitoba Hydro's facilities weren't all built for the purpose of power production. The Lake Winnipeg regulation project was built also as a flood control measure and -- and there was -- those issues were balanced against the power benefit.

And we just don't have sufficient storage to maximize the efficient use of the hydro-electric resource because we don't necessarily control all the terms and conditions of our licences. And -- and I think that's the reality that we're living in when we have to spill water because of -- of those other factors.

MR. BOB PETERS: Well, Mr. Cormie, while you didn't as -- didn't call it a risk, when Manitoba Hydro exports in its first and second quarters of the year there's also an assumption built into their -- into the IFF that 2 to 3,000 gigawatt hours of imports will be purchased, correct?

MR. DAVID CORMIE: yes, but the IFF is -- is based upon the -- the rules that affect reservoir regulation. We don't make an IFF that doesn't reflect the realities of our operating licences.

MR. BOB PETERS: Manitoba Hydro's not certain as to what the water flows are going to be in the third and the fourth quarter in any particular year, correct?

MR. DAVID CORMIE: No, but the -- the first draft of the IFF in year 1 is prepared in July, and it's subject to updating as we approach the approval date by our executive and by the Board. So by the time the IFF actually goes for approval, we're probably into the middle of September when the large majority of the water supply is known with a high level of certainty.

What -- what isn't known is the extent

that there will be variations in Manitoba load due to weather, and to the extent that the ice restrictions vary from average over the wintertime. And the outflow from Lake Winnipeg can vary in a -- in a winter by 10 percent, just a cold winter versus a normal winter, and 10 percent change on the Nelson River really can hit our bottom line quite significantly.

So there are lots of other factors besides just the water supply variation that determine how much energy Manitoba Hydro purchases in the -- in the wintertime. And market prices are also a factor.

MR. BOB PETERS: But is there not a risk that, if Manitoba Hydro exports in the first and second quarters, there will be a requirement to purchase or import or buy back, if you will, that energy later on in the year, correct?

MR. DAVID CORMIE: Well, I don't see that as a risk, because we have no choice, Mr. Peters. We're not making the choice to export in the summer; we're forced to make the export in the summer in order to salvage the -- salvage the value out of that transaction. A risk is when you have a choice to make and you choose to export in the summer and have to buy it back in the winter. That's -- but in the last four (4), maybe even five (5) years, we've been at maximum discharge out of

Lake Winnipeg in the summertime. That's not a risk; that's just the nature of our licence.

MR. BOB PETERS: Well, if it's -- if in my words it is a risk, it's beyond Hydro's control is what you're telling the Board in terms of how to -- how to manage it any differently than what Hydro presently does, is -- is your evidence.

(BRIEF PAUSE)

MR. DAVID CORMIE: Manitoba Hydro's managing the resources within the constraints that it has and we're -- and we don't believe that it's a risk.

MR. BOB PETERS: Would that answer change, Mr. Cormie, if instead of high-flow years, we're talking average-flow years?

MR. DAVID CORMIE: Yes, and -- and the -- the risk is probably even more significant in a low-flow year, where management has a choice, a much greater choice, of selling in the summer and -- and potentially having to buy it back in the wintertime.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Cormie, can you

confirm that, generally, peak export prices and shoulder export prices are generally in excess of the cost to purchase energy in the -- in the last half of the year?

(BRIEF PAUSE)

MR. DAVID CORMIE: I -- I -- I think, by definition, Mr. Peters, the peak prices are almost always higher than off-peak prices, and that's true whether you're comparing peak summertime prices to off-peak winter prices or, you know, any -- any -- any seasonal variation. But there are times when off-peak prices in the wintertime can exceed peak summertime prices and mostly that's weather related.

MR. BOB PETERS: When you say "weather related", do you mean in the purchase market or the sale market?

MR. DAVID CORMIE: Well, there's only one (1) market and so it's -- it's the -- it's -- to the extent that the -- the market is affected by whether -- during extremely cold weather there's high gas demand, gas prices go up, power prices go up, and it's all weather related.

MR. BOB PETERS: And generally the first and second quarter opportunity sales off-peak are at lower prices than the third and fourth quarter purchases off-peak? That intuitively follows?

MR. DAVID CORMIE: I -- I think that's a fair statement. The overnight market in the summertime is not a -- is not a strong market, whereas the daytime market in the summertime, the on-peak market is a strong market because that's when the air-conditioning demand exists.

Whereas in the -- in the wintertime although you're not getting the -- the -- the peak -- on-peak prices, you get strong prices both on and off-peak. And so I think that situation can arise.

And generally, Mr. Peters, the summer off-peak market is not a market that Manitoba Hydro is really very interested in. Generally those sales in the off-peak in the summertime are only -- that -- that's what I would consider a -- a market of last resort.

MR. BOB PETERS: It's a market of last resort only because Manitoba Hydro may have a greater need for the energy in storage if it can possibly hang onto it?

MR. DAVID CORMIE: Yeah, we -- we view the -- the -- the -- the future opportunities, whether it's on-peak later in the fall or in the wintertime to attract a more -- a -- a more favourable return for

Manitoba Hydro and also given the uncertainty in the water supply, all things being equal, we would rather firm up our winter supply than -- than take a marginal benefit in the -- in the summer as a result of a discretionary off-peak sale.

MR. BOB PETERS: Thank you. Mr. Warden, maybe to come to you on a different topic, the costs -- and you might want to -- we'll -- we'll be at Tab 37 of the book of document which contains some information that I think, Mr. Warden, you and the Vice Chair were chatting about at various times in the proceedings to date. But the cost to generate electricity from Limestone, I think you agreed with me that that was in the range of two and a half (2 1/2) to three (3) cents, sir.

Do you -- do you accept that?

(BRIEF PAUSE)

MR. VINCE WARDEN: I'm not sure that we agree on that, Mr. Peters, but, yeah, it sounds reasonable. I -- I -- I'll -- I will accept that.

MR. BOB PETERS: And it would be even -- it would even cost less to generate from -- from Long Spruce? Maybe a --

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: -- maybe a cent and a half per kilowatt hour?

MR. VINCE WARDEN: Yes, the -- generally speaking the earlier the installation of the plant, the lower the costs. And likewise, Kettle would be lower than -- than -- than Long Spruce.

MR. BOB PETERS: So Kettle would be down closer to a penny or just over a penny a kilowatt hour?

MR. VINCE WARDEN: Intuitively, yes. But again, that's a -- kind of a high-level calculation.

MR. BOB PETERS: Fair enough. And when we look at those collectively, we're probably looking in the -- the two (2) cent per kilowatt hour range for the three (3) of them, sir?

MR. VINCE WARDEN: Yes, two (2) to two and a half (2 1/2) cents, in that range, yes.

MR. BOB PETERS: Can it be considered by Manitoba Hydro that those generating stations, maybe except for Limestone, have -- have long ago been paid for?

MR. VINCE WARDEN: No, not really. I think the whole purpose of the way the accounting system is -- is structured is to recover the cost over the life of the -- of the facility.

MR. BOB PETERS: What you're telling the

Board is costs related to them are still being amortized over what is expected to be their useful life of those facilities?

MR. VINCE WARDEN: Yes.

(BRIEF PAUSE)

MR. BOB PETERS: When we look, Mr. Warden, to the costs of generating a kilowatt hour of energy from Keeyask and Conawapa, those costs are going to be much higher than the vintage plants that we've talked about.

MR. VINCE WARDEN: They will, yes.

MR. BOB PETERS: And does Manitoba Hydro make public its estimated cost on a kilowatt-hour basis of its generating stations?

MR. VINCE WARDEN: No, not -- not typically.

MR. BOB PETERS: What we do know publicly, Mr. Warden, from old annual report information is that up until the late 1990s Manitoba Hydro's average export prices were probably yielding in the area of two and a half (2 1/2) to three (3) cents a kilowatt hour.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And should the Board

assume, Mr. Warden, that up until the late 1990s the export revenues covered the incremental costs of generation?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And in my example then, we can assume the vintage generating stations, and including many that are listed in the -- Tab 37 of the book of documents, collectively they're producing energy at about two (2) cents a kilowatt hour or maybe even less.

MR. VINCE WARDEN: Collectively, that's probably a fair assumption. There have been a number of upgrades along the way that add to the capital costs of each of those facilities and they would vary considerably between the facility.

But if you want to talk on an average basis, collectively, as we discussed earlier, two (2) -- two and a half (2 1/2) cents would be a pretty good assumption, I think.

MR. BOB PETERS: All right. Let's -- let's stay with that. And now for Manitoba Hydro's new generating stations, and for the purposes of my questions, we need to put a price on the incremental energy coming from those stations, sir, and because Manitoba Hydro doesn't want to, with precision, I suppose, provide its calculations, I'm going to suggest some prices to you, Mr. Warden, and you can explain to the Board whether you agree or disagree. Would you be prepared --

MR. VINCE WARDEN: Okay.

MR. BOB PETERS: And you don't have to disagree.

MR. VINCE WARDEN: We'll see.

(BRIEF PAUSE)

MR. BOB PETERS: I believe on the record I tried to do this earlier with Mr. Surminski, but I -- I hadn't updated my information with the Appendix 76 Capital Expenditure Forecast Information that was filed.

But on the Wuskwatim plant, Mr. Warden, I wanted to affix a -- a value of the energy on a kilowatt-hour basis coming out of Wuskwatim, and using the $1.7 billion cost together with my assumptions of 6 percent financing costs and 2 percent depreciation expense and 1 percent for O&M as well as taxes, I came up with the annual cost that has to be paid for Wuskwatim would be in the neighbourhood of $153 million a year based on the $1.7 billion capital expenditure.

Are you prepared to accept that as being -

- at least in the bounds of being reasonable, if not accurate?

MR. VINCE WARDEN: Within -- I'd prefer within the bounds of being reasonable, yes.

MR. BOB PETERS: Yeah, and I'm not suggesting that it's -- it's with precision, but I've tried to just show you where I've gone with my numbers. And then if we take the $153 million that it's costing every year for Wuskwatim once it comes online in 2012, my understanding is that Manitobans can expect about 1,500 gigawatt hours of energy a year to come out of that plant.

MR. VINCE WARDEN: On average, yes.

MR. BOB PETERS: Under average water flows.

MR. VINCE WARDEN: Correct.

MR. BOB PETERS: And so the 153 million, the 1,500 gigawatt hours will give rise to approximately ten (10) cents a kilowatt hour for the first kilowatt hour of energy that comes out of Wuskwatim.

MR. VINCE WARDEN: For the very first one. And we -- and I think we discussed earlier that it's going to decline as the financing costs associated with collecting the depreciation over time will contribute towards cash, which will result in declining costs. So, yeah, the very first kilowatt hour, I -- it's probably close.

MR. BOB PETERS: And we know that Wuskwatim is not being built as a merchant plant, correct?

MR. VINCE WARDEN: Well, we're no longer referring to Wuskwatim as a merchant plant in as much as it will be required quite soon to serve the Manitoba load. I think we have an undertaking that addresses that, as to the timing of when it will be required for the Manitoba load.

MR. BOB PETERS: Not all of it's going to be needed for the Manitoba load all at once though, is it, Mr. Warden?

MR. VINCE WARDEN: No. No, it's the nature of hydraulic generation that comes on in big blocks. And incrementally, as the load grows it -- it will be used more and more over time.

MR. BOB PETERS: When we talk of Wuskwatim, the Board has also seen, I think in Tab 38 of the book of documents, that the Wuskwatim limited partnership agreement comes into play in Manitoba Hydro's projected income statements, correct?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And the revenue stream

in IFF-09 related to the Wuskwatim limited partnership agreement is based on an assumed export price; would that be fair to say?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And is that export price confidential or is it a matter of derivation from the information that's filed, sir?

MR. VINCE WARDEN: It could be derived from the information that's filed.

MR. BOB PETERS: All right. We -- well, then let's derive it for the benefit for the Board, if that's permitted by you and your counsel. What -- what we see in 2013 is that the revenues are forecast to be $105 million, correct? I'm looking at page 87, which is found at Tab 38 of the book of documents.

MR. VINCE WARDEN: Sorry, mi -- would you just repeat the amount you're referring to, please.

MR. BOB PETERS: Yes, sir, I was going to the revenues that are projected for the Wuskwatim Power limited partnership --

MR. VINCE WARDEN: Okay, under --

MR. BOB PETERS: -- in 2013 being about $105 million.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And you told the Board

on average you'd expect 1,500 gigawatt hours a year to come out of that plant.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: That equates to approximately seven (7) cents a kilowatt hour?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: But if we -- as -- as we've seen, if the first kilowatt hour to come off of Wuskwatim is closer to ten (10) cents a kilowatt hour in cost, then there's going to be a differential that has to be made up here between the -- between the seven (7) cents and the ten (10) cents, correct?

MR. VINCE WARDEN: Yes, again agreeing that we are talking in -- in quite approximated numbers.

MR. BOB PETERS: Will Wuskwatim Power Limited Partnership Agreement bear 100 percent of the difference between the ten (10) cent cost and the seven (7) cents of revenue?

MR. VINCE WARDEN: Well, the Wuskwatim Limited Partnership will certainly bear all the costs of operating the facility, fixed and -- and variable, and will likewise share in the revenues -- or receive the revenues from the operation of that facility. So the net profit or loss flows to the partnership, yes.

MR. BOB PETERS: Are all of the fixed

costs included in the expense items on this projected income statement?

MR. VINCE WARDEN: Yes.

(BRIEF PAUSE)

MR. BOB PETERS: To help the Board understand the numbers, Mr. Warden, by 2014, this forecast suggests there's going to be a positive net income returned to the partnership, correct?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Does that tell the Board that the export prices of the energy that is sold out of Wuskwatim will then be commanding at least ten (10) cents on the export market on average?

MR. VINCE WARDEN: Well, again, using the -- the numbers that we derived very approximately, assuming that ten (10) and -- that ten (10) cents is the -- the cost in the first year, that's what this would suggest, yes.

MR. BOB PETERS: But does it suggest that in the intervening years, that the difference between the costs and the -- the revenues -- that is, the ten (10) cent costs and the seven (7) cents revenues -- is that going to be picked up by -- and subsidized by Manitoba

Hydro's other ratepayers?

MR. VINCE WARDEN: Only to the extent that the other ratepayers -- other ratepayers proportionally share in the ownership of the partnership. So if the First Nation does take up the full 33 percent equity interest, which it still has not committed to, and nor does it need to before the in-service date, then the -- the balance would be -- would be picked up Manitoba ratepayers.

MR. BOB PETERS: I think what you're telling the Board, then, Mr. Warden, is that, for 66 percent of the output of Wuskwatim, that will be paid for by Manitoba's grid customers that are -- who are not the Wuskwatim Power Limited Partnership.

MR. VINCE WARDEN: Yes, but, likewise, 66 or 67 percent of the net income or benefits will be -- will be derived by Manitoba ratepayers.

MR. BOB PETERS: And those net benefits to Manitoba ratepayers will commence as soon as the average export price exceeds ten (10) cents a kilowatt hour?

MR. VINCE WARDEN: In the example that we've -- we've constructed, yes.

MR. BOB PETERS: All right. And the current average export revenue price for opportunity sales, Mr. Warden, is two point three (2.3) cents, or is it two point five (2.5) cents?

MR. VINCE WARDEN: Two point seven (2.7) cents is, I think -- is the last number I believe I put on the record, with the most recent results in -- in December of this year.

MR. BOB PETERS: Two point seven (2.7) cents on a -- for a month.

MR. VINCE WARDEN: Per month, per month, yes.

MR. BOB PETERS: But it was 2.5 percent (sic) on an annual basis?

MR. VINCE WARDEN: Yeah, but we recognize that the two point five (2.5) -- two point three (2.3) to two point five (2.5) is abnormally low.

MR. BOB PETERS: And so it follows that, so long as the average export price remains below ten (10) cents a kilowatt hour, using the numbers I've put on the record, there will be a subsidy required for Manitoba Hydro's grid customers for at least 66 percent of the energy, assuming the First Nation subscribes for their full one-third (1/3) interest?

MR. VINCE WARDEN: Yes, we are not only talk -- talking opportunity sales though, we're talking firm sales as well, so it's -- it's not the difference between the hypothetical ten (10) cents and the -- and the two point three (2.3) -- two point seven (2.7) cents that we were discussing for opportunity sales.

MR. BOB PETERS: But help -- help -- just help the Board understand that answer, Mr. Warden. There is no firm long-term power sale for any of the Wuskwatim Power, is there?

MR. VINCE WARDEN: Well, there's no specific long-term power sale for the Wuskwatim Power, but Wuskwatim would share in -- in any long-term contracts that are -- that are either in place or negotiated.

MR. BOB PETERS: And so the -- the two (2) that -- that might contribute to the Wuskwatim costs would be the Minnesota Power and the Wisconsin Public Service term sheets that are working their way to become contracts?

MR. VINCE WARDEN: That could very well be, yes.

MR. BOB PETERS: But it doesn't include the NSP arrangement, does it, because that's already served from existing resou -- resources?

(BRIEF PAUSE)

THE CHAIRPERSON: We're just going to take the mid-afternoon break to give you a better opportunity.

MR. BOB PETERS: Thank you, sir.

--- Upon recessing at 2:39 p.m.

--- Upon resuming at 3:01 p.m.

THE CHAIRPERSON: Mr. Peters...?

MR. BOB PETERS: Yes, thank you.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: I think, Mr. Warden, we left off and I must have posed a very salient question because you wanted to make sure you had it exactly right before you answered it, and I think we took the -- the recess to afford Manitoba Hydro a -- an opportunity to -- to caucus on the matter. Did you have a chance to consider the question?

MR. VINCE WARDEN: Yes, Mr. Peters. What I wasn't entirely sure of as to whether or not the Wuskwatim agreement contemplated the sharing of revenues -- export revenues based on the existing contracts or whether it was go forward from the date of the ratification of the agreement. And it is the latter.

So the partners would not share in the revenues, the NSP sale contract in effect, prior to May of 2006, the date of ratification. I would like though to take the opportunity to maybe clear up some of the differences that we've been talking about with respect to the -- the calculation of the ten (10) cents versus the -- the revenue that was derived from Wusk --Wuskwatim.

And -- and you agree that -- I think we agreed that it was a simplistic calculation that we were looking at, how the ten (10) cents was derived. And the reason that's significantly higher than the number that we've calculated in terms of our filings is that depreciation should not be included in the ten (10) cents essentially.

Depreciation is really not a cost that is incurred; it's a recovery of costs. That's what depreciation is. It recovers the cost of an investment over time.

So if you really wanted to look at the average cost of Wuskwatim, you would take the investment, in this case I think -- and I think you were using 1.7 billion; it's actually 1.6 billion, just to be precise.

So the 1.6 billion, if you wanted to figure out what that cost was to carry that investment over -- over the life of the facility, the correct way to do that would be to take the equal annual payment required to repay a debt of 1.6 billion over sixty-five (65) years at 6 percent, and you come up with a significantly different answer than the -- the calculation that was performed.

MR. ROBERT MAYER: Not a hundred (100) --

MR. VINCE WARDEN: So extracting --

MR. ROBERT MAYER: -- not a hundred (100) years for the -- for --

MR. VINCE WARDEN: Well, on average. On average, sixty-seven (67) years I think we use for average. The -- the civil structure would be a hundred (100) years, and the other components, so the -- the average that's used would be sixty-seven (67) years for a generating station.

So if you just go through that calculation again, Mr. Peters, the -- the 1.6 billion, and using the number of 6 percent for interest that you were using, eliminating in effect the depreciation component, which was incorrectly applied, you come out with a -- an amount of one hundred (100) -- annual costs of 144 million.

So that's just derived by taking the 1.6 mill -- billion, times 6 percent, adding 1 percent on for operating costs, which really is somewhat on the high side, but nevertheless we'll -- we'll accept that for purposes, again, of our illustration.

So if you take the 96 million for interest, 1 percent operating, another 16 million, come up -- come up with a total of a hundred and forty-four (144) annual cost divided by the -- no sorry, sorry. Sorry. A hundred and forty-four (144) is including depreciation. Let me back up. It would be 112 million -- 112 million divided by the annual output of the facility, which is fifteen (15) -- actually fifteen fifteen (1,515) to be precise, more precise than the fifteen hundred (1,500) rounding.

A hundred and twelve (112) million dollars annual cost divided by the 1,515 gigawatt hours comes out to seven point four (7.4) cents, which is consistent with the filing that we've -- we've made in these proceedings.

So it brings those -- those numbers to costs, and -- and the revenues much closer together, which is much more -- more reasonable based on the information that we filed.

MR. BOB PETERS: Well, thank you for putting forward that information, Mr. Warden. Would it be correct to say that what you have just done is put forward a calculation to assess the cost of the dams without taking into account any rate implications related to recovery of the costs associated with the Wuskwatim project?

MR. VINCE WARDEN: Mr. Peters, I was just trying to -- I don't want to use the correct -- the word correct, but I was trying to go through a calculation that's more representative of the costs that are being incurred.

I wasn't talking about the recovery. The recovery is a totally different issue, and that's what was happening when you were bringing in depreciation. You were -- that -- that is the recovery. That is how costs are recovered, so it's not appropriate to charge that off as a cost of the -- of -- of the facility in -- in the manner that you were doing the calculation.

MR. BOB PETERS: Would it be correct to say, Mr. Warden, that your methodology, or Manitoba Hydro's methodology that you've just shared with the Board, assumes that the dam is never paid off?

MR. VINCE WARDEN: No. The pay -- the paying off is a -- is a different matter. Again, and I -- I didn't do this calculation, but if you really wanted to look at how -- if you wanted to look at the paying off, you should be taking the amount of 1.6 billion, the equal annual amount that's required to recover that over the sixty-seven (67) years. That would be the amount that's -- of financing costs, or -- or finance -- to re -

- to repay both the principle and interest over the life of facility; that is the correct way of calc -- calculating that number. And you'll come up with something probably lower than -- lower than the seven point four (7.4) cents that I -- I put on the record.

We can do that calculation for you if you like, and -- but -- and its -- it's just more indicative of -- of looking at the costs that might be incurred in the first year alone because there are -- as you collect those costs, then there's going to be a recovery of -- of -- or a reduction in the financing costs over time.

MR. BOB PETERS: All right, what you're saying is you could refine the method that Manitoba Hydro just put on the record by adding to those costs the recovery of the principal.

MR. VINCE WARDEN: The principal and the interest. What I was doing --

MR. BOB PETERS: Well, you al --

MR. VINCE WARDEN: What I was doing with the calculation I just put on the record, Mr. Peters, was taking your simplified version and taking out depreciation because it was wrong to include -- include depreciation in that calculation. So I was giving an equivalent number to what you came up with absent depreciation. So instead of ten (10) cents, your calculation works out to seven point four (7.4) cents done correctly.

MR. BOB PETERS: I take from your methodology that you've shared with the Board, Mr. Warden, that the recovery of the capital costs is not included in the costs assigned to the project.

MR. VINCE WARDEN: The seven point four (7.4) cents is -- is what the -- the costs would be to maintain that same level of debt over the -- over a period of time. So as I -- as I mentioned, if you wanted to calculate what the cost to recover both interest and principal, a little more co -- complex calculation, but that's simple enough to do as well.

THE CHAIRPERSON: Mr. Warden, you're looking at it from an economic perspective rather than a normal -- it'd be like an accounting approach; is that what you're doing?

MR. VINCE WARDEN: No, not really. No. I think I -- again, Mr. Chairman, I was just trying to take the -- the methodology that Mr. Peters put on the record earlier and refine that to say you shouldn't have included depreciation in there. So if you want to use that method of calculating the cost, take out depreciation because it's inappropriate to put depreciation in that calculation.

So the equivalent to the ten (10) cents that Mr. Peters calculated earlier, the right number is seven point four (7.4) cents using that methodology. Now, if we wanted to look at the recovery of the principal and interest over the life of the facility, that's another way of looking at it, but.

THE CHAIRPERSON: Well, I'm just thinking back -- excuse me. If I may, I'm thinking back to the old ways we used to handle water and sewer utilities, and they used to do everything basically on a -- rates were calculated on a cash basis in a sense, so what it was was the operating costs of the plant, if you want, as well as the debt servicing cost. And you're talking -- that servicing cost included both principal and interest for the whole amortization period.

MR. VINCE WARDEN: Yes.

THE CHAIRPERSON: That's basically what you're talking about, isn't it?

MR. VINCE WARDEN: Yes, that would be a more correct way of looking at the recovery of those costs over the life of the facility.

THE CHAIRPERSON: But that wouldn't necessarily be the way that you account for it to try and determine the accounting attributation --

MR. VINCE WARDEN: That's right, because

we --

THE CHAIRPERSON: -- of profit or loss; that's a different thing. Then depreciation would come into account.

MR. VINCE WARDEN: Absolutely it would because now we're recovering those costs and we want to recover those costs from ratepayers, and that's the way we do it over the life of that asset.

THE CHAIRPERSON: I understand. Thank you.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Warden, in the methodology that Manitoba Hydro has just put forward after the break in terms of calculating the -- the per kilowatt hour of energy cost of Wuskwatim, there was no recovery of the principal amount in your example, correct?

MR. VINCE WARDEN: That's right, it's only the carrying costs. Again, Mr. Peters, though, it's not my methodology; it was your methodology adjusted to take out depreciation which was incorrectly included.

MR. BOB PETERS: Oh, we can fight over who gets credit for the methodology later, Mr. Warden. But the -- the methodolo...

MR. VINCE WARDEN: Mr. Surminski has -- has just done a calculation based on the average sixty-seven (67) year life, so the amount -- to be clear, the amount to recover an investment of 1.6 billion over sixty-seven (67) years at 6 percent interest -- oh, seven (7) -- seven (7) total, so he did include the 1 percent operating costs in there as well -- so at 7 percent is $114 million per year versus the one twelve (112), so it really didn't make that much difference.

When you look at something over that long of a life, the -- the amount to recover the principal is a minimal impact. So it -- it's 114 million divided by the 1,515 gigawatt hours per year, and Mr. Surminski I'm sure -- seven point five five (7.55) cents per kilowatt hour versus the seven point four (7.4) cents that was previously calculated.

THE CHAIRPERSON: Just to make sure we're staying with you, because I think I actually am, the calculation you're doing, there's no profit margin involved. It's -- it's simply the debt servicing cost plus variable costs, if you like.

MR. VINCE WARDEN: Absolutely. That's all it is.

THE CHAIRPERSON: Thank you.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: And by using Mr. Surminski's latest calculation -- we'll give him credit for that -- you've attempted to provide an alternative calculation to that which I posed to you earlier this afternoon.

MR. VINCE WARDEN: Well, the only -- Mr. Peters, the only difference is that we've included in the -- in Mr. Surminski's calculation the recovery of principal over those sixty-seven (67) years.

MR. BOB PETERS: Would Manitoba Hydro apply this same logic to assessing all of Manitoba Hydro's new assets?

MR. VINCE WARDEN: Well, in effect, we do use a levelized cost calculation which is very roughly equivalent to what we just went through, yes.

MR. BOB PETERS: When it comes time to setting rates to recover the actual costs, Mr. Warden, the process is entirely different, is that correct?

MR. VINCE WARDEN: Well, it's different. I wouldn't say entirely different. There's still -- we look at the financing costs that are incurred in any specific year, and we do factor in depreciation because that's how we do recover that principal over the life of the facility, and go through a -- because we're basing it on total plant, there's a -- there's an embedded cost in -- plant impact on the average calculation that we would use for purposes of recovering those average costs from ratepayers over time. So we're not looking at recovering specifically from ratepayers the costs of the Wuskwatim plant; we're looking at all of the -- the mass plant that we have invested in at Manitoba Hydro.

MR. BOB PETERS: You add it to the total of your other investments and then average it out in terms of recovery?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And instead of using the principal calculation, as most recently done by Mr. Surminski, you would replace the principal with a depreciation rate over the declining life of the -- of the asset?

MR. VINCE WARDEN: Well, we would, first of all, include in the balance sheet the total investment in the in the -- in plant, and then we would amortize that plant depending on the depreciation rates that are in effect for that component of plant and recover it from ratepayers in that manner.

MR. ROBERT MAYER: Mr. -- Mr. Warden, I'm looking at a report apparently produced by Manitoba Hydro called Wuskwatim Generating Station Briefing, March 20th,

2008. On page 15 of that report, Manitoba Hydro -- I think this is a Manitoba Hydro report -- says:

> "Wuskwatim project unit cost calculations, Canadian cents per kilowatt hour, bottom line, ten point seven (10.7)."

This is Manitoba Hydro's report I am referring to, is it?

MR. VINCE WARDEN: Mr. Mayer --

MR. BOB PETERS: Just a second, Mr. Warden. I'm not so sure of the origin of that document, and I was talking to my colleague and it may not in fact be Manitoba Hydro's document. So that's something that we'd like to check before that is put to the witness.

MR. ROBERT MAYER: Okay. It is interesting the number came suspiciously close to the one (1) that Mr. Peters had.

THE CHAIRPERSON: But to be fair, that number that Mr. Mayer's referring to uses depreciation.

MR. VINCE WARDEN: It's wrong.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: You're not going to soften that, Mr. Warden? It's just a different way of calculating it.

MR. VINCE WARDEN: Sorry, Mr. Peters.

MR. BOB PETERS: Well, Mr. -- Mr. Warden, as we move forward with the discussion we had about the Wuskwatim Power Limited Partnership Agreement, should the Board now understand that the profitability of that project is weighed against the seven point five five (7.55) cents a kilowatt hour number that has most recently been calculated on the record by yourself and Mr. Surminski?

MR. VINCE WARDEN: And recognizing that was -- that was done on a calculator and, you know, may not match exactly, I think we've accepted the 1 percent operating cost which I did say earlier, probably on the high side. I don't believe we use 1 percent for operating costs, so -- but the seven point five five (7.55) cents is -- is much closer to the costs -- the real costs of Wuskwatim than the ten (10) cents previously calculated.

MR. BOB PETERS: Did your O&M calculation concede that capital tax would have to be added and maybe lumped in with that O&M expense?

(BRIEF PAUSE)

MR. VINCE WARDEN: Mr. Peters, I think

for purposes of our -- the studies we've done on Wuskwatim, we haven't used a number as high as 1 percent, specifically whether capital tax was included in that calculation, I would have to confirm.

MR. BOB PETERS: It should be if it wasn't. Wouldn't that be correct?

MR. VINCE WARDEN: It's -- it's a real cost, yes. Yes, it -- it should be included. Capital tax will decline over time as the associated debt is -- is repaid. The capital tax is largely debt based. So you'd have to look at how much Wuskwatim was financed versus debt versus equity to come up with the amount of capital tax that's applicable.

MR. BOB PETERS: We can take from this recent exchange, Mr. Warden, that the, I'll call it the levelized costing approach that you have done very crudely, I will suggest, on the -- on the transcript, it doesn't consider the recovery of the costs? That was one (1) of the key points that you're making in terms of the differentiation from the method I put forward?

MR. VINCE WARDEN: No, no, no, Mr. Peters. The -- the seven point five five (7.55) cents is what we calculated to recover all of the costs including the principal and interest over the life of that facility, over sixty-seven (67) years.

MR. BOB PETERS: And there's no contribution to reserves built into the seven point five five (7.55) cents?

MR. VINCE WARDEN: No, no, it was not intended to be a contribution to reserves included in that calculation.

MR. BOB PETERS: And, Mr. Warden, when we turn to Keeyask we've seen already that Manitoba Hydro has delayed the in-service date of Keeyask out to, I believe, 2020 -- fiscal year 2020 and we know that Keeyask would be mandatorily needed for the last 125 megawatts of the NSP contract, correct?

MR. VINCE WARDEN: Depending on the circumstances of the day. As I think Mr. Surminski went over earlier, it -- it really depends on the load growth over that period of time or, lack thereof, and the hundred and twenty-five (125). It's not a condition of the NSP sale extension that that be served from new hydraulic generation.

MR. BOB PETERS: It's Manitoba Hydro's option depending on the circumstances of the day as you called it?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: But does that not sugg -- well, I'll -- I'll withdraw that. Keeyask would be needed for the Minnesota Power long-term agreement. Would that be correct?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And your answer was in the affirmative, sir? Your mic, I don't think, was working.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Yeah. Thank you. We've seen the capital cost of Keeyask increase up to $5.6 billion from the previous estimates of four point six (4.6), and the year before that three point seven (3.7), also correct, sir?

MR. VINCE WARDEN: Correct.

MR. BOB PETERS: And we've agreed that the output is approximately 4,400 gigawatt hours a year for Keeyask? The output, Mr. Surminski, would be approximately 4,400 gigawatt hours a year?

MS. HAROLD SURMINSKI: Yes, I accept that.

MR. BOB PETERS: Yeah, thank you, sir. Now, using Board counsel's methodology, Mr. Warden, if I multiplied it by the 6 percent interest, the -- add a couple percent for depreciation, and another percent for OM&A and taxes, the carrying costs on Keeyask, in my calculation, would be in the neighbourhood of $500 million a year.

And while you may agree with the math, you don't agree with the concept. Would that be correct?

MR. VINCE WARDEN: Yes. Mr. Peters, I -- I don't want to mislead the Board on this, and I do believe the calculation you performed, and I hope that I had convinced you that that wasn't the correct calculation, so I -- so I do believe by going through the calculation as you've just done is misleading.

MS. HAROLD SURMINSKI: And also it will not be consistent with the Wuskwatim calculation, for relative comparison.

MR. BOB PETERS: It wouldn't be consistent with the Wuskwatim calculation that you have most laterally provided, Mr. Surminski? Is that your point?

MS. HAROLD SURMINSKI: Yes.

MR. BOB PETERS: Yeah, and -- and you can guess where I'm going. I wanted to give you that -- my calculation, and I'd ask Mr. Surminski, if you could undertake, and have Mr. Warden review the calculation of what I'm going to call, I guess, the levelized cost on a per kilowatt hour basis of Wuskwatim, of Keeyask, I suppose Conawapa would be part of my request, if this information, according to your counsel, can be -- can be disclosed in that fashion.

(BRIEF PAUSE)

MR. VINCE WARDEN: I think concern is being expressed, Mr. -- Mr. Peters, that we are getting into the next review that we've talked about, the needs for and justification review that will look at those projects and come to a conclusion as to their profitability, or lack thereof, or their justification.

So I'm not sure how far it's appropriate to go down that -- that road, Mr. Peters.

MR. BOB PETERS: What I take from that answer, Mr. Warden, is you're prepared to put on the public record your calculations, would that be correct, but you're not sure if this is the right forum?

MR. VINCE WARDEN: Well, we do know, and we do know that the government has issued -- has informed Manitoba Hydro that there will be a separate proceeding to deal with the NFAAT, and that definitely would be the forum for looking at the economics of -- of those facilities.

We can -- we can go through the arithmetic but again I'm not sure where that's leading.

MR. BOB PETERS: Well, I'll -- I'll bring us there in a hurry. Would you acknowledge that you've put the methodology as accurately as you need -- you believe need to for this proceedings on the record when you did the math following the afternoon recess?

MR. VINCE WARDEN: Well, I think the -- the methodology that I've put on the record is sound as opposed to the previous methodology, and I -- I didn't want to leave the previous methodology on the record because it -- it had that one (1) flaw that I discussed.

MR. BOB PETERS: All right. So if the Board chooses to take your methodology, they can replicate the methodology against the numbers for Keeyask and Conawapa, and there would be nothing offensive in -- in their doing that, Mr. Warden?

MS. PATTI RAMAGE: Mr. Peters, I think the concern at this end is, Mr. Warden has expressed, is that the Board should be focussing its efforts on the committed plant, which includes Wuskwatim, and we've reviewed that methodology. I think Manitoba Hydro would have a concern with the Board considering any evidence that hasn't been reviewed in this Hearing. And the evidence that should be reviewed in this Hearing deals with the committed plant we -- we've dealt with.

And as Mr. Warden said, there's going to be a review in the future to deal with those future plants if and when Manitoba Hydro ultimately commits them. And -- and Mr. Warden has said that the government has said there will be a forum to do that. So, yes, there is a concern of the Board doing calculations that parties aren't going to be testing, and there's a concern about the need for those calculations.

CONTINUED BY MR. BOB PETERS:

MR. BOB PETERS: Mr. Warden, the construction of Keeyask and Conawapa pose risks to Manitoba Hydro, do they not?

MR. VINCE WARDEN: Yes, they do.

MR. BOB PETERS: And the risks posed by Keeyask and Conawapa are risks that Manitoba Hydro would expect to cover out of its retained earnings if those risks turn negative on the Corporation.

MR. VINCE WARDEN: Yes, but that is the very reason that we're -- that there is going to be a proceeding to look at the need for and justification of those facilities.

MR. BOB PETERS: And to the extent that in this application before the Board you have presently, Manitoba Hydro is assuming that the Keeyask and Conawapa projects will proceed as part of Manitoba Hydro's preferred development plan.

MR. VINCE WARDEN: Yes, that -- that is included within the preferred development plan. However, in this Rate Application we're not looking to recover any of the costs that are being incurred. The up-front costs are being incurred in preparation for that upcoming proceeding.

MR. BOB PETERS: But you have acknowledged that some of the costs that have been incurred relative to Keeyask and Conawapa will be paid for out of existing rates.

MR. VINCE WARDEN: Existing rates? No, no. The -- we're not looking to include any of the costs of Keeyask and Conawapa in existing rates.

MR. BOB PETERS: The existing rates then you will suggest is to create a retained earnings cushion that would be available if the risks for Keeyask and Conawapa don't materialize.

MR. VINCE WARDEN: Well, now we're talking though about the financial structure of the Corporation. And there are certain ratios that -- that Manitoba Hydro is striving to maintain just with the prudent financial management of the Corporation, and we're asking the Board to -- to approve rates that contribute towards that financial structure.

MR. BOB PETERS: A financial structure to have the Corporation proceed with its preferred development plan.

MR. VINCE WARDEN: Well, not only. Certainly we have to plan for the future power requirements of -- of the province of Manitoba. I think that was part of the mandate that we read into the record, or at least discussed yesterday. That's what we're here for; we're to provide for the future. We can't sit back and expect that's going to happen unless there's plans put in place to -- to ensure it happens and -- and the way that's most beneficial to Manitoba ratepayers. That's what we're doing.

MR. BOB PETERS: And I appreciate those will be the submissions the Board will hear from your counsel. But would it be the Board's understanding and would it be they correctly understand that -- is Manitoba Hydro's business model premised on charging export customers the full incremental cost to serve them?

MR. VINCE WARDEN: Export customers do bear the full incremental cost to serve them, yes.

MR. BOB PETERS: Over what period of time do they bear that cost, Mr. Warden?

MR. VINCE WARDEN: Well, I think, as Mr. Cormie indicated earlier, there -- there's different ways of looking at over how those costs are recovered. So you look at a -- a base case with our preferred development plan, look at the alternative scenarios which -- which may or may not include -- or would -- would include a different sequence of -- of development. Export customers are -- are part of -- of -- whatever scenario we look at, though, that's taking advantage of the -- the situation we have with our hydraulic system and our interconnections with other utilities.

So look at the -- we'd look at the lowest cost, most beneficial alternative to Manitoba Hydro ratepayers over an extended period of time. So that's one (1) way of looking at it.

Another way of looking at it is the -- any incremental costs of -- of new generation are taken into consideration when negotiating new contracts, and we ensure that those incremental costs -- incremental costs are recovered on a unit -- per-unit basis.

MR. BOB PETERS: Can Manitoba Hydro proceed with its preferred development plan without the rate increases sought in this application?

MR. VINCE WARDEN: Yes. Yes, we certainly could. Any development plan that we put forward has its risks, as we talked about earlier. If we proceeded, though, with rate increases, or lack of rate increases, such that our financial ratios deteriorated, that would pose yet another risk, and -- and a major one. We would have our credit rating agencies expressing concern, our cost of debt would go up, our internally-generated funds would go down. So all kinds of bad things happen if we don't get rate increases in a regular way.

MR. BOB PETERS: That suggests that this application is to facilitate your future development plans?

MR. VINCE WARDEN: It's to facilitate a financial structure, a strong financial structure, that we worked many, many years to achieve. We are, as we've stated, in the -- in the strongest financial position of any time in the Corporation's history. It's really important that we maintain that strength going forward.

MR. BOB PETERS: Should Manitoba --

MR. VINCE WARDEN: Important for the ratepayers, I might add.

MR. BOB PETERS: Should Manitoba Hydro proceed under its alternative development plan, as in the -- the latest power resource plan, Mr. Warden, can it proceed without the rate increases sought in this application?

MR. VINCE WARDEN: No.

MR. BOB PETERS: Why is that?

MR. VINCE WARDEN: For the reasons I just gave.

MR. BOB PETERS: Well, you indicated that the preferred development plan could proceed, although there would be increased risks, I thought was your answer, and -- and we came around to discussing the capital structure. But if you can proceed without rate increases for your preferred development plan, why couldn't you proceed without rate increases for the alternative development plan?

MR. VINCE WARDEN: Well, I was trying to make the case that it would be highly unadvisable to proceed without rate increases, and so that applies to both -- both the preferred development plan and any alternative development plan.

MR. BOB PETERS: Okay. Yeah. Thank you. Thank you for that clarification. When the Board looks at your IFF-09 at Tab 4 of the book of documents, is it Manitoba Hydro's suggestion that the 3 1/2 percent rate increase going forward is -- is to be ignored?

MR. VINCE WARDEN: It's indicative only. We will be returning to the Public Utilities Board in the not-too-distant future with yet another rate application, and at that time the Manitoba Hydro-Electric Board will exercise it -- its judgment as to what an appropriate rate increase application will be.

MR. BOB PETERS: But indicative -- when you say it's indicative, it's indicative of what, Mr. Warden, what -- what -- what befalls the Manitoba consumer if Manitoba Hydro proceeds on its preferred development plan?

MR. VINCE WARDEN: Well, it's indicative of the rate increases that, based on all the assumptions that -- that go into the financial forecast, and the financial forecast has many moving parts, as we know. Forecasts do change from year to year. But, based on the forecast that was pre -- prepared in the fall of 2009, if we want to maintain the financial structure with an 80:20 debt-equity ratio by the end of that ten (10) year period, those are the indicative rate increases that would be required.

MR. BOB PETERS: That 80:20 debt-equity ratio is -- is a -- is a number put forward by management of Manitoba Hydro. It's not a target of the Corporation. Would that be correct?

MR. VINCE WARDEN: No, it's -- the target is seventy-five (75), so we are -- our target would be to maintain that sev -- excuse me, 75:25 debt-equity ratio.

MR. BOB PETERS: But you know you can't do that during major construction. The -- the math doesn't support reaching that level without significant rate increases?

MR. VINCE WARDEN: That's what this -- that's what this forecast shows, yes.

MR. BOB PETERS: So this forecast is indicative of the larger rate increases to follow, provided Manitoba Hydro stays on its preferred development plan and the assumptions that Manitoba Hydro has made in the IFF bear fruit and come true?

MR. VINCE WARDEN: Yes. As I did indicate earlier, we are going -- going to do everything possible to maintain the 75:25 debt-equity ratio over that period of time. But if the world evolves as we've -- our world, that is, evolves as indicated in this financial forecast, then this is what the outlook is.

MR. BOB PETERS: Would the Board's understanding be correct, Mr. Warden, in that Manitoba Hydro's business model seeks to recover from Manitoba Hydro's export customers the blending of the costs associated with all of its assets?

MR. VINCE WARDEN: No, no, it wouldn't be fair to assume that. The export contracts fully recognize the costs incurred with new generation. So it's more of a marginal cost approach to pricing export contracts than -- than is used for domestic customers.

MR. BOB PETERS: Are Manitoba Hydro's export customers receiving the benefits of Manitoba Hydro's vintage generation assets in any way?

MR. VINCE WARDEN: No. No, we -- we negotiate the -- what the best price we can possibly get out there in the competitive marketplace and it has no regard whatsoever to our embedded costs.

MR. BOB PETERS: You're measuring the best price in the marketplace under your contract negotiations against the direct costs of the new generating serv -- stations to serve that new load?

MR. VINCE WARDEN: Well, we certainly are cognizant of what those costs are at all times, but we're looking more so at what the market will bear.

MR. BOB PETERS: And when you look at what the market will bear, you know that a significant percentage and, I think in the transcript I did find Mr. Cormie's reference to 25 percent of your -- of your future new load is expected to serve long-term contracts. Maybe I should just get the quote, Mr. Cormie, to make sure that it's consistent with your recollection, and I'm looking on page 1283 of the transcript from January the 17th.

(BRIEF PAUSE)

MR. BOB PETERS: I'll read the quote into the record, or -- or maybe -- well, I'll read it into the record, Mr. Cormie, and you can tell me if I've misunderstood it. Starting on line 8, Mr. David Cormie:

> "No, the price that we've agreed to is fixed. When you consider all the entire portfolio of fixed-price energy that we're taking to market today for delivery, starting with our new generation, about 25 percent of it is -- will be a fixed price."

But you might want to read further to see if there's any context that I'm missing with that, sir.

MR. DAVID CORMIE: Mr. Peters, what that 25 percent was referring to was on an average-year basis, 25 percent of the energy that will be taken to market by Manitoba Hydro, whether its opportunity or dependable energy, will be fixed-price.

That's -- that's where our portfolio stands now. So that includes -- that's average-year energy, Mr. Peters, so if -- if in an average year there were 10 terawatt hours of surplus with dependable and opportunity energy, 25 percent will have been, as -- as the portfolio stands today in the IFF, 25 percent has been set at fix -- has -- the price has been fixed.

MR. BOB PETERS: And by default, that means 75 percent will be at the whim of the market.

MR. DAVID CORMIE: Yes, because the large majority of the surplus that we have is not dependable energy, and -- and it -- it will then attract market prices, depending on the year and the water flow conditions.

(BRIEF PAUSE)

MR. BOB PETERS: And the cost to serve those two (2) types of export products going forward, Mr. Cormie and Mr. Warden, would you agree, is exactly the same, whether that electron is for a fixed contract or that electron is for the opportunity market, the cost to -- to generate it would be exactly the same?

(BRIEF PAUSE)

MR. DAVID CORMIE: The facilities that would be put in place as a result of the sale agreement will be identical. The facility will then be able to generate both dependable energy and non-dependable energy, and so the cost will be -- will be fixed, and the

-- the -- just the na -- there will be two (2) types of products that are available from those -- from those facilities.

But we don't invest in infrastructure for non-dependable energy.

MR. BOB PETERS: On average, you invest 75 percent of that infrastructure for non-dependable energy, wouldn't that be correct?

(BRIEF PAUSE)

MR. DAVID CORMIE: Well, I -- I think, Mr. Peters, our investment decision for -- into new generation will be, at a minimum, what is necessary to serve the long-term firm commitments of the sale.

And so we will analyze the -- the benefits of -- of each development sequence, comparing the -- the revenues that are generated under each sequence and the cost associated with each secret -- each sequence.

And -- but we won't invest in dependable resources above and beyond what we think that we can sell dependable energy for.

(BRIEF PAUSE)

MR. BOB PETERS: Let's -- let's start maybe by using Manitoba Hydro's math, Mr. Warden, and I'm not agreeing to the seven point five five (7.55) cents per kilowatt hour number. I'm just not sure mathematically that's right, but that'll take -- take me a bit of a while -- a bit of time with a calculator to retrace that, so I -- so I'll use your number of seven point five five (7.55) cents.

And let's also use the numbers that you've put on the record in terms of your average firm export sales this year and last; that was -- was it about five (5) -- five point seven (5.7) cents? Did I -- or five point three (5.3) cents, sir, do you recall?

MR. VINCE WARDEN: Mr. Peters, you're -- you're talking for dependable -- or -- or for fixed-term contracts.

MR. BOB PETERS: Yes, I think in your --

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: -- direct evidence to Ms. Ramage you -- oh so long ago, you put that on the record.

MR. VINCE WARDEN: Yes, I agree.

MR. BOB PETERS: It was five point seven (5.7), sir?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And then the -- the opportunity was -- was less than half of that, if I recall, two point three (2.3) cents.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Now, when we look at those numbers, and we'll just use all three (3) of them being your numbers, the five point seven (5.7) cents on average from your fixed product, it doesn't recover the seven point five five (7.55) cents that would be -- would be the cost of the Wuskwatim plant, correct?

MR. VINCE WARDEN: That's right.

MR. BOB PETERS: And so there would be a shortfall as between those two (2) numbers, the five point seven (5.7) cents and the seven point five five (7.55) cents.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And that shortfall would be absorbed into the costs charged through to the Manitoba consumer.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: And if we take the opportunity sales, which, as I understand it, in an average year would be 75 percent of the -- of the export commitments, the opportunity price of two point three (2.3) cents would leave a larger subsidy needed for

Manitoba Hydro's domestic customers to cover the seven point five five (7.55) cent costs.

MR. VINCE WARDEN: Recognizing again that the two point three (2.3) cents is reflective of the economic conditions and not expected to be the price that we'll receive -- that we will be receiving when Wuskwatim is fully placed in service.

MR. BOB PETERS: I -- I'll certainly accept that qualification. And, also, I think Mr. Cormie has made it clear that there are circumstances where, in my words, you either sell it or spill it. And when you sell it, you many not get a very significant return on it. But with those qualifications, there still would be a subsidy sought from the domestic ratepayers through additional costs being attributed to those classes.

MR. VINCE WARDEN: Initially, that's correct.

MR. BOB PETERS: Now -- and I -- I think that's a point you make. If we -- if we turn our attention through to the new term sheets that will underpin the construction of the new generating stations, will there be situations, at least in the early years, where there will need to be a subsidy from domestic ratepayers to cover all of the additional costs of the generation from new facilities?

MR. VINCE WARDEN: It -- it really depends, Mr. Peters, on what facility we're talking about. Conawapa -- the unit cost of energy out of Conawapa is going to be considerably lower than the unit cost out of Keeyask, and Wuskwatim actually. So we're probably straying again into the future justification review that we've been talking about. But I -- I -- my very high-level answer to your question is it really depends where that power is sourced.

(BRIEF PAUSE)

MR. BOB PETERS: Mr. Warden, the -- as you sit here today, I think you were proudly speaking, and rightfully so, on behalf of the Corporation, that the financial strength has never been greater, the capital structure's never been greater.

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: Or never better capital structure.

MR. VINCE WARDEN: Yes, that's right.

MR. BOB PETERS: And you see that capital structure eroding in the decade of investment, correct?

MR. VINCE WARDEN: Yes.

MR. BOB PETERS: What are we investing in in this next decade that's going to erode our capital structure?

MR. VINCE WARDEN: Well, we -- we are investing in the three (3) -- three (3) major facilities: Keeyask, Conawapa and the Bipole 3 transmission line. Although the Bipole 3 transmission line is different to the extent that it's not considered to be an investment for the purpose of return; it's an investment or an expenditure that's required to improve reliability of the Manitoba system.

MR. BOB PETERS: And so the erosion of the debt-equity ratio arises partly because of the subsidy needed to support the sale of energy out of the Wuskwatim plant, would that be correct?

MR. VINCE WARDEN: Well, we do -- we talked about a -- a gap earlier, Mr. Peters, between the seven point five five (7.55) cents cost and the five point seven (5.7) cents, which, by the time Wuskwatim comes into service, will be narrowed considerably. And as the plant continues to generate power over the sixty-seven (67) year lic -- life, the investment will realize very significant returns.

So I think we are prepared to accept that the early years, and, in fact, as we've demonstrated in the -- one (1) of our undertakings or filings, the first two (2) years do result in a -- in a loss, but the third year we move into the range of profitability.

So that's not unusual for a new plant coming into -- into service. A large capital investment does require some deterioration in the ratios in the early years, but we do so with the confidence that the returns will be much greater over the life of that facility.

MR. BOB PETERS: Well, while we're just talking Wuskwatim, Mr. Warden, you've suggested -- and -- and, quite frankly, the numbers aren't -- the specific numbers aren't relevant to my questions; it's the -- it's the relative points that we've made, and I appreciate you've been allowing me to use general numbers.

But you've suggested to the Board that the spread between the, seven point five five (7.55) is the number we've used, cost for Wuskwatim and the five point seven (5.7) fixed price of energy, that spread that is being subsidized by Manitoba ratepayers, you expect that to narrow by the time Wuskwatim comes on -- in service in -- in a couple of years?

MR. VINCE WARDEN: It -- it will not only narrow, but the -- the -- the revenue will quickly overtake the costs. And recognize, too -- it should be recognized, too, Mr. Peters, we're not asking ratepayers to provide that differential; we're only asking for a modest 2.9 percent rate increase at this time. So we're certainly not looking for ratepayers to pick up that differential in rates in those intervening years before the plant turns to profitability.

MR. BOB PETERS: Well, you're -- you might be right in your intent, but you're asking for two point nine (2.9) plus two point nine (2.9) in this application, correct?

MR. VINCE WARDEN: Yes, the interim approved two point nine (2.9) plus the 2.9 percent to be -- to be effective April the 1st, 2011.

MR. BOB PETERS: And if that -- if those rate increases aren't sufficient to maintain the debt-equity ratio at 75:25 because of Manitoba Hydro's investments in three (3) major new assets, then the debt-equity ratio will deteriorate?

MR. VINCE WARDEN: Yes, as we see in our financial forecast, but again, we're not asking ratepayers to pick that up because we know that the future -- that debt ratio will recover.

MR. BOB PETERS: Well, I've got to pull you up a bit short on that, Mr. Warden, we don't know that sitting here. We certainly hope that sitting here. We certainly may have forecasts of that happening, but with certainty we don't know that. Would you agree with me?

MR. VINCE WARDEN: And I -- I think I did indicate earlier that's why it's so important that we lock in to the extent that we can. We lock in long-term fixed rate debt. We lock in contracts, export sale contracts. We know -- we do know, as a matter of fact, if we look out there that -- with some certainty that those returns will be there. It's an investment with a -- a guaranteed -- well, maybe guaranteed's a little bit strong of a word, but there's a -- there's a strong indication that we will provide a -- a -- a very healthy return to ratepayers over the life.

MR. BOB PETERS: And --

MR. VINCE WARDEN: Well, not only the life of the facility but over the -- over the ensuing ten (10) years.

MR. BOB PETERS: And, Mr. Warden, the costs -- I want to make sure I have this right, the costs in constructing Keeyask, Conawapa, and Bipole 3, that's about half of the $2 billion of construction work in progress that the Corporation carries on its books, correct?

MR. VINCE WARDEN: Did you include Wuskwatim in that number, Mr. Peters?

MR. BOB PETERS: I can --

MR. VINCE WARDEN: Wuskwatim would be a--

MR. BOB PETERS: -- I can if I want -- if you want.

MR. VINCE WARDEN: Well, it would -- if you're looking at construction work in progress Wuskwatim would be a --

MR. BOB PETERS: Oh, sure.

MR. VINCE WARDEN: -- big -- a big piece of that.

MR. BOB PETERS: All right. So -- so roughly half of -- well, maybe Wuskwatim is more, but of that 2 billion, once you put Wuskwatim into the mix, over half of it then is related to Keeyask, Conawapa, Bipole 3, and Wuskwatim?

(BRIEF PAUSE)

MR. VINCE WARDEN: That would seem approximately right, yes. Yes.

MR. BOB PETERS: The -- while Manitoba Hydro hasn't sought recovery in its rates, it has used rate revenues to pay the salaries of one-third (1/3) of Manitoba Hydro's employees whose salaries are capitalized. Would that be correct?

MR. VINCE WARDEN: Well, now we're talking about how the costs are recovered from ratepayers and the salaries of employees that work on capital facilities are capitalized and deferred over the life of that facility. So no, that wouldn't be correct. We're only asking in the current year to recover the operating -- the -- the costs that are charged to operations.

So I think, Mr. Peters, we're getting into a -- a cash versus accounting discussion as we did have some -- some days ago.

MR. BOB PETERS: I'll maybe take a crash course on that in the next couple of days, Mr. Warden, but -- but there's still two thousand (2,000) employees of Manitoba Hydro whose salaries are included in the capitalization of the company and those -- the actual payment of those salaries has come out of revenues derived by Manitoba Hydro from ratepayers?

MR. VINCE WARDEN: From ratepayers and from export customers. Out of the total revenues that we receive, the tot -- which constitutes our total cash, we have certain cash payments, and certainly wages and salaries are a -- a major component of the cash payments that we -- we expend.

MR. BOB PETERS: And we can look at the IFF and see that the vast majority of the revenues are --

are through the general consumers line item which is the domestic customer.

MR. VINCE WARDEN: Well, when you say "vast majority", there's a very significant 30 to 35 percent that comes from export customers.

MR. BOB PETERS: Thank you. You're -- thank you for that. The suggestion a few minutes ago that while Manitoba Hydro can't guarantee it, you have strong indications and strong forecasts that support the view that the level of subsidization of the energy coming out of Wuskwatim will decrease over the next several years, that's premised on an increase in the -- in the rise of the average opportunity export price, would that be correct?

MR. VINCE WARDEN: It's based on our best forecast of export prices, yes.

MR. BOB PETERS: And presently the opportunity price is, it's either two point three (2.3) or two point seven (2.7), I'm not sure what number we've agreed on, Mr. Warden, but it's -- it's under three (3) cents.

MR. VINCE WARDEN: It's depressed at this time, yes.

MR. BOB PETERS: And so for that number -- for that opportunity export price to get up to the seven point five five (7.55) cents, there'd have to be a fairly remarkable turnaround in relatively short order to -- to avoid having to have some subsidization of the energy sold out of Wuskwatim as opportunity energy?

MR. VINCE WARDEN: Yes, but I think we already discussed the fact that we've got five point seven (5.7) cents is -- is already being received on the firm as firm export revenue.

MR. BOB PETERS: And -- and we --

MR. VINCE WARDEN: So it doesn't -- it doesn't -- it's not -- to -- to -- for Wuskwatim to reach profitability it doesn't depend on the two point three (2.3) cents getting to the seven point five (7.5) cents.

MR. BOB PETERS: I thought Mr. Cormie told the Board that the Wuskwatim energy does not form part of any long-term contract commitments that have --

MR. VINCE WARDEN: No, I don't think Mr. Cormie said that.

MR. BOB PETERS: All right.

MR. VINCE WARDEN: But he can speak for himself.

MR. BOB PETERS: Since he's here, he'll tell us. Mr. Cormie, are you -- is Manitoba Hydro entering into any firm long-term commitments on the Wuskwatim energy?

MR. DAVID CORMIE: What -- what I had said, Mr. Peters, was that the NSP sale can proceed without Wuskwatim, and it's not dependent on Wuskwatim energy being in the portfolio.

However, the -- the profitability of the sale improves because Wuskwatim will provide additional hydraulic energy that can be used to displace energy under low-flow conditions that would either have to be purchased in the market or generated from Manitoba Hydro's thermal facilities.

I -- I think that's the -- it's a stand-alone transaction. The -- the financial returns are dif -- are improved because of Wuskwatim.

MR. BOB PETERS: But only under low-flow conditions, Mr. Cormie?

MR. DAVID CORMIE: Well, below average -- average to below average, yes.

MR. BOB PETERS: And that's certainly not in your forecast for -- for next year?

(BRIEF PAUSE)

MR. DAVID CORMIE: Well, Wuskwatim doesn't come into service until about a year from now. That's a long way away, and I can't say whether Wus --

what effect Wuskwatim will have on production costs a year from now.

That's -- in spite of the wet conditions that we're seeing through the spring this year, as we've talked about many times over the last few days, water conditions can easily turn around and be dramatically different a year from -- from now.

MR. BOB PETERS: Mr. Chairman, with that answer, I would perhaps ask that we adjourn for the day. When we next convene, I will have gone through my notes and removed the duplication that I'm sure I have treaded on up -- at this point.

THE CHAIRPERSON: Very good, Mr. Peters. Thank you, and thank you to the panel. It's been a long day for both of you, and we'll see you all on Monday at 9:30.

(PANEL RETIRES)

--- Upon adjourning at 4:07 p.m.

Certified Correct

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Cheryl Lavigne, Ms.