

**LEGISLATIVE ASSEMBLY OF MANITOBA**  
**THE STANDING COMMITTEE ON PUBLIC UTILITIES AND NATURAL RESOURCES**  
**Thursday, 22 May, 1986**

**TIME — 10:00 a.m.**

**LOCATION — Winnipeg, Manitoba**

**CHAIRMAN — Mr. C. Santos (Burrows)**

**ATTENDANCE — QUORUM - 6**

*Members of the Committee present:*

Hon. Ms. Hemphill, Hon. Mr. Schroeder  
Messrs. Ashton, Dolin, Driedger, Enns,  
Filmon, Manness, Santos, Scott, Smith (Ellice)

**APPEARING:** Mr. Marc Eliesen, Chairperson, Board  
of Directors, Manitoba Hydro-Electric Board

Mr. Will Tishinski, Vice-President, System  
Planning and Operations, Manitoba Hydro

Mr. Don Duncan, Vice-President, Engineering  
and Construction, Manitoba Hydro

Mr. Murray Fraser, Executive Vice-President,  
Corporate Services, Manitoba Hydro

Mr. Art Derry, Manitoba Hydro

**MATTERS UNDER DISCUSSION:**

Annual Report of the Manitoba Hydro-Electric  
Board

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**MR. CHAIRMAN:** Members of the committee, seeing  
as it is now 10:00 a.m. and we have a quorum, I call  
the committee to order.

Mr. Eliesen.

**MR. M. ELIESEN:** Mr. Chairman, with the approval of  
the committee, we can provide some answers to  
questions posed at the last meeting of the committee,  
if that's agreeable.

**MR. CHAIRMAN:** Is that agreed?  
The Member for Morris.

**MR. C. MANNES:** Mr. Chairman, in the momentary  
absence of the Member for Lakeside who, of course,  
posed most of those questions, I'm wondering if we  
could hold them in abeyance just for a short period  
of time. I fully expect that he will be here shortly. As  
a matter of fact, he's here right now, maybe you'd like  
to begin.

**MR. CHAIRMAN:** Mr. Eliesen.

**MR. M. ELIESEN:** Yes, Mr. Chairman, we have some  
answers to some questions posed at the Tuesday  
committee meeting.

The first one dealt with the breakdown of the  
Limestone cost estimate including the interest during

construction, outside consulting costs and some detail  
on Manitoba Hydro's engineering costs and overhead.  
I have a two-page detailed description on the cost  
estimate which perhaps can be circulated and, if useful,  
appended to the proceedings perhaps to facilitate  
matters as opposed to me reading all the items, so  
that can be circulated.

The second question dealt with debt equity ratios in  
1993 and 2005 under three conditions: without the  
NSP sale; with 100 percent of revenue from the NSP  
sale; and with 50 percent of the net revenue from the  
NSP sale. So taking that in order, the first debt equity  
ratio without the NSP sale for 1993, it's 90-10; and for  
2005 the estimate is 94-06; (b) with 100 percent of the  
revenue from the NSP sale, 1993, it's 93-07; 2005, it's  
80-20; with 50 percent of the revenue, the third scenario  
being requested, 1993, 93-07; and 2005, 90-10.

As can be appreciated, there are quite a number of  
assumptions that go into long-term forecasts, and these  
include items such as water conditions, interest,  
escalation, energy growth demand, etc., but these are  
associated really with our base case that was presented  
to the National Energy Board.

The next question posed dealt with Manitoba Hydro's  
costs of participating in studies with the aluminum  
companies and, just to confirm the answer I intimated  
at the last session, basically they were negligible. They  
involved limited staff time and limited expenditures  
dealing with some transportation.

The next question dealt with . . .

**MR. CHAIRMAN:** The Member for Lakeside.

**MR. H. ENNS:** Mr. Chairman, just as a matter of interest  
on that point, it was recently indicated that Alberta  
successfully concluded a business agreement with  
Alcoa, having to do with a high intensive energy plant  
involving the production of magnesium. Just a question  
that I have, were any inquiries made of Manitoba Hydro?  
Did Manitoba Hydro pursue that particular development  
in any particular case?

**MR. M. ELIESEN:** Mr. Chairman, this is a matter which  
came under the Manitoba Energy Authority, and I  
certainly can go into detail at the time the Authority  
comes before the committee.

But, in a general way, yes, we had been in touch with  
Alcoa. The reason why Alcoa decided, together with  
European partners who had the technology for this  
development, the reason why they — in a preliminary  
way, the arrangement is not finalized, we understand.  
But in a preliminary way, they are looking at Alberta,  
mainly because of the Government of Alberta providing  
financing for about 80 percent of the cost of the \$350  
million project. Those were certain conditions,  
particularly the \$280 million loan guarantee provided  
by the Alberta Government, which made it prohibitive  
for us to consider getting involved in that kind of  
competitive tendering.

**MR. H. ENNS:** Thank you.

**MR. M. ELIESEN:** To continue on some answers to the questions, the next question dealt with the study cost to date and the schedule for construction on the Conawapa Generating Station. The Conawapa Generating Station is now scheduled for Manitoba's own use in 1997, that is, first power in 1997. Study costs for Conawapa, which date back to 1971, are approximately \$19 million.

One last answer, Mr. Chairman, really deals with a correction provided to an answer in respect of the 8.5 percent growth in energy sale two years ago. It was preliminarily indicated that was related to the Hud Bay growth. That is not the case. The increase of 8.5 percent really related to an increase in cold weather at the time but, more specifically, a significant improvement in industrial customers' demands following the recessionary slowdown of the previous year.

That basically completes the answers to the questions posed at the last committee meeting, Mr. Chairman.

**MR. CHAIRMAN:** Thank you, Mr. Eliesen.  
The Member for Lakeside.

**MR. H. ENNS:** Mr. Chairman, dealing further with the response just received, there were a number of other questions put on the record and accepted as notice by Hydro officials. Any indication of when those answers would be forthcoming?

**MR. M. ELIESEN:** Mr. Chairman, there may be one or two items that have been omitted. We're not sure and we're waiting to look at the blues to see whether we missed any that have been posed, but we certainly will provide them in writing if we have not done so, either verbally, so far.

**MR. CHAIRMAN:** The Honourable Leader of the Opposition.

**MR. G. FILMON:** Mr. Chairman, I wonder if the Chairman could indicate whether there has been an announcement at this point in time of the hiring or appointment of a new Vice-President of Finance for the corporation.

**MR. M. ELIESEN:** Yes, a new Vice-President of Finance was announced at the beginning of the month. He is Gary Beattie. The President and Chief Executive Officer, John Arnason made that announcement and Mr. Beattie has recently commenced working for Manitoba Hydro.

**MR. G. FILMON:** Can Mr. Eliesen give us an indication of the background of this individual?

**MR. M. ELIESEN:** Yes, Mr. Beattie has a most impressive background and was unanimously approved by senior management, through the President, and by the board of directors.

His background includes, and I don't have a detailed C.V. in front of me, but it includes — his previous experience includes work with the Province of Saskatchewan where he's held numerous positions, including President and Chief Executive Officer of the

Crown Investments Corporation of Saskatchewan, the Deputy Minister of Finance and Secretary of the Treasury Board, the Department of Finance and Director of Management Analysis Division of the Department of Natural Resources.

He's also served in the University of Saskatchewan as associate professor, Faculty of Administration, and Dean of University Extension. We are most fortunate to be able to have Mr. Beattie working for Manitoba Hydro, given his extensive background, particularly in financial matters, to assist the corporation in the area in which obviously we are being involved in a major capital expenditure program.

**MR. G. FILMON:** If the chairman could indicate — he said that his appointment was unanimously approved by senior management. What senior management would have been involved in the decision?

**MR. M. ELIESEN:** The President and Chief Executive Officer, Mr. John Arnason, specifically. These senior appointments have been reviewed through a committee of the board of Manitoba Hydro and approved unanimously by the board.

**MR. G. FILMON:** As far as unanimous approval by senior management, Mr. Arnason agreed with himself. Is that what you're saying?

**MR. CHAIRMAN:** Is that a question? Mr. Eliesen.

**MR. M. ELIESEN:** Well, for clarification of the process of appointing senior individuals in Manitoba Hydro, in this particular case, a competition was held. There was an internal bulletin within Manitoba Hydro. There were advertisements placed in the national newspapers. The board of Manitoba Hydro hired the firm of Caldwell Partners to assist us in that process. The personnel and organizational committee of the board, together with the President, formed the committee reviewing the applicants, both internally and externally, and the decision to approve Mr. Beattie was the unanimous one of the committee which then received the unanimous approval of the board.

**MR. G. FILMON:** Mr. Chairman, I wonder — the appointment then, essentially, was made by the board, although Mr. Arnason was a member of the committee of the board that made the final selection. Is that correct?

**MR. M. ELIESEN:** The appointment was made both by the President and the board of Manitoba Hydro.

**MR. G. FILMON:** Was a decision made to seek an appointment from outside the corporation staff first and then it was bulletined in parallel with that decision to hire Caldwell Partners and seek candidates outside corporation staff, or was the bulletining process preliminary to it? In other words, it was bulletined internally and it was determined that there were no suitable candidates and then the process of search and selection was done by Caldwell.

**MR. M. ELIESEN:** Mr. Chairman, the process was the following: the board of Manitoba Hydro decided that

a new position, a Vice-President of finance, was required for the corporation and the process was that with the hiring of Caldwell Partners to assist us in that process, both the internal and the external advertising took place at the same time.

**MR. G. FILMON:** Were there no internal candidates deemed to be suitable for the position?

**MR. M. ELIESEN:** There were internal candidates who put forward their names and were interviewed by the President and by the board. In the judgment of both the President and the board, the candidate selected was the one selected.

**MR. G. FILMON:** In that case, are we to assume that the board selection committee, which included the President, believed that there were no suitable candidates internally for the position?

**MR. M. ELIESEN:** The judgment of the President and the board was that the candidate selected was the most outstanding candidate among the numbers that came forward and were considered for the position. That is not to say that we did not or we do not have today quality individuals who could have an appreciation of that position. In the judgment of the President and the board of Manitoba Hydro, the candidate that we choose was No. 1 on the list of the competitive process that we had undertaken.

**MR. G. FILMON:** Mr. Chairman, does Mr. Beattie have experience working in a Hydro utility?

**MR. M. ELIESEN:** Mr. Beattie has experience working with a utility in his previous capacity as Deputy Minister of Finance in Saskatchewan for a number of years, four or five, and in his capacity as head of Crown Investments in the Government of Saskatchewan for about five or six years. In that regard, he had the responsibility of dealing with the capital expenditure program of all of the Crown corporations including the utilities and, therefore, had significant experience of dealing with utilities in general.

**MR. G. FILMON:** The chairman is saying that he had experience dealing with utilities in a role on the government side, but he had not worked in a utility in any capacity?

**MR. M. ELIESEN:** That is correct, Mr. Chairman, and it is not unusual or strange for that kind of situation to take place. For the information of members, it may be useful to note that the new President of Ontario Hydro has had no background with utilities whatsoever, but was appointed as a senior Vice-President from Canadian National. Two weeks ago, there was a new President appointed for B.C. Hydro, who formerly had no background really related to utilities and had previously been the President and Chief Executive Officer of Yorkshire Trust, a trust company in British Columbia. I believe the kind of skills, certainly in the finance area, is such that it is important to have appreciation of financial markets and the degree to which utilities or other Crown corporations are involved

is obviously a major asset in that regard. Mr. Beattie's experience and background were exceptionally formidable and we regard it, quite frankly, as quite a coup to have Mr. Beattie working for Manitoba Hydro.

**MR. G. FILMON:** What is the process now being followed, Mr. Chairman, for the selection of the President and Chief Executive Officer?

**MR. M. ELIESEN:** The process, Mr. Chairman, is the following: a committee of the board has been struck to consider applicants, both internally and externally, with regard to this position. We have requested the assistance of Woods Gordon here in Winnipeg in that process and we have just started that process. Both internal bulletins have been placed up within Manitoba Hydro, as well as the fact that we have advertised in the Manitoba newspapers and in the National Globe and Mail for this position and we are now receiving applicants for the job.

There will be a process of two or three months together with Woods Gordon, as I mentioned, who are assisting the committee and we hope to make a decision within the next two or three months and have someone on board shortly thereafter.

**MR. G. FILMON:** Who will sit on the selection committee?

**MR. M. ELIESEN:** Mr. Chairman, the selection committee is a committee made up of the following individual members of the board: there's myself; there's Mr. Clyde McBain; there's Mr. Peter Fox; Dr. Nora Losey; and Dr. Ed Kuffel. Those are the board members who are the selection committee.

**MR. G. FILMON:** What would the approximate cost be of Woods Gordon's search-selection process?

**MR. M. ELIESEN:** The approximate costs would be in the \$25,000 to \$30,000 range.

**MR. G. FILMON:** Did the board hire Woods Gordon to do the external search or the nation-wide search because it felt that there were not suitable candidates within the staff of Manitoba Hydro?

**MR. M. ELIESEN:** No, Mr. Chairman. The board felt it was useful at this particular time to seek candidates everywhere and to have the most competitive process possible.

The board recognizes and appreciates that there are qualified candidates within Manitoba Hydro, but we felt that we should take the opportunity of having the most competitive process and seek any interested candidates outside as well.

**MR. G. FILMON:** When the chairman refers to "at this particular time," what is special about this particular time to follow this process?

**MR. M. ELIESEN:** Mr. Chairman, I had nothing in mind at this particular time. I just note in the past there has not been a kind of precedent. There have been occasions in Manitoba Hydro's history where the

President and Chief Executive Officer came from outside, and I mentioned Mr. Laurie Blachford as part of that. When he left Manitoba Hydro, the decision at that time was to make a judgment as to an internal process, in which case Mr. Arnason was appointed.

**MR. CHAIRMAN:** The Member for Ellice.

**MR. H. SMITH:** Can you tell me, how did we select Woods Gordon? What criteria is used?

**MR. M. ELIESEN:** The committee of the board, at least, sent a general specification out to about 12 or 15 — I don't have the exact number, but quite a large number of organizations who are involved in this particular area — and reviewed and analyzed the submissions that had been submitted. In our judgment, the presentation made by Woods Gordon, particularly with some of the expertise that they have here locally, made us decide on awarding the contract to Woods Gordon.

**MR. H. SMITH:** At what point is the price determined for the work done?

**MR. M. ELIESEN:** My understanding, Mr. Chairman, is that the price is a standard one within the industry, and the bids that came forward were within that range, as I mentioned. I don't have the detailed information — that can be obtained — but it was roughly in the range of 25,000 to 30,000, which is a standard kind of cost for a national organization seeking applicants and assisting an organization in the hiring of a President and Chief Executive Officer.

**MR. CHAIRMAN:** The Member for St. Vital.

**MR. J. WALDING:** Thank you, Mr. Chairman.

I have a few items that I wanted to touch on. I have been a little bit out of touch with Hydro things for the last four years, so I apologize in advance if I ask any questions on topics that have been dealt with or questions that have been answered . . .

**MR. J. DOWNEY:** Like the Hydro rate freeze that was removed, something like that?

**MR. J. WALDING:** Pardon me?

**MR. J. DOWNEY:** Like the Hydro rate freeze that was removed, something like that.

**MR. J. WALDING:** You can ask about that one, Mr. Downey.

Mr. Eliesen, I wanted to ask you about Jenpeg, how it's functioning. What has Hydro's experience been on that?

**MR. M. ELIESEN:** Mr. Chairman, I will ask Mr. Tishinski to provide that answer.

**MR. CHAIRMAN:** Mr. Tishinski.

**MR. W. TISHINSKI:** The plant has been operating generally well, the usual maintenance problems, but

nothing of a major nature that needed repairs or attention.

**MR. J. WALDING:** Is it working to design specifications?

**MR. W. TISHINSKI:** Yes.

**MR. J. WALDING:** When is the official opening, or when was the official opening of Jenpeg? I must have missed it.

**MR. W. TISHINSKI:** There wasn't one.

**MR. J. WALDING:** I see.

**MR. G. FILMON:** They didn't leave you out of this one.

**MR. J. WALDING:** That's all I wanted to ask about, Jenpeg, but I did have one or two other points that I wanted to mention, Mr. Chairman. I jotted them down in no particular order here.

I wanted to ask Mr. Eliesen if he would explain to me the workings of Hydro as it affects the Energy Authority. I noticed the same names appearing on the same lists, and I don't really understand the functioning of those two groups. How do they work together or not together? How do they both fit in with the Department of Energy and Mines?

**MR. M. ELIESEN:** The Manitoba Energy Authority, Mr. Chairman, is a separate Crown agency, established by legislation proclaimed in 1980, with a broad mandate to be involved in energy matters and energy development. But more specifically, its prime mandate is to negotiate export sales outside of Manitoba. In this regard, it basically operates as the direct sales agent of Manitoba Hydro.

The composition of the board of the Manitoba Energy Authority has changed over time. I wear two hats at the present time. I am the chairperson and the executive director of the Manitoba Energy Authority, and I serve as the chairperson of Manitoba Hydro. A vast majority of my time though is involved with the Manitoba Energy Authority, and I am not involved in the management or operations of Manitoba Hydro.

I guess that's really the basic relationship. Manitoba Hydro provides staff support to the Manitoba Energy Authority, as the Department of Energy and Mines as well.

**MR. J. WALDING:** Then does Hydro report to the Energy Authority or the Energy Authority to Hydro, or both separately to the Minister?

**MR. M. ELIESEN:** They are both separate Crown corporations reporting to the Minister of Energy and Mines.

**MR. J. WALDING:** Can they be separate when the chairman of both is the same and one acts as a sales agent, as you mentioned, to the other? There is some overlap in board membership too.

**MR. M. ELIESEN:** Well they have acted independently, and there are separate boards with each Crown

corporation. There are 11 members of the board of Manitoba Hydro, which I had mentioned at the last meeting, and the board provides that kind of direction. I, as the chair of Manitoba Hydro, operate with the approval of the board of Manitoba Hydro, and I report directly to the Minister of Energy and Mines.

**MR. J. WALDING:** What proportion of your time would you say was devoted to Hydro affairs and how much to Energy Authority affairs?

**MR. M. ELIESEN:** I would estimate approximately 70 percent to 80 percent is allocated to the Manitoba Energy Authority, and the remaining 20-odd percent to Manitoba Hydro.

**MR. J. WALDING:** I take it then that you don't work for the Department of Energy and Mines in any way, other than reporting to them.

**MR. M. ELIESEN:** That's correct. I had been up until September or October of 1984, the Deputy Minister of Energy and Mines. At that time, I had the same position as the Chair and the Executive Director of Manitoba Energy Authority. Since that time, I have concentrated with the Manitoba Energy Authority but have assumed the Chair of Manitoba Hydro and I am no longer Deputy Minister of Energy and Mines.

**MR. J. WALDING:** I think I understand the present situation now. So does Hydro or the Authority pay your salary — or both?

**MR. M. ELIESEN:** I indicated at previous committee hearings, I'm not paid any benefits from Manitoba Hydro; I'm paid by the Manitoba Energy Authority.

**MR. J. WALDING:** I take it from what you tell me that you receive nothing from the Department of Energy?

**MR. M. ELIESEN:** That's correct, Mr. Chairman.

**MR. J. WALDING:** Is there an employment contract from the Energy Authority that you have?

**MR. M. ELIESEN:** Yes, Mr. Chairman.

**MR. J. WALDING:** Would you make that contract available to the committee?

**MR. M. ELIESEN:** I have no problem making it available to the committee. I will check with my responsible Minister, but personally I have no problems whatsoever.

**MR. J. WALDING:** Can you explain the system leading to the decision to recommence Limestone? What was the sequence? Was it dependent on the Northern States Power sale? Was one waiting for the other? How did it work out?

**MR. M. ELIESEN:** The sequence, Mr. Chairman, was the following: Manitoba Hydro's own load growth forecast dictated first power from Limestone in 1992. The sale to Northern States Power advanced first power to 1990. That was the most profitable date indicated

by Manitoba Hydro, and confirmed independently by the National Energy Board to be the most profitable date for first power from Limestone. So that really is the sequence. The station comes into operation in three years, two units in 1990, another five in 1991 and it is in full operation — all 10 units, all 10 turbines and generators — in 1992.

**MR. J. WALDING:** I can understand how the load growth would indicate the first power to come from Limestone in 1992. How did the Northern States Power sale indicate an advance of that date?

**MR. M. ELIESEN:** Well, in the three volumes of material that we submitted to the National Energy Board, which is publicly available, we showed the impact on Manitoba Hydro system, with regard to making available, starting in 1993, 500 megawatts, and in order to do that, required at least one year advancement for first power in 1991. Studies within Manitoba Hydro on the economics of advancement and the ability to sell in interruptible markets showed clearly that a more profitable time of building Limestone was one year earlier. We submitted that information to the National Energy Board, and they reviewed and analyzed that information and confirmed it.

**MR. J. WALDING:** I have read the NEB Report, so I realize at least what they were saying. I'm really struggling to understand why it was necessary to advance the date. If it was cheaper to do so anyway, what difference does the sale make that wasn't to start until 1992?

**MR. M. ELIESEN:** The sale started in 1993 of 500 megawatts. We required 500 megawatts and in order to provide that 500 megawatts, we had inadequate capacity forecasted for that period of time. That's why we required a one-year advancement. Now at the same time, we looked at the interruptible market and, clearly, the economics and the most profitable opportunities existed. Taking, I guess the extra costs that are associated with one year further, showed clearly that Manitoba Hydro and the people of Manitoba Hydro would make more money as a result of advancing it for first power to 1990. We submitted that information to the National Energy Board and they, independently, with their own staff and their own people — and there was no other conflicting evidence provided during the 14-day hearings — confirmed that that was the most profitable period for Manitoba Hydro to set in play the Limestone Generating Station.

**MR. J. WALDING:** I follow what you're getting at, but maybe I'm not putting the question quite clearly enough. I understand that it was necessary to build more generating capacity by 1992 or 1993 — whatever the year happens to be — for Manitoba's use, that gave you a salable excess incapacity at that time and it made good sense to arrange a sale for it. But if the power was to be available at the same time that you were to build the generating station anyway, is it only the possible sale of interruptible power that indicated that it was profitable to build it earlier than 1992?

**MR. M. ELIESEN:** I regret, Mr. Chairman, I'm not following the question correctly. We, in Manitoba,

required first power from Limestone in 1992, given our own energy load forecast, with an obligation to provide 500 megawatts to Northern States Power, of firm power, in 1993, required first power from Limestone in 1991 or else we would not have sufficient capacity to make 500 megawatt sale in 1993. Now, while we were reviewing our analysis on that, the economics of the interruptible market were such that our conclusions, our economic studies, which we made public to the National Energy Board, showed that we would make money from advancing it one further year.

The studies, as I mentioned in our analysis, were confirmed by the National Energy Board. They agreed with us that we would make money from that one-year advancement. In other words, the revenues flowing from that one-year interruptible market were greater than the costs of advancement for one particular year. One should appreciate that the characteristics of obviously any hydro system is that since you build for the peak period, you will always have surplus and particularly seasonal surplus.

As we work down now in the mid-80's, when we reach the 1990's, we sell — for example, we've had a record year of \$113 million in interruptible sales. Now, assuming average water conditions, those export sales will gradually decrease. By the time we hit 1990-91, because we will be using that capacity for Manitoba's own use, so we know that there is a viable market out there and a profitable market for Manitoba Hydro in that one year, because we know we can sell, we know we are much more competitive than the adjacent systems and that was the reason for the advancement for one more year, to 1990, first unit service.

**MR. J. WALDING:** So let me see if I've got these dates correctly. I've heard '91, '92 and '93 mentioned. Are we talking about calendar year or fiscal year, by the way — so I'm quite clear?

**MR. M. ELIESEN:** Fiscal year basis, March 31st. Excuse me, Mr. Chairman, the first two units come in in November and December of 1990 from Limestone.

**MR. J. WALDING:** When you use these figures of various years, again are you talking calendar year or fiscal year? Is it intended to be fiscal year, and if so, is it the year ending that day?

**MR. M. ELIESEN:** No, it's calendar year.

**MR. J. WALDING:** Calendar year, okay. So you said that the studies showed a need for additional power in Manitoba in 1991 and that the sales started in 1992 and you had originally scheduled the completion of first power as 1993. Now, am I correct in that?

**MR. M. ELIESEN:** Mr. Chairman, we can provide figures which have already provided to the committee, but we can bring them back and show the member the specific periods of time when there is inadequate capacity and energy in the system with our commitment for a 500 megawatt sale. As I have mentioned, we required — when I say "we" — Manitoba Hydro, on the basis of current load forecasts — this goes back to 1984 — required Limestone for Manitoba's own electrical usage

with first power coming in in 1992; that is, the first two units coming in in November and December of 1992. With the sale, this required one-year advancement for first power coming in in 1991 in the fall.

As I mentioned, now with interruptible sales market opportunities and with the assessment and analysis being that we would make money for a 1990 first power in-service date. That was the sequence that was put forward before the National Energy Board and that was the sequence which the National Energy Board indicated was the most profitable.

**MR. J. WALDING:** You said that your studies indicated that Manitoba would need additional power in 1992 and that you arranged a sale for starting in 1992.

**MR. M. ELIESEN:** Mr. Chairman, no, what I said is the sales started in 1993. The sale to Northern States Power is a sale of 500 megawatts from 1993 to 2005. But it's the sale of 500 megawatts.

**MR. J. WALDING:** So you would start exporting the power a year after the first power came from Limestone? Would you not get 500 megawatts from that in the year from 1992-93?

**MR. M. ELIESEN:** No, Mr. Chairman. We provided to this committee — and maybe I'll ask Don Duncan to get more details on the schedule with regard to when additional generating capacity was required in order to service the sale.

**MR. CHAIRMAN:** Mr. Duncan.

**MR. D. DUNCAN:** The first unit comes into service in 1990 and the units come into service until early in 1992. Each unit will produce about 130 megawatts of power.

**MR. M. ELIESEN:** Maybe for clarification, perhaps what the member is missing is that all the units don't come in at the same time and we need all the units in service in 1993 in order to service that 500 megawatt sale.

**MR. J. WALDING:** All of them?

**MR. M. ELIESEN:** That is correct.

**MR. J. WALDING:** Is it 12 or 10 making 1200 megawatts?

**MR. CHAIRMAN:** Order please. Mr. Eliesen's clarification?

**MR. M. ELIESEN:** Mr. Chairman, the Limestone Generating Station, just like Long Spruce and all the previous ones earlier, are not indivisible. You cannot simply build one-twelfth of a generating station or one-tenth or one-half. The Limestone Generating Station is the most economic next generating station on the Manitoba Hydro schedule, so when you commit yourself, you have to commit yourself for that entire station. As a result of that, Limestone — forget about any export sale — if we didn't have any export sales whatsoever, we would have required first power from Limestone in 1992. That meant that even though our own internal

requirement was only, let's say, 150 or maybe 200 megawatts at the time, we would have a surplus of 1,000 or more left over. Okay? What makes the NSP sale so attractive and so beneficial is that a large chunk, 500 megawatts, are grabbed up at the particular time on a very profitable basis.

**MR. J. WALDING:** I follow that and I don't want more detail on it. I want it put to me in very simple terms of so much this year and that year, and what we are doing, and how it comes that the decision was made to do these things.

Now I'm going to go back a little bit. You were saying to me that it requires all of the output to meet the NSP sale?

**MR. M. ELIESEN:** What I said, Mr. Chairman, or what I hope that I said, is that we require Limestone for our own purpose in 1992, first power; that the tables that we've put forward, both to this committee in the past and to the National Energy Board, because of inadequate capacity required a minimum of one-year advancement. So first power to service that sale would be required in the year 1991.

In order to take advantage of interruptible markets, the most profitable period for Limestone coming in is in 1990. That was the sequence upon which we put our information to the public, to the National Energy Board, and that was so approved.

**MR. J. WALDING:** I am hearing you say different things, Mr. Eliesen. Now that may be my fault that I am mishearing what you said. But I thought you said that, to get the 500 megawatts from Limestone, it was necessary to build the whole station and, when it was completed, that's when you would get the 500 megawatts. But at the same time, each unit comes on stream at different times, starting with the first one, and that's what is meant by first power. That first generator, the turbine will produce 125 megawatts or whatever it is.

Now can each unit provide power as it comes on stream, or do you have to wait until the complete dam and all 10 or 12 turbines are producing in order to have the power from there? I am not clear. Tell me.

**MR. CHAIRMAN:** Mr. Fraser.

**MR. M. FRASER:** Each unit does produce energy as it is commissioned and put into service. The schedule calls for two units in that first calendar year of 1990; five units in calendar 1991; and three units in calendar 1993. You can assume that they will produce as they come into service with the possible exception of the last unit, which will depend on availability of water.

**MR. J. WALDING:** Each unit produces how many megawatts?

**MR. D. DUNCAN:** Roughly 130 megawatts.

**MR. J. WALDING:** 130.

So I take it that the decision to proceed with Limestone was independent of the Northern States Power sale.

**MR. M. ELIESEN:** Mr. Chairman, the decision to proceed with Limestone was a recommendation from the board of Manitoba Hydro to the Government of Manitoba Hydro, following the approval by the National Energy Board of the 500-megawatt sale to Northern States Power. The sale triggered an early construction advancement of the Limestone Generating Station.

**MR. J. WALDING:** I see. So the original plan was to build Limestone for a completion date at 1992 and — you shake your head. Am I wrong again?

**MR. M. ELIESEN:** Just for clarification, the original schedule, given our current load forecast, is that first power from Limestone was required in 1992. That's the clarification.

**MR. G. FILMON:** December, 1992?

**MR. M. ELIESEN:** That is correct, November or December of 1992. Those are the figures that we had presented to this committee before, which indicated inadequate capacity. So that was our schedule.

**MR. J. WALDING:** I accept that you gave them to the committee. I wasn't a member of the committee at that time, as I am not now, but I am here anyway.

So it was only when that sale was made that Hydro and/or the government decided to accelerate the first power from Limestone. Would that be correct?

**MR. M. ELIESEN:** It is correct to state that the sale to Northern States Power advanced and made the decision for Limestone being built today, as opposed to later on.

**MR. J. WALDING:** Okay. I understand, I think, what you're saying. But you also talk about some interruptible power sales. Would those interruptible power sales occur whether or not there was an NSP firm sale?

**MR. M. ELIESEN:** Yes, Mr. Chairman, there would be interruptible sales. What we had to calculate in the costs of making the sale to NSP and advancing it to 1990 was the loss in revenue as a result of that market.

There were three costs associated with making the NSP sale: capital and interest costs incurred by advancing the next three stations in Manitoba Hydro's generating sequence, together with the associated operating and maintenance costs, and the costs arising from the reduced surplus sale. Those were the main costs associated with making the sales.

So, yes, there were costs with regard to interruptible sales.

**MR. J. WALDING:** If the National Energy Board had said no to your Northern States Power deal, what would have happened?

**MR. M. ELIESEN:** Well it's hypothetical, Mr. Chairman, but if the National Energy Board had not approved the profitable sale to Northern States Power, then there would be no requirement of advancing the Limestone Generating Station. That's why no final decision was made until after all the regulatory approvals had been

obtained in the context of making the sale. Given the fact that there were no new interconnections required to make the sale — it was going through existing lines already built — we waited until that particular time.

**MR. J. WALDING:** Thank you.

But you also said that the interruptible sales were profitable before 1992, 1993. So wouldn't have Hydro built the dam anyway if it was good economics to do so?

**MR. M. ELIESEN:** That certainly was a possibility that could have been considered, but the basic factor which the board at that time took into consideration is that, with a sale of 500 megawatts, you remove a significant degree of risk and error associated with load forecasting. Without that firm additional 500 megawatts, notwithstanding that studies may show that it is economic to advance, still there would have been significant risk. Up until that point, certainly the board of Manitoba Hydro had not considered that kind of scenario.

We did consider the question of interruptible markets only when we looked at the 500 megawatt sale because 500 megawatts out of 1,280 is a big chunk.

**MR. J. WALDING:** While we're on that 500 megawatt sale, your report mentions 500 megawatts at 75 percent capacity factor. What does that mean?

**MR. M. ELIESEN:** Mr. R. Derry will provide some detailed technical answers.

**MR. CHAIRMAN:** Mr. Derry.

**MR. J. WALDING:** Not too technical, please.

**MR. A. DERRY:** Mr. Chairman, the sale is given as 500 megawatts at 75 percent capacity factor if we convert the megawatts into megawatt hours. Taking 876 hours in a year, multiply it by 500, that would be a hundred percent load factor energy; then take the 100 percent load factor energy and multiply it by .75 and that would give you the energy for the year, of 3,285 megawatt hours.

So 500 megawatts at 75 percent load factor converts into energy of 3,285 gigawatt hours.

**MR. J. WALDING:** So that's the amount of energy over a year that is to be exported under this particular sale.

**MR. A. DERRY:** That's correct, that is the total energy over the year and in the contract it specifies a 75 percent monthly capacity factor.

**MR. J. WALDING:** Monthly?

**MR. A. DERRY:** Yes.

**MR. J. WALDING:** Equally, over the 12 months?

**MR. A. DERRY:** No, in the summer months the capacity factor could go up to 80 percent and in the winter months it could drop, I think, as low as 75, which gives a bit of a spread in there, allowing them to take a little

bit different energy over the year but, in total, they must take 3,285 gigawatt hours. It's a take or pay contract.

**MR. J. WALDING:** So the factor is not on the megawattage; it's on the energy, I take it, or can they only take up to 75 percent of 500 megawatts at any one time?

**MR. A. DERRY:** No, they have available to them 500 megawatts at any time.

**MR. J. WALDING:** They can take up to a hundred percent of that?

**MR. A. DERRY:** Yes.

**MR. J. WALDING:** Providing that the energy is not more than 75 percent for the month?

**MR. A. DERRY:** That's correct.

**MR. J. WALDING:** Is that up to Northern States choosing when to take it and what rate?

**MR. A. DERRY:** Yes, Northern States would schedule the power on a daily basis from us.

**MR. J. WALDING:** Is that metered in Winnipeg or in Minneapolis?

**MR. A. DERRY:** Mr. Chairman, it's metered at the border, the U.S.-Canada border.

**MR. J. WALDING:** I see, so any power losses from here to the border are at Manitoba Hydro's expense and any from the border to Minneapolis are at Northern States' expense.

**MR. A. DERRY:** That's correct.

**MR. J. WALDING:** This might be a technical question. How much power is lost in exporting that energy from Winnipeg to Minneapolis?

**MR. A. DERRY:** In our calculations we assumed a 10 percent loss, so you'd add 10 percent to 3,285 gigawatt hours to get back to the generation at the generating terminals.

**MR. J. WALDING:** Ten percent from Winnipeg to Minneapolis or from Winnipeg to the border?

**MR. A. DERRY:** Mr. Chairman, we are only responsible for the power at the border so it would be from the border back to the, let's say, the Nelson River transmission generating stations.

**MR. J. WALDING:** To give me a ballpark figure, how much power is lost from the Nelson River to Winnipeg and how much from Winnipeg to the border and how much from the border to Minneapolis. Give me some idea of what we're talking about.

**MR. CHAIRMAN:** Do we have the figures?



**MR. J. WALDING:** Give it to me in approximate, the figures.

**MR. A. DERRY:** Mr. Chairman, our estimate of losses from the Nelson River to Winnipeg would be approximately 8 percent and 2 percent from Winnipeg to the border. You must realize it's only 100 miles from Winnipeg to the border and it's something like 600 miles to Nelson River.

**MR. J. WALDING:** Yes, but it's a DC line from the Nelson and an AC line from here to the border and so on, and the extension of it to Minneapolis.

**MR. A. DERRY:** Was the question, is it DC from the Nelson River to Winnipeg?

**MR. J. WALDING:** I understand that's what it was put in there for.

**MR. CHAIRMAN:** Clarification.

**MR. A. DERRY:** May I have the question again, please?

**MR. CHAIRMAN:** Is there a question here or not?  
The Member for St. Vital.

**MR. J. WALDING:** Yes, it had to do with the fact that the line from the Nelson River to Winnipeg is a great distance but it's a DC line, and yet a shorter distance from Winnipeg to the border is an AC line.

Perhaps it goes on to the larger question of how much more efficient is a DC line than an AC line. You mentioned about an 8 percent loss in power from the Nelson to Winnipeg and 2 percent from Winnipeg to the border.

**MR. CHAIRMAN:** Are we going to indulge in technical questions like DC and AC?  
Mr. Eliesen.

**MR. M. ELIESEN:** Mr. Chairman, I think we're attempting to answer the question which related to line losses and there was an estimate given related to those line losses. We can check with our own detailed records whether the information we've provided is accurate and, if not, we will make corrections; but the estimates that have been provided relate to what Mr. Derry has indicated.

**MR. J. WALDING:** I thank you, and that leads me to ask about transmission lines from the North.

Is the present high voltage direct current line from the North the only one? Is there just one or is it double line?

**MR. CHAIRMAN:** Mr. Fraser.

**MR. M. FRASER:** There are two high voltage direct current lines from the Nelson River to Winnipeg. There is also a continuous AC connection but it's not of major transmission capability.

**MR. J. WALDING:** Is that DC line currently used to its maximum and, if not, what is its capacity?

**MR. M. FRASER:** The existing DC line has the capacity to carry the output from Limestone so it's not being used to its ultimate capacity today.

**MR. J. WALDING:** And when it carries that output of Limestone, will that complete its capacity or will it have the capacity to carry additional power?

**MR. M. FRASER:** No, it will be stretched to its limit by that time.

**MR. J. WALDING:** What plans, if any, does Hydro have to build another DC transmission line for future power and have you considered the situation if that line should cease to function for whatever purpose in the middle of January? Now, how much of Winnipeg's power is carried by that line and what will our position be to be deprived of a substantial amount of power at a very critical time?

**MR. M. FRASER:** I think there are a number of questions there, Mr. Chairman. First of all, the development of Conawapa or additional generating capacity on the Nelson River beyond Limestone will require additional transmission. The indications are that that transmission will very likely be high voltage, direct current as well. The system will be designed as the system has in the past to provide reliability in the case of outages to any of the major circuit elements.

**MR. J. WALDING:** Is Hydro planning a second line at the moment?

**MR. M. FRASER:** Preliminary work has been done associated with the development of Conawapa which is still also in the planning stages, but preliminary work. This would be a third line. There are two existing.

**MR. J. WALDING:** Are there two separate lines on two separate lines of pylons or are they the two lines carried on one set of pylons?

**MR. M. FRASER:** There are two separate series of pylons but they share a common right of way, although there is separation distance between them. Overturning of one does not interfere with the other.

**MR. J. WALDING:** That was the next question. Does Hydro propose to put the next high voltage, direct current line along the same right of way, being close to it or some distance away where there is a more secure security factor?

**MR. M. FRASER:** Present planning is for it to be geographically remote from the other two.

**MR. J. WALDING:** That would make sense. How much would such a line cost Hydro? Give me a ballpark figure on it.

**MR. CHAIRMAN:** Do we have an estimate?

**MR. M. FRASER:** A rather rough estimate, I think, Mr. Chairman. But based on an in-service date, I think of 1997, we're probably looking at \$1.9 billion, which I

presume includes the termination equipment, the two ends plus the circuit itself.

**MR. J. WALDING:** That's as much as you expect Limestone to cost and presumably nearly as much as a Conawapa generating station would cost, would it not?

**MR. M. ELIESEN:** Mr. Chairman, we originally for 1992 in-service date had estimated Limestone would cost \$3 billion. The estimate was reduced to 2.52 billion for a 1990 in-service date. As I indicated at the last meeting of the committee, the estimate for Limestone has been significantly reduced by about 25 percent because of favourable bids, to \$1.9 billion.

Now, the estimates with regard to the future on Conawapa relate to a 1997 in-service date and have a number of assumptions related to them which may or may not be worked out. We are on the high side which is a very cautious and conservative way to be. We had assumed very high interest rates and high inflation rates and, happily, we are not experiencing them. The estimates with regard to Conawapa and the line that we refer to include estimates of interest of 11 percent and inflation of 7 percent. So these are relatively high estimates and that is reflected in the as-spent dollars estimates that are being provided both for the Conawapa Station and the Bi-pole Three.

**MR. J. WALDING:** I don't want a terribly accurate figure, but surely you wouldn't expect that Conawapa would be cheaper than Limestone?

**MR. M. ELIESEN:** Well, we don't anticipate it'll be cheaper. On the other hand, we didn't anticipate the degree to which we've received very favourable construction bids. If you reach a period of construction activity in terms of the international economic environment where you're raising funds or what you have to pay for goods and services reflect a non-inflationary environment, then you may end up paying less for Conawapa than you would for Limestone. It really depends on your crystal ball what inflation will be in the future.

**MR. J. WALDING:** The application to the National Energy Board for Limestone was predicated on the increase in domestic demand and the building of Wuskwatim and Conawapa. What is Wuskwatim — if I've pronounced it correctly?

**MR. M. ELIESEN:** At the time that we had made our forecasts to the National Energy Board, Wuskwatim, is a smaller generating station on the Burntwood River of approximately 300 megawatts, I believe. At that time, it was considered to be the most economic after Limestone. Because of changes that have taken place, and particularly what we're experiencing with Limestone, the Conawapa Station has been deemed to be the next most economic generating station, more so than Wuskwatim. So our sequence right now has Conawapa for 1997 as the next most economic generating station for construction by Manitoba Hydro.

**MR. J. WALDING:** It was also predicated on a 3.1 percent increase in demand. You gave us the figure,

I think, yesterday or Tuesday that demand forecast was down to 2.8 percent for the next 10 years, I believe, or something like that.

**MR. M. ELIESEN:** Mr. Chairman, that's correct. The current Hydro forecast on load growth is 2.8 percent for the next 10 years.

**MR. J. WALDING:** Which is about a 10 percent difference in what you had anticipated or estimated at that time. What difference is that 10 percent in the increase in the domestic demand make? Is it a significant one?

**MR. M. ELIESEN:** I am just checking, Mr. Chairman. We have been basically under the same load forecast for the last three years of a 2.7, 2.8 percent. The forecast that we submitted to the National Energy Board at that time and the one that we now still currently carry on our books has been basically the same, notwithstanding the fact that we have been experiencing some years, over the last three years, have been significantly higher. The 8.5 percent figure that was mentioned yesterday, followed by a 4.5 percent, and then we experienced a 2.5 percent in this last year, but the forecast has remained the same over the last three years.

We have noted other utilities in Canada, and in particular the Government of Canada, have increased load forecasts for their particular areas. Both Ontario Hydro and Quebec Hydro and Saskatchewan Power and B.C. are now starting to move up the degree to which their load requirements will be increasing in the future. This is similar to the experience in the United States in U.S. utilities doing the same kind of thing. We have been on the cautious side, and remain on the cautious side, of maintaining the same kind of load forecast.

**MR. J. WALDING:** I am not clear. If that load forecast has been 2.8 for some time, did that change since the application to the NEB was made with a 3.1 percent forecast, or was it in effect at that time?

**MR. M. ELIESEN:** We'll have to check and provide that information, but we have been basically on the same forecast. When we submitted our original application, we are doing it on the basis of the previous year forecast, and the new forecast came out just right during the period of time that we were involved with the National Energy Board hearings. There may have been a marginal adjustment which we provided details to the National Energy Board, but it was very marginal, and we have been operating under the same forecast ever since that time over the last three years.

**MR. J. WALDING:** But 10 percent is not marginal, is it? I mean load forecasts are critical. Even a percentage of one point can make a big difference over the years. The 10 percent is sort of insignificant.

**MR. M. ELIESEN:** We will check and provide the specifics but, in general, the kind of change, the small change that took place at that time, which we reported and provided to the National Energy Board, which then became the new basis for the evaluation, remained the

same on load forecasting. Since that time, as I have mentioned, since we were going with that 10 year forecast, we have experienced years in which they have been significantly higher. We are tracking it very closely because, obviously, you require significant lead time to bring onstream additional generation and we had experience, following the adjustment, of a lower forecast. We experienced, coming out of the recession, an 8.5 percent increase followed by a 4.5 percent. On a weather adjusted basis, it averaged about 5.1, 5.2. This past year it's been a smaller load forecast to about 2.5 percent. So we have been tracking this very closely in the context of our long-term forecast. We are still holding, though, to that long-term forecast of 2.8 percent.

**MR. J. WALDING:** I want to go back to the NEB application. We have heard a lot about what the NEB said in its report and how approving it was of Hydro. But I want to be clear what figures were given to the NEB on which it gave its approval. Was it the 3.1 percent of load forecast, was it 2.8, or did it change halfway through?

**MR. M. ELIESEN:** Well, with regard to the National Energy Board sale, we did extensive sensitivity tests on a whole variety of load forecasting, extremely low forecasts and extremely high load forecasts, and the basis in all those sensitivity examples which we made public, and which the National Energy Board evaluated, resulted in profits emulating from the sale. On one hand, if the load forecast would end up lower than what we forecasted, we would make more money from the sale; on the other hand, if it's higher, we would make less money. But in all scenarios presented, and there were 15 scenarios which took in other factors such as interest, inflation and water conditions, etc., in all the cases showed us to making a profitable arrangement under the export sale.

**MR. J. WALDING:** You still haven't answered the questions, Mr. Eliesen. Did the application go to the NEB based on a 3.1 percent figure or a 2.8 percent figure, or was it changed in the middle, and did you tell the NEB and change the figures accordingly? Or did they give their opinion based on information which was not up to date?

**MR. M. ELIESEN:** We'll get the actual information, but we provided the NEB the latest available information that Manitoba Hydro had, which was the latest forecast, and that was the up-to-date information upon which the NEB evaluated our particular sale. Now, in the context of whether or not the sale would have been profitable under different load forecasts, which obviously is a crucial consideration, we provided, as I mentioned, 15 different scenarios with all sorts of load forecasting — low, middle, high — and each particular scenario reflected a profitable arrangement. Now we will provide to you later on the specifics of the adjustment that took place, but the NEB was provided at the time with the latest information.

**MR. J. WALDING:** Mr. Eliesen, you told the committee just a few minutes ago that the figures, or the figure

2.8 had been in use by Hydro for several years. The NEB decision came down in February of 1985, which was one year ago, just over, and presumably the application went to them what — a year before that?

**MR. M. ELIESEN:** August.

**MR. J. WALDING:** I don't know the date. Maybe correct me if I'm not right.

**MR. M. ELIESEN:** Manitoba Hydro submitted our application in August of 1984. Hearings took place in October-November of 1984, and the decision came down in the end of February or March of 1985. The estimate on the load forecast was provided. Our application was based on the 3.1 percent at that time.

During that period of time, our load forecast changed and brought it down lower to 2.8 percent, and that was the information we submitted at the time of the hearings of the National Energy Board. The Energy Board evaluated our submission based on that new load forecast.

**MR. J. WALDING:** I'll quote you from Page 16: "Manitoba Hydro's base case cost recovery analysis of the sale sequence was based on the following major assumptions: 1. An average annual load growth rate in Manitoba of 3.1 percent over the period, 1984 to 2005; escalation rate of 5 percent into '85; 6 percent in '86; and 7 percent thereafter; and nominal cost of capital of 12 percent in '85, and 11 percent thereafter."

So Hydro was telling the Energy Board 18 months ago that the rate was 3.1 percent, and it subsequently found out that the rate was 2.8 percent. But the NEB doesn't say that in its report.

**MR. M. ELIESEN:** Mr. Chairman, we can provide the detailed transcript of the National Energy Board, where we provided the new load forecast and the new information based on the 2.8 percent forecast at the time, which was the basis upon which the National Energy Board made their overall evaluation.

**MR. J. WALDING:** How did that affect the cost recovery analysis on which the NEB made its decision, that 10 percent change? Did that alter the figures and by how much?

**MR. M. ELIESEN:** Mr. Chairman, as I have mentioned now, and I can quote from the National Energy Board Report, regardless of what load forecast we presented to the National Energy Board, whether it was 3.1 percent or 4.4 percent or 1.8 percent, I believe, or 1.7 percent, in every particular case the results reflected a profitable arrangement. That evidence is on the record. But the National Energy Board, in the context of evaluating our specific base case, did it on the basis of the latest load forecasts which we provided to the hearings when they started, which was 2.8 percent.

Now, I don't have the information available here today in terms of some of the adjustments between the original application, 3.1 percent to 2.8 percent, but all of that is on the public record, and we certainly can make that available without any difficulty.

**MR. J. WALDING:** I appreciate what you say, but are you telling me then that, when the load growth forecast

is lower, there will be therefore more power to export and it will be more economical to do so?

**MR. M. ELIESEN:** Mr. Chairman, what Manitoba Hydro presented to the National Energy Board were a number of scenarios under which, if there was a lower load growth taking place than what we had considered, then the arrangement would be much more profitable than our base case. In other words, there would be less cost involved in the context of making the sale. You would not have to advance further generating stations earlier with the sale as without the sale.

So in a summary way, with a lower load forecast or lower load actual experience taking place, we would make more profits from the sale than we would under a higher load forecast.

**MR. J. WALDING:** Conversely, if the demand should suddenly escalate in the province, that then would leave you less power to export, and so you would make less profit on it. Would that be correct?

**MR. M. ELIESEN:** Not less power to export. It would mean that we would have to advance stations much quicker than we had originally estimated. Therefore, the costs would increase with the higher load growth than our base case. At the same time, even under these scenarios, we would still make a profitable arrangement from the sale itself, obviously less so than the base case but still profitable.

**MR. J. WALDING:** Mr. Eliesen, can you or one of your experts here give me some correlation between a change in the load growth increase and the amount of time required to advance new construction? Does it work out at approximately .1 percent equals a half-a-year or something like that, any rough guesses?

**MR. M. ELIESEN:** We will try to get that information.

**MR. CHAIRMAN:** Mr. Tishinski.

**MR. W. TISHINSKI:** Mr. Chairman, working out some simple arithmetic here — and I caution the committee that it is rather simplistic but it maybe does provide the answer — if we take the Manitoba Hydro load at 3,000 megawatts and if we take 1 percent of that is 30 megawatts and a difference in forecast of .1 percent — let's say for the sake of argument, from 2.8 percent to 2.9 percent; that's .1 percent — then it's a difference of 3 megawatts. If you wanted to extrapolate this over a period of 10 years, it becomes 30 megawatts which, in relation to the size of the total capacity, is quite small.

This is simplistic. It doesn't take compounding into effect. We recognize that, but it does give us kind of a handle as to the kinds of numbers that we're talking about here.

**MR. J. WALDING:** While we have Mr. Tishinski who is — maybe you have your calculator there which would help. Could you give us some idea of what the present peak winter demand is and what it would increase at 3.1 percent over the next few years — to I think 1992 was given as the critical year — and what

the difference would be if it were an increase of 2.8 percent? What are we talking about?

**MR. M. ELIESEN:** Mr. Chairman, we can easily provide that information, but to provide a good estimate, we will provide that either in writing or at the next committee hearing.

**MR. CHAIRMAN:** It may be wiser to wait a while so we get the exact figures. It's still not precise, just an estimate.

**MR. J. WALDING:** Well, it is surely crucial on the commencement of the next construction. We have a surplus of what — about one-quarter of our present winter capacity?

**MR. M. ELIESEN:** Mr. Arnason at the Tuesday committee hearing made reference to the fact that we had a peak of about 2,950 or so. We have in-place capacity of about 4,000 and a little bit more including the system with Winnipeg Hydro. We have a reserved ratio of about 12 percent. So roughly again depending on water conditions, which is obviously an important factor, anywhere from 500 to 600 or 700 megawatts which we will be squeezing down as we increase our load going on to the next generating station.

**MR. J. WALDING:** Exactly. So the rate at which we run down that surplus, which we now have, is very crucial on the rate of load increase over the next few years.

**MR. M. ELIESEN:** That's correct, Mr. Chairman.

**MR. J. WALDING:** The question then is, what is the difference then between the present load forecast increase and a 3.1, 2.8?

**MR. M. ELIESEN:** We'll provide that in writing because it is publicly available but it did not impact the generating construction schedule per se. The member is quite correct, Mr. Chairman, that it is a very important variable and I don't have to repeat again what has been repeated ad nauseam in the context of public policy as it relates to utilities.

In the past, because of the high load growth that had been experienced by most utilities in the '60s and early '70s which went anywhere from 4 to 6, 7, 8 or 9 percent per annum, utilities had to build on the basis of the growth that they were experiencing and on the basis of which they anticipate in the future. The problem being is that there is a tremendous lead time required to put in place that kind of new additional generating construction.

So once the sunken investment is made and the supplies to most utilities in Canada and the United States, the world changed pretty dramatically and the load forecasts that had been experienced in the past obviously were not taking place. That's why we at Manitoba Hydro had been very very cautious of trying to ensure ourselves that we have the most realistic kind of load forecast in the future and to be on the cautious side and to be on the low side because in the past, we, as everybody else, were on the high side. But no

one anticipated OPEC and then the kind of energy shock impact on the economic system. As I mentioned earlier, notwithstanding the fact that other utilities are starting to increase their particular load forecast, we are still being relatively cautious in what we are projecting for the future.

Our great benefit is if there is any difficulty in the future, we have the benefits, given the extensive interconnections that we have — obviously it is going to be expensive — but there will be no shortages in Manitoba. We have the capacity of importing of about 1,500 megawatts from other connections given both the United States and the Canadian interconnections which we presently have. But our present load forecast, which we believe is a realistic and a good one for the future, is the one that currently we are going with.

**MR. W. TISHINSKI:** Just to clarify in one area, in terms of the overall capacity of the province, I refer you to the last page of the Annual Report of Manitoba Hydro for 1985, the hydraulic capacity is 3,504 megawatts. Of that 3,900 referred to, as an example 369 are from Brandon and Selkirk Thermal. We're down to less than 600 megawatts of surplus at capacity right now. So we don't have all that much surplus in terms of hydraulic capacity and that capacity is not necessarily the amount of energy we have at a given time. You have to have water to utilize that maximum capacity and a drought could change those numbers fairly quickly and substantially and that's why we are proceeding with Limestone.

**MR. J. WALDING:** I thank the Minister for that point, Mr. Chairman. To Mr. Eliesen again, if we have a range of — I think he said 500 to 700 megawatts as a cushion — that we will use over the next few years before the next generating station comes into effect, the interconnections which you mention are in place and presumably should we reach that limit maybe sooner than we would expect to or there are some delays on construction and we find ourselves short of power some January in a few years time, is there ability for us to import power and is it reasonably secure? Can we depend on it if it's the middle of January and the lights go out?

**MR. W. TISHINSKI:** We, of course, are interconnected with Saskatchewan to the west and Ontario to the east and with the map area to the south and we have an understanding with all of these utilities that in emergency situations that we would provide support to each other. We've examined these kinds of situations as to what would happen should the DC component fail or any of these kinds of outages, that we could survive such situations. We feel confident that should such circumstances arise that in an emergency situation we could purchase this power from our neighbours.

**MR. J. WALDING:** If we did experience some emergency like the failure of the DC line, would we be able to interrupt (a) interruptible exports outside of the province; and (b) firm exports of power?

**MR. W. TISHINSKI:** Yes, in fact the National Energy Board licence clearly spells out that the first power to

go, if you will, is the export and of course the Manitoba loads are safe for the last.

**MR. J. WALDING:** If that should happen, say, in January, would Manitoba Hydro be required to make up that power later in the year?

**MR. W. TISHINSKI:** If it's interruptible power, obviously not.

**MR. J. WALDING:** No, I'm talking about firm power.

**MR. W. TISHINSKI:** With the 500 megawatt NSP sale, I believe there's some clause which makes provision for a catch-up kind of situation.

**MR. J. WALDING:** Could you give me an approximate price for the cost of building a hydro or a thermal or nuclear power plant in dollars per megawatt as a round figure? I recall seeing those figures once before. Can you give me the up-to-date best guess?

**MR. M. ELIESEN:** We can get that information. We may not have it easily available today but maybe while staff are checking, the general scenario and really as it relates to our ability to export in a competitive way, particularly in U.S. markets, is that in the past the capital cost of a thermal station were less than that of a hydro and the difference really reflected to the much more O and M, "Operation and Maintenance" or the fuel costs associated with a thermal plant which were anywhere from 12 or 15 times more than a hydro station, the hydro being only subject really as long as there's water, then it's water rentals because there are very few people involved in the operation of a station.

**MR. J. WALDING:** I was only referring to construction costs, capital costs.

**MR. M. ELIESEN:** Well in capital costs, what has happened recently is — particularly in the United States because of the increased demands related to pollution control equipment — we have found that — and particularly in the context of the NSP sale — the capital costs of a thermal station, for example the one that's being built right now called Sherco 3, is higher than the capital and operating cost of a hydro station.

So even in — let us take the absurd situation where the costs of running a thermal plant is a zero. In other words there are no coal costs; you don't have to pay wages and salaries related to coal; there are no royalties; there's no transportation or anything of that. Even if it were zero, we would still make profits — and I'm referring my remarks obviously to the NSP sale — we would still have a profitable arrangement because the capital costs of the Sherco 3 plant is higher than the capital and operating costs of Limestone.

Now we can try to get the — (Interjection) — okay, go ahead Murray.

**MR. M. FRASER:** Mr. Chairman, the most recent estimate for Limestone, as an example, is \$1.94 billion and the estimated output is 1,280 megawatts and dividing those gives you approximately \$1,500 per kilowatt. I think that's the question that was asked.

**MR. J. WALDING:** \$1,500 a kilowatt — that's Hydro?

**MR. M. ELIESEN:** Sir, can we make a clarification?

**MR. CHAIRMAN:** There is a clarification to be made.

**MR. M. ELIESEN:** That's 1992 dollars. It's important to have the information provided on the same year base. The \$1.94 billion obviously reflects "as-spent" dollars in 1992. Now we can provide, if the member is interested, we will provide to members of the committee, discount it back and provide what it is in current day terms, so the comparisons can be obviously much more meaningful.

**MR. J. WALDING:** No I really didn't want it in that detail. I just want it as a rule of thumb. You've told me that a thermal plant now costs a bit more than a hydro plant. I think it used to be about half the price. I wanted it in those sort of terms, with an approximate figure, a round figure; and also a comparison of what a nuclear plant will cost.

**MR. M. FRASER:** Yes, Mr. Chairman, that is basically correct, that years ago it was assumed that the capital costs of thermal plants — and in fact it was true that the capital cost of a thermal plant was lower. Today, based on our Nelson River costs, thermal plants built throughout Western Canada are coming in higher than that.

Nuclear costs are again difficult to come by, but basically, I would say today they run about twice the cost that we have. One thing you have to keep in mind with a hydro plant is that there's no such thing as an average hydro plant. Every site has its own characteristics and its own costs associated with it, but I'm comparing these against our Nelson River estimates. So I'd say as a rule of thumb, the nuclear plant experience in the country is running at about twice that and the thermal experience is slightly higher.

**MR. J. WALDING:** Is Manitoba Hydro doing any very preliminary investigation on the possible sites for a nuclear generating station in Manitoba?

**MR. M. FRASER:** No we're not. We did some preliminary work some years ago and we filed in libraries all throughout the province the work that we had done to that date, but I think that nothing has been done on that since about 1978, from memory.

**MR. J. WALDING:** I wanted to ask Hydro if the figure provided by the National Energy Board of the year 2001 for a positive cash flow was still Hydro's estimate on the Limestone generating station?

**MR. M. ELIESEN:** I'm not sure, Mr. Chairman. I fully understand the question. We did provide to the National Energy Board a rough cash flow and at what point in time when the revenue was more than the estimated costs. That was on the basis if you waited until all the 12 years that the sale went through, at what particular time revenues would be much more than the cost and that's still the same. We haven't done any new scenarios since that time related to that piece of information we supplied to the National Energy Board.

**MR. J. WALDING:** That shows a pretty good understanding of the question, Mr. Eliesen. That's exactly what it was and had to do with the information that Hydro had given to the board, showing the cost benefit ratio which showed as being in the negative up until the year 2001, when it would break even, and from thereon, there would be a positive cost benefit. Now is that presently Hydro's estimate that in 2001 we'll start getting in more money than we have put out?

**MR. M. ELIESEN:** Well that was on the economic analysis and we haven't changed that basis, but at the same time, as in most investments, the question of how you amortize or how you do your cash flow, of course, as the member knows quite well, really depends on what accounting principles you apply.

Very few investments that are undertaken assume all the costs of the investment are written off in the earlier years; and that whole scenario is really going to be looked at in detail and the method upon which the sale would be impacted on the accounts really is still to be determined.

**MR. J. WALDING:** Mr. Eliesen, using the same economic method or forecast, which would show a \$1.7 billion profit, whatever that system happens to be, using that same system, does that figure of 2,000 and the year 2001 still reflect the time that it moves into a profitable cash flow situation?

**MR. M. ELIESEN:** Mr. Chairman, that was the estimate we provided to the National Energy Board and the benefit cost ratios, we haven't done any recalculations on that.

As I mentioned, how you want to treat it for accounting purposes is still to be determined. I believe there's been reference to that in the past, in terms of the discussions, but the factors, we haven't done any overall reassessment of those figures other than to note certain factors which still make us believe in a general way that the benefits are greater than the costs by about two to one, in the context of making the sale.

**MR. J. WALDING:** That money therefore would accrue to Hydro in the years from 2001 to 2005. Would that be correct, if it's in a loss position before that?

**MR. M. ELIESEN:** Mr. Chairman, no, that is not the situation. As I mentioned earlier, that is still to be determined on how it is going to be treated for the books of Manitoba Hydro, just like when you build a generating station, you don't write off the entire costs of the generating station in one or two or three years. It's amortized over a 67 year period even though they may last for 100 years.

The method by which the accounting treatment will be undertaken on the sale itself is still to be determined.

**MR. J. WALDING:** Do we know the accounting system on which we have been told that there will be a \$1.7 billion profit or something, whatever the figure was. I forget.

**MR. M. ELIESEN:** All that information, yes, has been provided and it is public. That was an economic analysis,

not a financial analysis, an economic analysis, based on a 12-year sale, with the anticipated revenue, given the formula that is set out in the contract with the assumptions made and the estimated costs related to making that sale.

Related to that, we obviously applied, because the world is to some degree uncertain, a whole variety of what we refer to as sensitivity analyses. While our base case reflected a \$1.7 billion profit in the context of making the sale, all the other sensitivity analyses that we did, which again we made public, both load growth and interest rates still reflected a profitable arrangement in the context of making the sale.

**MR. J. WALDING:** Mr. Chairman, I'm afraid I don't understand the difference between an economic sale and a financial sale.

**MR. CHAIRMAN:** Can we have some clarification?

**MR. M. ELIESEN:** Mr. Chairman, what I was attempting to provide to the member was the economics of making a sale of 500 megawatts to Northern States Power. How you would treat it on your accounting books, given the fact that there is still a relationship that has to be worked out between the government and Manitoba Hydro, given current policy, that method is still to be determined; and I've tried to draw the distinction between the financial analysis, which would include the method by which you would amortize a particular cost.

Specifically, I made reference to the fact that you have a generating station which costs \$1.94 billion, for example. Obviously you wouldn't write that off in one or two or three years. There's a basis upon which, in accounting terms, given the longevity of the asset, that you would apply on your financial books. In this regard, no decision has yet been made on the accounting treatment and its impact on Manitoba Hydro books on how you reported the profit, really, related to the sale for the 12-year period being indicated.

**MR. J. WALDING:** Doesn't Hydro have some experience in running generating stations over quite a long time and in making sales to other people? Why should this particular station and sale be any different from anything else?

**MR. M. ELIESEN:** Mr. Chairman, this is not a sale from a particular generating station. This is a sale coming out of the Manitoba Hydro system and the methodology, in terms of costing that sale, which was approved by the National Energy Board, referred to the costs of advancing generating stations, the costs associated with increased operation and maintenance and the cost in terms of losing particular interruptible sales as the cost of making this particular firm power sale.

Now it is unusual, in the context that Manitoba Hydro has not had a firm power sale. In fact, there are very few utilities who have had firm power export sales. So in that context the method by which Manitoba Hydro is party to the contract with the Manitoba Energy Authority, because a method of determining the net revenues has been announced by the government, so that method, that accounting treatment is still yet to be made.

If the load or if the activity was solely related to Manitoba Hydro, then we would apply the usual methods of depreciation, but what we are talking about here is the treatment of the net revenue or the profits of the sale. I'm telling the member that working out of the method is yet to be determined.

**MR. J. WALDING:** Are you telling me then that the figures will vary or could be different, depending on what accounting method is used?

**MR. M. ELIESEN:** No, Mr. Chairman. I'm telling the member that we have a sale to Northern States Power which is a profitable sale, which is a significantly profitable sale under a variety of scenarios; and the method of dealing with the profits from the sale have yet to be determined.

**MR. J. WALDING:** I'm not talking about that. I'm talking about the accounting methods that you mentioned which could be different, you said — no matter what we do with the profits — that's a separate question. The method of calculating what those profits will be, is that not a standard or is there not a usual electrical-hydro system method of doing these things?

**MR. M. ELIESEN:** No, Mr. Chairman, not in this particular case. We are dealing with a special long-term export sale over a 12-year period and, obviously, you have a generating station which is being advanced — one right now currently under construction — which has an amortization over 67 years. Now, nothing will be changed in Manitoba Hydro's books on the method by which we amortize Limestone. What my remarks are specifically related to the method by which the net revenues or the profits have yet to be determined and to specifically answer the member's question, is there a common formula under which an investment is written off in a particular year, or the costs of an investment are written off and there are different variations. Most investments, obviously, particularly if it's a profitable arrangement over a particular year, will want to report a profit in the earlier years over that 12-year period in this particular case.

**MR. J. WALDING:** I'm not just talking about writing off. I realize that there is a fairly standard 67 years, or something like that, rate of write-off of a generating station. I would be surprised if Manitoba Hydro had not made a firm sale before and I know that B.C. Hydro has made a firm sale of power, I believe, to Bonneville Power Company of 60-odd years and that B.C. and Newfoundland Hydro, or whatever the right term is, have made a firm export agreement in excess of 60 years. I mean surely other utilities have done that before and surely there is some sort of a standard accounting method which they use.

**MR. M. ELIESEN:** Mr. Chairman, the member's information is incorrect. There is no firm export sale by Newfoundland Hydro outside the country. There is no firm export sale by B.C. Hydro that we are aware of. The firm power sale, in fact, that we have negotiated with Northern States Power is the second one that has ever been negotiated in Canada, the first one being

with New Brunswick Power and Light on a unit — actually it's a nuclear plant — of which they sold participation shares to utilities in the U.S. Up until the Northern States Power sale, ours actually ended up being the largest firm power sale ever negotiated between a Canadian and American utility. It is not standard arrangement in this particular area.

Now, there's no question in the information that we've supplied to the National Energy Board or the sensitivity analysis we presented that we have a very attractive export sale. I provided the member with the reasons why our sale is going to be so attractive, particularly our cost structure, the cost structure of a Hydro system and the cost structure of the thermal units in the area to the south, and we provided that evidence to the National Energy Board which had been confirmed.

**MR. J. WALDING:** Two different points in there; first of all the B.C. sale and the Newfoundland sale. Would you check into those? I'm pretty sure that my recollection is that I have read that there were sales by each of those utilities for in excess of 60 years at a very low rate, something like 2 mills a kilowatt hour. Maybe they were not firm, maybe they were interruptible or they were under some other category, but it's my impression that they were locked into selling power or exporting power at a very low rate for a very long time. I'm sure that . . .

**MR. CHAIRMAN:** Mr. Eliesen.

**MR. J. WALDING:** Just a minute, Mr. Chairman, I haven't finished. I'm sure that there were other utilities which have entered into a similar contract to export power at fixed or very low rates which they now regret. I believe that Manitoba Hydro has had in the past a rather short term firm export market, and I believe to Ontario, but I may be wrong.

**MR. M. ELIESEN:** Mr. Chairman, there may be problems here in the definitions that are being utilized: (1) my remarks related to export sales outside the country and (2) we have not involved ourselves in a long term 60 or 65 year sale at fixed power rates.

**MR. J. WALDING:** I didn't say that.

**MR. M. ELIESEN:** Well, there may have been an inference there related to an example provided with Newfoundland Hydro.

On the Newfoundland basis, that wasn't an export sale outside the country. That was a long 60 or 65 year sale to Quebec Hydro, the financing of which was provided by Quebec Hydro and the member is right that it was done under fixed rates because at that time no one assumed inflation.

With regard to B.C., the member may be referring to the Columbia River Treaty in which long-term water rights were provided to the United States. We will check, but as far as my knowledge is available on this particular area, we are not aware of any firm export sales by British Columbia Hydro Authority. They are currently attempting to enter into firm long-term export sales, particularly with markets in California, but to date have not been successful.

**MR. J. WALDING:** I'm sure we would all appreciate it if you would make those enquiries, Mr. Eliesen. I believe that the B.C. sale was to Bonneville Light and Power in Washington.

**MR. M. ELIESEN:** We will check on that, Mr. Chairman, and bring back information or provide it in writing.

**MR. J. WALDING:** Thank you.

The other point that you made that you had given us figures on, a certain amount of profitability there, but you're telling the committee that the amount that it is depends on the accounting method?

**MR. M. ELIESEN:** No, Mr. Chairman.

I'm telling the committee that on the information that we supplied to the National Energy Board that we had calculated a sale in which the revenues of the sale would exceed the costs of making the sale by an estimated amount of \$1.7 billion, that those assumptions obviously included everything from interest rates, inflation rates, coal prices, load forecast, etc. We undertook further — obviously because there was some element of risk in this area — a whole variety of sensitivity scenarios. It may be useful to quote exactly what the National Energy Board had to say about this particular area.

"In this case at hand, the board notes that a sensitivity analysis has been concluded in the applicant's cost recovery analysis. The board accepts that the sensitivity analysis addresses risk and demonstrates that under conditions of lower or higher interest rates, and escalation rates, and different load growth rates, benefits to the applicant — that is Manitoba Hydro — remains substantial. The board also notes that the export contract and the pricing formula contain features and provisions which would minimize the impact of the applicant's revenues of significant reductions in Sherco 3 costs resulting from the United States Government actions or changing economic or financial conditions.

"Based on these considerations, the board is satisfied that there is sufficient evidence to show that the risks associated with the proposed export have been adequately examined and are within acceptable bounds."

That is still the current position by Manitoba Hydro.

**MR. J. WALDING:** Since the NEB does not itself do any calculation or supplying of figures and it only reviews what Hydro has in fact told it . . .

**MR. M. ELIESEN:** No, Mr. Chairman. I'm shaking my head because that is not the fact. The board has an extensive staff analyzing in detail and questioning the figures that have been provided and the basis for those figures and has its own independent staff which interrogated, quite frankly, the witnesses provided from Manitoba Hydro in a whole variety of the scenario. So they have an adequate, professional staff which investigated and came out with the similar conclusions that Manitoba Hydro did.

**MR. J. WALDING:** I thought that's what I said.

**MR. M. ELIESEN:** If the honourable member said that, then my remarks were unnecessary.



**MR. J. WALDING:** So when they approved your figures that there would be a positive cash flow by 2001, was that taking into account that all of the costs of the generating station would be paid by that time or only those proportions of the costs of a 67-year amortization?

**MR. M. ELIESEN:** I'll make a general comment on the costs of making the sale, which was included in my remarks before this committee last year.

Information on the costs incurred by Manitoba Hydro in making the NSP sale were presented to the committee last year. This showed that the capital and interest costs incurred by advancing the next three stations in Manitoba Hydro's generating sequence, together with the associated operating and maintenance costs and the costs arising from the reduced surplus sales, occasioned by the sale, were some \$305 million, 1984 discounted dollars.

I reported our view that the costing methodology was the appropriate one to use in the circumstances and was that followed by other Canadian utilities when evaluating similar projects. I also noted we look forward to evaluating the views of others regarding costing methods and results.

These matters were fully discussed at the NEB hearings where witnesses from Manitoba Hydro were available for cross-examination. In their decision, the National Energy Board agreed with our assumptions and methodology on cost apportionment, including that the advancement costs were, "in the board's view, the appropriate costs to be assessed against the export."

Because obviously this area had been subject to some controversy with different formulas or different suggestions being made, that's why we provided to the National Energy Board three detailed volumes on the background information and our assumptions behind making this particular sale.

Furthermore, we provided witnesses to that hearing, which took place over 14 days, and we asked anyone else who had differing methodology or different cost assumptions to come forward for obviously independent evaluation from the National Energy Board. No one, repeat, no one came forward suggesting different methodologies, different cost estimates with regard to making the sale.

The National Energy Board staff on its own, independently, evaluated our particular figures, our submissions and came out with similar conclusions which resulted in the National Energy Board coming out with the decision that they did. That to us is the litmus test of our particular presentation and our, not only belief, but the figures reflected that this will be a very profitable sale, not only to Manitoba but to the people of Manitoba.

**MR. CHAIRMAN:** The Member for Ellice.

**MR. J. WALDING:** Mr. Chairman, I hadn't finished on that point.

**MR. CHAIRMAN:** The member has been on for almost more than one hour. The other members have equal rights.

**MR. H. SMITH:** It's just a simple question. It can be easy. You can go back to the Member for St. Vital.

By the way, I should say at this point that I appreciate the questions from the Member for St. Vital because it makes a lot of issues very clear to me too. It's very, very useful; it's a contribution I think that has helped this committee.

I would like to ask Mr. Eliesen, what about the National Energy Board hearing on this whole matter of export sales? Could not the Opposition have made a presentation to counter our information to, in effect, inform them? — (Interjection) — But they were not successful, I gather, in their . . . Please explain that.

**MR. CHAIRMAN:** Is that a brief question?

**MR. M. ELIESEN:** Mr. Chairman, the National Energy Board entertained submissions by all individuals who are interested in the matter and there were quite a number of interveners. Intervenors made presentations but in this entire area which I've been addressing this morning, no one, but no one questioned our witnesses, no one, but no one came forward suggesting alternative costing analyses, etc. To do so, obviously, would have required analysis and independent questioning by NEB staff.

The only witnesses there were from Manitoba Hydro and we allowed ourselves to — obviously the process is such, we had to submit answers to any questions or any interrogation related to our methodology and our assumptions.

Most of the questions being addressed, and particularly in this area of costing, came from the staff of the National Energy Board because they had to prove to the commissioners that what we had presented was valid or invalid or had X risk or no risk, etc. Of all the National Energy Board reports that had been produced — and this is a federal body, independent — this is one report which came out with the most satisfying recommendations of an export sale.

The reason why the hearings took so long is because the board wanted to allow, recognizing the importance of the subject matter here in Manitoba, it was the longest hearings ever undertaken by the National Energy Board over a two-week period of time, allow the most broadening kind of questions to be asked; but this particular area, which we felt very very satisfied with at the end, gave us a ringing endorsement and a stamp of approval.

Anything that we've seen since that time certainly has reconfirmed our basic analysis that the 500 megawatt sale to Northern States Power is a very profitable one and a very beneficial one to the people of Manitoba.

**MR. CHAIRMAN:** The Member for St. Vital may now resume his line of questioning.

**MR. J. WALDING:** Thank you, Mr. Chairman. It has been the custom in committee meetings for a member to ask a line of questions and not to yield to some other member until that questioning is completed. I would hope that we would continue that . . .

**MR. CHAIRMAN:** The Chair recognizes that convention with the exception that some members may also have a little interruption once in a while. There should be a

balance because a member can monopolize the whole proceeding to the exclusion of all others.

The Member for St. Vital.

**MR. J. WALDING:** Thank you, Mr. Chairman, and I did sit here on Tuesday morning for some two-and-a-half hours without making a contribution towards the committee, other members saying their piece and posing their questions and this morning happens to be my time and I hope to complete what I have to say by 12:30.

**MR. CHAIRMAN:** No rush.

**MR. J. WALDING:** Anyway, I'll try the same question again, Mr. Chairman, if I may.

I would like to know from Hydro, when submitting the information to the National Energy Board, on which they say — and presumably they confirm your reports — that the year 2001 will show a positive cost flow.

Now, in submitting those figures, did that include the entire costs of the generating station being included in that figure by 2001, or did it only include that portion of the generating station which would be amortized over 67 years?

**MR. M. ELIESEN:** Two points, Mr. Chairman. First of all, those were not the National Energy Board figures. Those were Manitoba Hydro's figures that we presented to the National Energy Board and the National Energy Board, in its report, repeated the information that we had provided to them.

Point No. 2 is, as I've mentioned earlier, the costs of making a sale are not costs associated with one particular generating station. They are systems costs. The sale takes place over a 12-year period and the methodology, which I've made reference to before, is the impact on the system as a result of making the sale as opposed to not making the sale. There were three main cost areas, which I've already indicated, and those are the costs that are referred to in the National Energy Board report.

**MR. J. WALDING:** Mr. Chairman, just so that I get that clear, are you telling me then that in arriving at that 2001 year, that Manitoba did not include any costs of Limestone?

**MR. M. ELIESEN:** No, Mr. Chairman. Obviously there is a component of Limestone costs included because we are advancing Limestone two years in the context of making the sale. So there is a cost and those are the costs — it's the costs of early construction of Limestone. Limestone, as I had mentioned earlier, was required for Manitoba with first power coming in, in late 1992. What we evaluated is the cost, not only of Limestone, but there are three stations that would have been impacted from our forecasts at that particular time. The stations are Wuskwatim and Conawapa. Those are the capital costs and the interest costs that were appropriated to the sale.

The second other major area of the costs, as what I indicated, is the associated operating and maintenance costs with those three stations and the third cost is the reduced surplus sales occasioned by making that 500 megawatt sale.

**MR. J. WALDING:** If there were then some costs of Limestone included in that figure to arrive at 2001, what were they or what do they represent? How was it arrived at? Is it part of the capital cost and, if so, what part?

**MR. M. ELIESEN:** Well, Mr. Chairman, I don't have the information right handy at this moment, but we can easily provide that because it's on the public record of the specific capital costs associated with making the sale and we can provide that to the member.

**MR. J. WALDING:** So by 2001, Limestone would have been entirely paid for — maybe we'd borrowed money — but the bills would have been paid for its construction, is that right?

**MR. M. ELIESEN:** No, that is not right, Mr. Chairman. What is right is that the costs associated — the methodology — I'm sorry. Maybe I'm not making myself clear to the honourable member. The cost methodology in making the sale is to try to identify what were the main component costs with the sale as opposed to without the sale, in the three main areas I referred to earlier.

If you are going to advance generating stations, which you would be in the context of the 12-year sale, then those are the costs attributed to the sale and that's the specific information. Now we can provide — because those components have been broken out and we don't have them handy right now — but we can provide that to the member.

**MR. J. WALDING:** I'll ask the same question again. By 2001, would Limestone Generating Station's construction costs have been paid for?

**MR. M. ELIESEN:** Sorry, if I understand the question correctly, all the expenditures would have been paid when the station came in, by 1993.

**MR. J. WALDING:** Good, that was the question.

**MR. M. ELIESEN:** Okay.

**MR. J. WALDING:** Yes, so they would have.

So would all of those costs be included in that figure in arriving at 2001, or only some part of it?

**MR. M. ELIESEN:** Well, I have already indicated to the member the methodology and clearly the costs of making the sale are the costs associated with advancing three generating stations, plus the operation and maintenance related to those generating stations, and plus that smaller category related to reduced surplus sales.

**MR. J. WALDING:** I'm not quite sure what the additional cost will be on Wuskwatim and Conawapa if they wouldn't have been built by that time. Can you explain that?

**MR. M. ELIESEN:** We can provide that information. That is all on the public record, the specific costs associated with the advancement of those three generating stations.

**MR. J. WALDING:** I don't want to make it too complicated. Why is it going to cost more for something that you haven't built yet? I mean, why are there additional costs there?

**MR. M. ELIESEN:** Well, let me try again, Mr. Chairman. Limestone Generating Station, according to Manitoba Hydro's own load forecast for Manitoba's own need, assumed Limestone coming in, in 1992, Wuskwatim coming in — I'd have to check on the original schedule, excuse me one second — 1997 and let's say Conawapa 2000-and-something, we'll say. That was the original schedule and unfortunately we don't have the information right here at the moment, but that is on the public record.

The results of making the sale, when you have 500 megawatts impacted, you have to advance generating stations. You have to advance those three generating stations over the 12 years and you're making a 12-year sale. So those are the costs attributed to the sale itself. The costs of advancing generating stations during that period of time, 12 years, in order to meet the sale. I hope that provides perhaps a greater clarification.

**MR. J. WALDING:** It's getting there.

**MR. M. ELIESEN:** We're getting there. Well, that's encouraging.

**MR. J. WALDING:** I'm sorry I'm slow. It takes me a while to absorb this.

**MR. M. ELIESEN:** No, Mr. Chairman, this is a very complex area and that's why we submitted three volumes of material to the National Energy Board . . .

**MR. J. WALDING:** Which I didn't read.

**MR. M. ELIESEN:** Well, we certainly can provide that for the member, if he would like.

**MR. J. WALDING:** Well, don't bother because I wouldn't read it anyway.

**MR. CHAIRMAN:** We are about to adjourn at 12:30 but, before we do, may I remind all the members of the committee that the Standing Committee of Public Utilities and Natural Resources will again meet in this room, 255, on Tuesday, May 27, 1986, and also tentatively on May 29, 1986 at 10:00 a.m., to consider reports of Manitoba Energy Hydro-Electric Board and Manitoba Energy Authority.

The Honourable Minister.

**HON. V. SCHROEDER:** Mr. Chairman, this coming next Tuesday, the Energy Authority will not be available. We can certainly have Manitoba Hydro and continue with this. I assume that we will have another 2.5 hours worth anyway. But the staff of MEA, which you recognize, I trust, is not large, is occupied that day.

**MR. CHAIRMAN:** The Member for Lakeside.

**MR. H. ENNS:** I appreciate that information from the Minister. I would, as a matter of courtesy, indicate to Manitoba Hydro and staff that it would be our intention to, at the next meeting, pursue at some length the ongoing question of liability and the arrangements and proceedings, having to do with the Northern Flood Agreement. That would be the nature of questioning of principle concern to our group, along with some finance.

**A MEMBER:** Well that's the Energy Authority, so it will have to wait until Thursday.

**MR. H. ENNS:** That's for the Energy Authority. Fine, thank you.

**MR. CHAIRMAN:** To clarify, on Tuesday, it will be limited to Hydro.

**MR. H. ENNS:** Committee rise.

**MR. CHAIRMAN:** Committee rise.

**COMMITTEE ROSE AT:** 12:30 p.m.