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Legislative Assembly of Manitoba

STANDING COMMITTEE
on
PUBLIC UTILITIES
and
NATURAL RESOURCES

33 Elizabeth II

Chairman
Mr. Phil Eyler
Constituency of River East

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MANITOBA LEGISLATIVE ASSEMBLY
Thirty-Second Legislature

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LEGISLATIVE ASSEMBLY OF MANITOBA

THE STANDING COMMITTEE ON PUBLIC UTILITIES AND NATURAL RESOURCES

Thursday, 21 June, 1984

TIME — 8:00 p.m.

LOCATION — Winnipeg, Manitoba

CHAIRMAN — P. Eyler (River East)

ATTENDANCE — QUORUM - 6

Members of the Committee present:

Hon. Messrs. Kostyra and Parasiuk.

Messrs. Brown, Enns, Eyler, Fox, Harapiak, Malinowski, Manness and Scott.

APPEARING: Mr. Marc Eliesen, Deputy Minister of the Department of Energy and Mines.

Mr. Art Derry, Manitoba Hydro

Mr. Paul Thompson, Manitoba Hydro

Mr. J. Arnason, Manitoba Hydro

Mr. Charles Kang, Manitoba Hydro

MATTERS UNDER DISCUSSION:

Annual Report of Manitoba Energy Authority for the year ended March 31, 1983.

* * * *

MR. CHAIRMAN: The Committee will come to order. We are considering the Annual Report of the Manitoba Hydro-Electric Board for the year ending March 31, 1983.

Does the Minister have an introductory statement?

HON. W. PARASIUK: Mr. Chairman, I think that we can move right into the proceedings. My thought was that we would have the Manitoba Energy Authority make a presentation on the sale. We have Manitoba Energy Authority here and we have Manitoba Hydro here. We can have a presentation on the sales and discussions on the sales and then, if there was time today or in subsequent meetings of the Public Utilities Committee, we could get into other matters pertaining to Hydro that have been dealt with in the past in public utilities committees.

With that, I would call on Mr. Eliesen, the Chairman of the Manitoba Energy Authority, to lead off on behalf of the Manitoba Energy Authority.

MR. M. ELIESEN: Thank you, Mr. Chairman.

I have a brief opening statement which I believe is being distributed at the present time.

Since this is the first time that the Manitoba Energy Authority has come before the Public Utilities Committee of the Legislature, it may be useful to provide a brief historical background.

The Manitoba Energy Authority Act came into effect on July 2, 1980. The Authority is responsible for developing and implementing policies to ensure the long-term stability and availability of electrical energy supply to Manitobans. It is also responsible for negotiating export and import sales of electrical energy into and from other provinces and to and from the United States.

The first Board of Directors of the Authority was appointed on March 18, 1981, and was chaired by Mr. Paul E. Jarvis, the then Deputy Minister of Energy and Mines.

The present board is chaired by myself, with Mr. Saul Cherniack, Chairman of the Manitoba Hydro, serving as Vice-Chairman. Other members of the board are Mr. John Arnason, President and Chief Executive Officer of Manitoba Hydro; Mr. Alan Puttee, who is the Assistant Deputy Minister of the Energy Division of the Department of Energy and Mines; and Ms. Patty Park, Special Assistant to the Minister of Energy and Mines. The board is assisted in its efforts by staff of the Department of Energy and Mines and Manitoba Hydro.

As stated by the Minister of Energy and Mines, the Energy Authority has under way a number of discussions related to the possibility of establishing an aluminum smelter in Manitoba and in the field of electricity exports.

A Letter of Understanding was signed in April with the Aluminum Company of America to undertake a feasibility study for the construction of a $700 million aluminum smelter in Manitoba, which would employ 600 persons on a permanent basis and create 2,000 person years of employment over the three to four year construction period.

The agreement, which has been made public and tabled in the Legislature, states that based on favourable results of the joint study and of the discussions between the parties, Manitoba and Alcoa would then expect to sign a smelter development agreement by March 31 of 1985.

Following direction provided in overall government policy, a number of initiatives have been undertaken by the Energy Authority regarding export electricity sales.

As members of this committee are aware, a contract was signed just very recently on June 14, with Northern States Power of Minneapolis, for an estimated $3.2 billion power sale of 500 megawatts over a 12-year period commencing in 1993.

For Manitoba it is, I believe, a good business deal. Studies undertaken by Manitoba Hydro show a benefit/cost ratio of 2.2:1 for this sale which means a profit of approximately $1.7 billion over the life of the contract.

The contract with Northern States Power has been tabled in the Legislature by the Minister of Energy and Mines. Further extensive and detailed material related to this contract will be included in the application by Manitoba Hydro for an export license from the National Energy Board. This information will of course be made public and subject to public scrutiny and participation at subsequent hearings undertaken by the Energy Board.

Without the N.S.P. sale, the current Manitoba Hydro load growth forecasts require the Limestone station to be in service in 1992. Given a minimum six year construction schedule, start-up would have been in 1986.

The N.S.P. sale advances the in-service date for the Limestone generating station to 1991 at the latest. Current studies aimed at determining the most economic time to begin Limestone are now being undertaken and as the Minister has already stated in the House, a decision is to be taken by the fall of this year.

Building the Limestone dam would mean an expenditure of approximately $3 billion with about 65 percent to 70 percent estimated to be sourced here in Manitoba. In addition, directly and indirectly, the project would generate more than 17,000 person years of employment.

The Manitoba Energy Authority has also been involved with other utilities regarding export sales.

Following discussions over the last two years, a Letter of Intent has been signed with the Western Area Power Administration of Golden, Colorado, regarding a possible export sale of 1,200 megawatts of electricity over 35 years beginning in 1993-94. The details of this letter were made public and tabled in the Legislature by the Minister on June 1st.

Discussions on energy sales are being held with other groups of U.S. utilities.

Since June of 1982, the Energy Authority has been discussing with eight electric utilities in the Wisconsin area, the possibility of a long-term sale of about 1,000 megawatts over 20 years of electrical power and energy from Manitoba. Phase I of a joint study was successfully completed in 1983 indicating the possibility of substantial benefits from a sale. A detailed Phase II of the study is expected to be concluded by August of this year.

A similar set of discussions has been under way for nearly one year with the Minnesota-Wisconsin Power Suppliers Group - which is comprised of nine investor-owned and co-operative utilities. The amount of firm power being considered for export is approximately 1,100 megawatts over a 20 to 30 year time period.

Both parties have now agreed that mutual benefits are sufficient to warrant moving the discussions to the top of sale principles.

On a more smaller scale, the Energy Authority has just recently concluded an agreement to approve export of 40 megawatts of power to Otter Tail Power Co. of Fergus Falls, Minnesota, over existing lines this summer. Discussions on a longer-term firm power 60 megawatt sale to Otter Tail starting in 1990 are also under way.

In summary, given the number of opportunities that have now been put in place, the Energy Authority believes it has been extremely successful in implementing a strategy of diversifying Manitoba's opportunities in order to obtain the maximum economic benefit from the province's abundant renewable resources.

I would be pleased now to provide to members of the committee a more detailed presentation on the background of the recently concluded Manitoba-Northern States Power Sale.

Following a concluded Memorandum of Understanding between the parties, the actual contract was signed on June 14, just a few weeks ago, a week ago actually, and quickly made public and tabled by the Minister of Energy and Mines in the Legislature. I have additional copies here for members of the committee. I may not have the copies that were already tabled.

Given the highly technical aspects of the contract, I understand that the Minister has circulated a short summary attempting to describe the main articles of the contract and I have brought along copies of that short summary as well.

In addition, I believe the Minister has also circulated a summary outlining the main assumptions used in analyzing this energy sale and we have additional copies on that here for circulation. I would like now to provide to the committee an overview of the NSP sale.

First I'll make some general observations and then Mr. Art Derry and Mr. Paul Thompson of Manitoba Hydro can present a specific benefit cost evaluation of the contract from Manitoba's perspective.

It is important to have a good understanding of the distinction between interruptible and firm power sales. Manitoba has, and always will, have lots of interruptible power to sell because we are hydraulic. Manitoba Hydro have to build for low water years to guarantee Manitoba's electrical load. In all other years, most of the time, we obviously have surplus energy to sell. And, given the recent rainfalls that are coming down, we'll probably have more surplus energy to sell. We are lucky we have adjacent markets in Canada and the United States to sell it to. We obtain the highest prices available. These revenues, which were over $100 million last year, keep Manitoba rates down. Thus, comparing rates on interruptible markets and Manitoba's domestic rates is similar to comparing apples and oranges.

However, the NSP deal is a firm power sale. Manitoba Hydro guarantees to supply the power to NSP with the same certainty that Manitoba Hydro guarantees to supply a Manitoba homeowner or business.

This has many implications:

Construction of facilities have to be advanced to service the sale; thus there are costs associated with making the sale; and

the price reflects the certainty of delivery, that is, the price is higher than what Manitoba receives from other exports, these other exports being interruptible energy exports.

When the costs and revenues of the NSP deal are compared it shows, as I said earlier, a 2.2:1 revenue cost ratio. I stress, this does not include any employment or income benefits the province will enjoy as a result of the advanced construction schedule of the Limestone generating station which is the next plant.

Some background as to why we believe the deal is so good for Manitoba. The price we receive is based on 80 percent of the cost of generating electricity from a coal fired plant such as Sherco 3, which is the next plant coming into service, it's an actual plant coming into service in 1988 in Minneapolis.

Capital charges of that coal fired plant are higher than the capital charges of Limestone.

Second, operational charges, mainly the coal, are 15 times higher than Limestone and increase with U.S. coal prices.

In this context, it is useful to provide some additional commentary on the U.S. environment and the ability to generate electricity in the states nearby Manitoba.

As members of the committee may be aware, there is little hydraulic development possible in these areas.

New nuclear generation is either subject to moratoriums or prohibitive economic costs in planning and construction.

Thus coal generated power plants appear to be the only alternative available in these areas either for replacement or increased load growth.

But any new coal plant is now required to install expensive pollution control facilities - the acid rain problem - which together with higher capital charges, mean higher total capital costs than a hydraulic system generating station such as the plant scheduled to come into operation in Manitoba, the Limestone generating station.

Furthermore, the most important cost of producing electricity from a thermal plant is the cost of coal. In this plant scheduled to come on stream in 1988, Sherco 3, in its case over one-third of all costs - and by all costs that includes fixed and operational - are accounted for by coal. By comparison, the fuel costs associated with a hydro station consists only of water rental payments. It is useful to note that over the last 10 years U.S. coal prices have increased well above even the average rate of inflation, at 14.7 percent per annum or an average annual real coal price increase of 5.8 percent. In addition, it's useful to note Sherco 1 and Sherco 2, the plants that are adjacent to where this new Sherco 3 is presently being built, their coal costs have tripled from 5.9 mills/kWh in 1976 to 17.6 mills/kWh in 1983. For comparison purposes with the coal pricing in Canada, average Alberta coal costs were 2.7 mills/kWh in 1976 and 5.4 mills/kWh in 1983.

In summary, since our electricity is cheaper - in fact, there are sufficient surveys available showing that Manitoba Hydro's prices are the lowest in North America - and since N.S.P.'s prices are twice as high, both for residential and industrial consumers than those here in Manitoba, we can attract U.S. buyers and make a substantial profit supplying them with the necessary energy.

At this point I'd like to ask Mr. Derry and Mr. Thompson to make their overview presentation.

Following that we woul0 be pleased to attempt to answer any questions that members of the committee may have regarding this matter or any other area regarding the activities of the Manitoba Energy Authority.

MR. CHAIRMAN: Mr. Derry.

MR. A. DERRY: Mr. Chairman, I'll be presenting the analysis that Manitoba Hydro has prepared on the costs and benefits of the 12-year 500 megawatt sale to Northern States Power. All the pertinent assumptions are in the two pages that have been distributed. This sale will be supplied out of the Manitoba system and not from a specific generating plant. It is only related to Limestone in regard to the availability of the 500 megawatts and you will see that in the agreement under Article I.

To develop the costs of making the sale, it is necessary to develop generation sequences for both the sale and the non-sale case during the 12 year period which we are considering, and in this case that is from 1991 to 2005.

The first overhead is the generation plants that will be required during the sale period for the non-sale case, which we call the base case - you'll see that the requirements of these plants are: Limestone - 1992; Wuskwetim - 1999; Conawapa - 2002. To make the sale we have to advance plant when making a 500 megawatt sale. Therefore Limestone is advanced to 1991, Wuskwetim to 1995, and Conawapa to 1998. We have an advancement of one year of Limestone, four years of Wuskwetim, and four years of Conawapa. The sizes of these plants: Limestone is approximately 1,275 megawatts; Wuskwetim is 300 megawatts, and Conawapa is 1,300 megawatts.

A MEMBER: Can you go over those again? Over the three figures?

MR. A. DERRY: The figures? Yes. Limestone, 1,275 approximately. These are approximate numbers. Wuskwetim 300 and Conawapa 1,300 megawatts.

A MEMBER: Does the Conawapa figure include the reduction in Limestone's capacity when Conawapa comes on stream?

MR. A. DERRY: These are net values.

A MEMBER: I'm not talking energy, I'm talking capacity.

MR. A. DERRY: No, these are net values which take into account the condition you are talking about.

Now we have to develop two sequences of generation here to cost out the sales, so this is what we have done in this case. We have a base case and a sale case. Now from these two cases, we simulate our system over the number of years of the sale, to develop the costs of making the sale.

Now the next overhead is the cost of making the sale and these costs are all expressed in 1984 dollars, and they are the cost of each year over the sale, discounted back to 1984. We have to compare things in the same dollars, so we are using 1984 as our base here.

Now the cost of advancing facilities on the previous overhead, I indicated that we had to advance Limestone one year, Wuskwetim 4, Conawapa 4, so there's a cost involved and when you put in anything earlier it costs you money. Now that cost, in our analysis, is $206 million.

There is an operating and maintenance cost involved. The plant has gone in early; there's operating and maintenance costs. That is $49 million.

There is a reduction in the revenue from surplus sales of $66 million. Now part of the energy of the sale would come out . . .

MR. CHAIRMAN: Mr. Enns.

MR. H. ENNS: Are these annual figures?

MR. A. DERRY: Those are the annual figures brought back to 1984 and accumulated.

MR. CHAIRMAN: Mr. Manness.

MR. C. MANNESS: Are these basically all opportunity costs?

MR. A. DERRY: These are the values we would receive under the assumptions we made, in that assumption sheet that was passed out to you, on the interruptible export sales.

MR. CHAIRMAN: Mr. Filmon.

MR. G. FILMON: That's the total capital value for the advancement of the plants to give us the opportunity to make the Northern States Power sale?

MR. A. DERRY: Under the costs of advancing, yes, the total capital.

MR. G. FILMON: Is any other portion of the capital costs of construction of any of those plants assigned to the Northern States Power Agreement?

MR. A. DERRY: Like I indicated, we have to look at a sequence of development of the base case without the sale, and a case with the sale. This cost you see up there, is the cost of making that sale. That's what we had to do.

MR. G. FILMON: Is any other portion of the capital costs invested in those plants attributable to the Northern States Power Agreement for the purposes of your calculations?

MR. A. DERRY: That is all the capital costs of each plant. It's a difference between two sequences.

MR. G. FILMON: So Mr. Derry is telling us that despite the fact that the Limestone generating station has a capital cost of $3 billion to install 1,275 megawatts of capacity, all we are charging to the cost of making the sale to Northern States Power in the basis of capital, is $321 million, about 10 percent of that plant's value.

MR. CHAIRMAN: Mr. Parasiuk.

HON. W. PARASIUK: I think that Mr. Filmon does not distinguish between discounted dollars and as spent dollars, when you make that statement.

What you're talking about is all the dollars over the period of the sale, discounted back to 1984 dollars.

When I indicated the price of a cost of Limestone, I indicated clearly that these were as spent dollars over the cost of building Limestone over a six-year period to its completion. That is the way that Limestone costs have been announced in the past.

I think also it might help, Mr. Chairman, if the Hydro people could, in fact, conclude their presentation and then the questions be asked for clarification because I think they have a presentation. I think they should be allowed to finish it and then it might be better, then they could go back to the pertinent overheads and discuss it in specifics.

MR. A. DERRY: As I indicated, this overhead is the cost of making the sale and we had the cost of advancing facilities of $206 million; operating and maintenance costs, $49 million; and the reduction of revenue from surplus sales, $66 million; for a total cost of $321 million in 1984 dollars - discounted to 1984 - $321 million and that is the cost of making this sale over the 12-year period.

This next overhead shows the yearly revenues we expect to receive from the NSP sale in current dollars of the year, in the year they occur. Starting in 1993-94 we have a value of $221 million, and as has been indicated, this is based upon 80 percent of the Sherco capital costs and operating costs. It increases due to escalation in the fuel from $221 million up to $322 million by year 2005. This figure of $3.2 billion that has been used is a summation of those revenues, 3.19.

Now if we want to compare our costs to the revenues, we must discount this stream of numbers and bring it back to 1984 dollars, and in doing that we end up with $707 million. So the revenues in 1984 dollars over the 12-year sale is $707 million.

The costs, like I indicated, are $321 million for a profit or a benefit of $386 million. The profit as a percent of revenues, is 55 percent. We could state this another way, as a revenue to cost ratio. If you divide the 707 or the 321, you will come back to the 2.2 benefit cost ratio that was indicated by Mr. Eliesen.

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: I'll just add a note of clarification here which may provide some amplification given the recent questioning. $707 million would be equal to $3.2 billion; $321 million would be equal to $1.5 billion; and the profits, $386 million would be equal to $1.7 billion. All those sums which take place between the period of 1993 to 2005 have been discounted and brought forward to compare it on current dollar terms.

MR. A. DERRY: Mr. Chairman, that concludes my presentation.

MR. CHAIRMAN: Questions from the committee? Mr. Manness.

MR. C. MANNESS: I'm wondering if we could look at Overhead No. 2 again, or do we have copies that we may have?

MR. CHAIRMAN: There are no copies.

MR. C. MANNESS: Mr. Chairman, will the Authority attempt to give us copies of that material?

MR. M. ELIESEN: Sure. I think we can try and get some.

MR. A. DERRY: Is it the costs that you want?

MR. C. MANNESS: I just want to be a little bit clearer in my own mind as to the costs. I understand the discounting procedure and the third item, the $66 million, I have no difficulty with, that's a reduction in revenue from surplus sales. I take it that's the revenue foregone, the Estimate of the revenue foregone over the 12-year period of interruptible sale.

MR. A. DERRY: Yes, that's the sales that we could have made as interruptible sales but now we've converted that into a firm sale, some of that energy.

MR. C. MANNESS: What specific rate assumptions were applied against those forecasts of interruptible sales over 12 years?

MR. A. DERRY: If you look at the assumptions that were circulated, the mill rates assumed; on peak, 17 mills; off peak, 7 mills. These rates, of course, are 1984, and they would be escalated at the escalation rate shown above.

MR. C. MANNESS: Referring then to the line of escalation, a figure of 7 percent was used from 1986 onward to 1993, is that correct?

MR. A. DERRY: That's correct, 7 percent from 1993-2005.

MR. CHAIRMAN: Mr. Filmon.

MR. G. FILMON: Mr. Chairman, I hope the committee will bear with us. We're dealing with highly technical calculations and references.

Did Mr. Derry say that the figures that are part of the sale agreement are for on peak power being sold at 17 mills and off peak being sold at 7 mills?

MR. A. DERRY: Yes.

MR. M. ELIESEN: Just to clarify, that is related to the third item in the cost which is the reduction in revenue from surplus sales as a result of making the 12-year sale between that period of time. Those are the rates that have been assumed to estimate the cost, and that is the cost of making the sale. Those surplus power sales would have been available at that time without the sale.

MR. G. FILMON: Mr. Chairman, given that whole table of year-by-year income for the hydro utility, what does the rate work out to in mills per kWh for the sale of power to Northern States?

MR. A. DERRY: In the third year it works out to 6.7 cents per kWh and in the last year, 9.8 cents per kWh.

MR. G. FILMON: Mr. Chairman, what will be the common bus rate that will be applicable to Limestone as a part of the Manitoba Hydro generating system?

MR. A. DERRY: We estimate the cost to be 5.4 cents per kWh.

MR. G. FILMON: 5.4 cents per kWh will be the common bus rate for Limestone as a portion of the generating system of Manitoba. That is based on what capital cost for Limestone?

MR. A. DERRY: $2.8 billion.

MR. G. FILMON: Mr. Chairman, based on what assumed interest rate?

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: Those assumptions have been provided; they've been circulated. On the first page, the assumptions are provided with regard to interest escalation and load growth for the years that are involved. In other words, on interest 1984-85, 12 percent; 1985-86, 12 percent; and 11 percent from 1986 on. Similarly in contacts of escalation or inflation, 5 percent for 1984-85; 6 percent for 1985-86; and 7 percent for 1986 on.

MR. G. FILMON: Mr. Chairman, essentially it's based on 11 percent interest for most of the time that we're paying interest on the capital investment of Limestone?

MR. CHAIRMAN: Mr. Derry.

MR. A. DERRY: I found the page I was looking for. The capital cost estimate was $2.8 billion. Interest was 10 percent; 1.5 percent for depreciation; one-half a percent for operating and maintenance, for a total of 12 percent, which would give an annual cost of $336 million. The mill rate was worked out on an average energy year out of Limestone of 6.9 billion kWh, which would give 48.7 mills per kWh at Limestone and we've increased that by 10 percent and take it to the border, for a total of approximately 54 mills or 5.4 cents per kWh.

MR. G. FILMON: The average of those figures for the 12 years varying between 6.7 cents per kWh and 9.8 cents per kWh, what does that work out to for the average life of the contract?

MR. CHAIRMAN: Mr. Derry.

MR. A. DERRY: Approximately 80 mills/kWh.

MR. G. FILMON: That's 8 cents per kilowatt hour then. Mr. Chairman, as well, the common bus rate that Mr. Derry gave us for Limestone, is that for when Limestone enters service in 1991 and does that rate escalate?

MR. A. DERRY: The only escalation that you would have on Limestone is the operating maintenance costs.

MR. G. FILMON: Are they taken into account in the figure that he gave or is that the rate at which it begins in 1991 when it enters the system?

MR. A. DERRY: That's the rate at which it begins but it would hold fairly constant because, as the O and M would increase, the capital on the books will decrease to the depreciation so that we've found that the two sort of level out and you almost get a levelizing effect over the life of the plant.

MR. G. FILMON: Can Mr. Derry tell me, again, what figures go into the 5.4 cents per kilowatt hour?

MR. A. DERRY: 10 percent for interest; 1.5 percent for depreciation and .5 percent for O and M, for a total of 12 percent.

MR. G. FILMON: And then there's the transmission losses that he told us about, to the border. What about its share of the overhead of the system? Does that

become apportioned tc Limestone once it comes on stream?

MR. A. DERRY: Any additional transmission lines that are required in those two sequences are in there. Otherwise the system is as it is right now, so costs are there.

MR. G. FILMON: Does the plant not, once it becomes a part of the system, not have attributed to it, in proportion to its capacity or its energy output, a portion of the overhead of the existing Manitoba Hydro system?

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: I don't know if I'm going to answer the question but I think I want to say that the $321 million that we show was the cost to make the sale, and that was the difference between two sequences and that's really what the cost is. The questions seem to be suggesting that Limestone's cost is the cost to make the sale but really, we're talking about a one-year advancement of Limestone. By 1994, Limestone would be in service in either case and you haven't advanced Limestone, or I should say, haven't advanced, you don't have any additional costs. The $321 million includes all facilities in the two sequences and is the total cost, from our evaluation, to make the sale.

The number of 5.4 cents is being presented because we knew people would be curious about Limestone's cost, but it isn't the cost to make the sale, but it does include, as Mr. Derry has said, the 10 percent interest and the 1.5 percent for depreciation, 10 percent for losses and .5 percent for operation and maintenance, coming to 54 mills or 5.4 cents.

MR. CHAIRMAN: Mr. Filmon.

MR. G. FILMON: Mr. Chairman, I'll give Mr. Thompson or Mr. Derry the opportunity to explain to us why Limestone's cost is not the cost of making the sale at a later time, but I'm just wanting to know whether or not there's any overhead of the system apportioned to Limestone when it becomes a part of the system, as part of its common bus rate. You're telling me that the overhead is absorbed by the rest of the system, but that none of it's apportioned to Limestone in order to arrive at what is the actual rate of operation of Limestone.

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: The 5.4 cents includes all the numbers and it is the Limestone cost. The question you're asking about the incremental additional expenses are involved with the $321 million. It's the incremental cost of advancing and if there are any additional facilities required in the system to supply the sale they are captured in the $321 million.

MR. CHAIRMAN: Mr. Filmon.

MR. G. FILMON: I'll leave that for the time being and we'll come back to it, Mr. Chairman.

I'd like to go to the topic of load growth projections and I wonder if . . . Just before I do that, I wonder if perhaps Mr. Eliesen could explain to us why Mr. Derry has assumed an interest rate of 10 percent for his calculations and the Manitoba Energy Authority have assumed an interest rate of 12 and 11 percent for their calculations.

MR. M. ELIESEN: I think, Mr. Chairman, the difference really relates to the interest rates here, or at least the assumptions here, are used with regard to the entire sequence. The figures provided by Mr. Derry was specifically related to Limestone. We've used assumptions here which apply for the entire sequence of the 12 years, which takes in, not only Limestone, in our analysis, between the sale and no sale, the sale advances it by at least one year. This is with regard to Limestone. It also advances other sequence generation and this has been mentioned in the context of Wuskwetim and also Conawapa, and those are the assumptions being used for the entire analysis.

MR. G. FILMON: Mr. Derry is assuming 10 percent for Limestone and the Energy Authority is assuming some higher rates for Wuskwetim and Conawapa which gives us a combined rate of 11 percent.

MR. M. ELIESEN: Mr. Chairman, the assumptions that we've used in estimating the benefits and the costs for the entire 12 years are those listed in the summary that we've provided. The figures mentioned earlier were the assumptions used specifically with regards to a Limestone plant.

MR. CHAIRMAN: Mr. Filmon.

MR. G. FILMON: If the assumption were of 11 percent versus 10 percent then for instance the costs that Mr. Derry gave us would be up approximately 10 percent on those figures.

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: I hate to keep harping back on the 321, but the 321 million is the difference between the sequences and it does incorporate the 12 and 11 percent interest that you see on those assumptions handed out. They're Manitoba Hydro estimates I think, not MEA. Those are the ones that are presently used at Manitoba Hydro. It's probably unfortunate that we did use 10 percent to come up with the 5.4, but it's only in itself right there and you are right, the 5.4 would come up by approximately 10 percent, if you used 11 percent interest - to 6 I guess it would be.

MR. G. FILMON: If the cost of Limestone, rather than being $2.8 billion turned out to be $3.5 billion, would our returns from the NSP agreement go up?

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: It may be useful, given the question, to provide an overview of the risk associated with the sale - the pluses and the minuses. I hope I'll be able to answer your question very specifically and I'll take in the whole question of Limestone's costs as well.

There are about four to five factors which impact on these escalations. In our analysis we've attempted to

take the most conservative kinds as they apply to the sale. I'll give you specific examples.

First with regard to load growth, the costs will be lower than estimated if Manitoba's load growth is lower than now expected. On the other hand, alternatively the costs will be higher than estimated if the Manitoba load growth is higher than now expected.

Another factor which impacts on this sale in terms of benefits is the MANDAN line. The MANDAN line is not taken into account in this sale. Should the MANDAN line proceed as planned, the costs will be significantly lower and the benefits correspondingly higher.

The exchange factor: again you'll note in the summary, the contract assumes an exchange rate of Canadian dollar, $1 to .825 U.S. Right now, obviously, this is one of the risk factors associated with the sale. We believe we're covered in the context of future financing, but right now with an exchange rate of 76 or 77 cents, the benefits are about 8 to 10 percent higher than what you have presented before you.

Two more important areas are, coal prices, first. As we mentioned, and the figures present that, the coal costs are an important factor in the sale since they represent one-third of the total fixed and operating costs of Sherco 3. These U.S. coal prices have increased well above the average rate of inflation over the last 10 years, as I mentioned earlier, 14.7 percent on an annual increase and a 5.8 percent on a real increase. Over the last seven years, Sherco 1 and 2, coal costs have tripled from 5.9 mills per kWh to 17.6 mills per kWh.

We have used in our assumptions here with regard to the future, a very, very conservative estimate on future coal costs. We've assumed coal costs increasing at 5.9 percent a year. If coal costs are significantly higher - and the figures I've just presented in the context of what's happened over the last 10 years to U.S. coal prices in general and more specifically what's happened to Sherco 1 and 2 coal costs, which are the sister plants, where Sherco 3 will be situated - then our benefits will increase far more than what we had ever anticipated.

Another factor affecting pluses and minuses with regard to benefits in this contract, relates to pollution and pollution control. If the U.S. Government calls for improved pollution control expenditures, and there's considerable discussion in Congress and in other Legislatures related to the increasing problem of acid rain, and notwithstanding the fact that Sherco 3 does have pretty expensive pollution equipment, if additional pollution equipment is called for then we will receive the benefits.

The last area really deals with Limestone costs itself. Limestone costs have been estimated for a specific in-service date. We believe those costs are realistic. We also believe that in the context of the provincial economy, the national economy at the present time, over the next couple of years, we don't anticipate that we would envisage the kind of bottlenecks that people had anticipated, let's say, four or five years ago with regard to the heating up of the economy as a result of the major mega projects that were being considered primarily in Western Canada.

MR. G. FILMON: Mr. Eliesen went through all of that and didn't answer my question. My question was, will we get additional income if our estimated cost of installing Limestone or the other plants is higher than what we anticipated? Will that bump up the revenue that we get?

MR. M. ELIESEN: Mr. Chairman, I thought I indicated that there are a number of factors affecting both benefits and costs and if Limestone costs are higher than what we had anticipated in our analysis, then this will reduce the benefits that have been presented to you tonight.

MR. CHAIRMAN: Mr. Parasiuk.

HON. W. PARASIUK: I'd just like to ask Mr. Eliesen if Limestone costs, because there is a very good market now potentially shaping up in terms of costs because if anything in Canada, we have a deflated economy rather than an overheated economy - would our benefits increase if Limestone came in at a cheaper cost than we have projected?

MR. M. ELIESEN: The same part of the equation holds. If the costs are less than what we had anticipated, then the benefits will increase.

MR. G. FILMON: Mr. Chairman, perhaps Mr. Eliesen isn't in a position to answer that, but perhaps somebody from Hydro — (Interjection) — Mr. Eliesen, thank you. Is this the same set of circumstances that prevailed in the Western Grid concept, that in fact there was an estimate of cost of the plant to be constructed for dedication to the Western Grid and the agreements were based on an agreement providing certain rates, but Manitoba took the risk that if the estimate of cost of Limestone was less than what it did cost in Manitoba, the benefits to Manitoba would have been less?

MR. CHAIRMAN: Mr. Parasiuk.

HON. W. PARASIUK: No, I'll just speak afterwards.

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: It's true that if the only thing that happened was the cost of Limestone went up, then there would be no increase in our revenue and there would be a slight reduction in benefits. But again, you have to remember that it's only a one-year advancement of Limestone, so you're only exposed to that one year; also depending on the reason that Limestone costs went up. For example, if Limestone costs went up because interest rates exceeded our expectation then presumably NSP, in their construction of Sherco, would be exposed to that same problem and Sherco costs would go up and then, of course, we would get a higher revenue for that.

MR. G. FILMON: Sherco is expected to be completed by 1987-88?

MR. CHAIRMAN: Mr. Derry.

MR. A. DERRY: 1988.

MR. G. FILMON: And when does it commence construction?

MR. A. DERRY: This plant was started something like Limestone, and then they mothballed it and just started up about a year ago again. They had some equipment on site.

MR. G. FILMON: So their costs of the interest rates may not be the same for the two plants because the Sherco plant, for instance, the financing may occur predominantly by 1988, whereas the financing for Limestone may not be fully in place until say 1991?

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: Well there's two factors. You're right, the capital cost to construct Sherco will be all set by 1988, but first there is an escalator to take it out to a 1993 in-service, as one could see I think from the contract. But the annual charges that are being assessed on Sherco to determine the price is based upon NSP's levelized annual revenue requirement as it occurs out in the future. So if interest rates are higher out there say in 1993, then the cost assessed, of which we'll take 80 percent, will in fact be increased by that.

MR. G. FILMON: I'd like to get to the topic, Mr. Chairman, of the projected system load growth that takes us to the point in time of requiring Limestone for our Manitoba Hydro System in Manitoba.

As I understand it the projection that is being used is 4.5 percent for 1984-85, and going back to last year's committee hearings in which a graph of the load growth over the past few years was presented and in that graph, aside from the year in which we had to take on the additional supply to HBM&S when they sold Island Falls back to the Saskatchewan Power Corporation, it seems to me that the firm energy demand has been dropping in terms of the system growth and I'm wondering - and maybe it's in the Annual Report of Manitoba Hydro - but what was the annual rate of growth for this past year?

MR. CHAIRMAN: Mr. Derry. Mr. Arnason.

MR. J. ARNASON: Mr. Chairman, as I recall the rate of growth on energy in the past year was between 3 percent and 4 percent. The growth on peak was substantial, something like 18 percent, but the year before we had a negative growth on peak. So over the previous year, considering we had a deficit prior to this past year on peak, over the two years it's been about 5.6 percent on peak.

But I think to answer your question on energy, it's about 3 percent to 4 percent and we are projecting our growth on energy for the next 10 years at 3.1 percent, and over the 20-year period we're projecting our growth on energy at 2.9 percent.

MR. G. FILMON: I'm wondering, Mr. Chairman, if the utility people can indicate why they're projecting about 3 percent for energy load growth when an article in the May 21st issue of Business Week - and it's entitled "Are Utilities Obsolete", and it gives tremendous comparative figures of various types of plants and the electrical utilities in the United States. On a national basis the projected figures that they're using for average annual load growth are under 2 percent, in fact in the range of 1.5 percent. How is it that our utility is projecting double the load growth right now?

MR. J. ARNASON: The 3.1 percent load growth, as we have utilities in Canada that are projecting substantially higher load growths than that and probably two that are projecting a lower load growth. Now when you're asking about utilities in the USA, I can't answer that question.

MR. G. FILMON: Is it the requirment for peak capacity, or the requirement for energy that would, under normal circumstances without the NSP sale, require Limestone by 1992?

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: I'm not really sure. We suspected its capacity but there isn't a big difference between the need for the station. Both the energy and capacity pretty well dictate the same time, but it is possible that one or the other has set that '92 date and we suspect it's the capacity.

MR. G. FILMON: Does the utility have figures as to what various blocks of capacity that are required, say, that we would be short in peak demand for say 1992, 1993, etc.? Are we talking about, say 100 megawatts in 1992, a couple of hundred megawatts after? How does it work?

MR. A. DERRY: We will have to be advised on that and bring it to you later.

MR. G. FILMON: Mr. Chairman, I'm going to make an assumption without knowing the figures, but assuming it's growing in peak at 3 percent a year, something like that, peak demand, and we're looking at a system that I believe has a present time winter capacity rate of about 4,091 megawatts, is that right?

MR. A. DERRY: Yes, about 4,100 megawatts.

MR. G. FILMON: 4,100 megawatts, okay. So 3 percent a year, we'd be looking at capacity growth in the range of, say, 100 to 150 megawatts a year. What would be the economics of buying some diversity exchange for capacity for a couple of years rather than figuring Limestone in 1992?

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: I guess I can't give a specific answer, but diversity exchanges are beneficial and as everyone is aware, you are presently discussing a diversity exchange with Nebraska. It would certainly provide us benefits. Marc indicated in his presentation that if that were to come about, the benefit of this NSP sale would be even enhanced further.

MR. G. FILMON: Yes, as a matter of fact, I was a little curious as to that comment because in fact, in my

judgment, if the MANDAN Agreement comes through and we get the benefit of a 500 megawatt diversity exchange, we may in fact then be in a position to delay Limestone for the normal system requirement.

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: The problem with the diversity arrangement is that the sale to NSP is a sale all year round and any diversity exchange, both current with NSP or anticipated with the Nebraska, really reflects in exchanges, given the different peaking systems that apply in our respective jurisdiction with Manitoba in the winter and Nebraska in the summer.

MR. G. FILMON: If, as I suspect, there may be a year or two difference in the date that would be triggered by firm energy requirement versus capacity requirement it could, in fact, see us not having to start Limestone under normal circumstances for, say, a year or two beyond the 1992 point.

MR. M. ELIESEN: I guess we have to work with what we have in front of us at the present stage. The MANDAN line, while it would be a beneficial exchange with Manitoba, is still being worked on and discussions are still taking place, although, of course, the in-service date has now been deferred even past the previous delayed in-service date of 1989. In estimating again the costs and benefits associated with the sale, it is important to stress that the costs we have attributed to the sale reflect the sequence of generation that would have to take place. In fact, the costs attributed to Limestone are small compared to the other costs that are triggered of making the sale during the 12 years, particularly the advancement costs associated with Conawapa.

MR. CHAIRMAN: Mr. Derry.

MR. A. DERRY: If the question is, could we delay Limestone with the diversity exchange and also make the sale to NSP at the same time, I think the answer would have to be no. This is a very high-load factor sale. It involves a lot of energy and there is no way we would be able to make it with a diversity exchange.

MR. G. FILMON: So then, Mr. Chairman, the NSP sale actually forces us to advance Limestone even further ahead of what the system requirements might be?

MR. CHAIRMAN: Mr. Derry.

MR. A. DERRY: That's correct. Like I indicated on the overhead, it advances it one year.

MR. G. FILMON: Okay. Maybe we should get to that topic, because I am sure members of the committee would be interested in knowing how it is that when the system itself wouldn't need Limestone under normal domestic load growth situations until 1992, and the sale to NSP doesn't begin until 1993, how the NSP agreement moves up the requirement for Limestone to 1991.

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: The 1991 date is the date that first power is available out of Limestone. It's true that the sale itself does not begin until 1993, but if you waited until 1992 to bring Limestone on line, the first unit for 1992, you would not have sufficient units available by 1993 to make the sale. So you have to advance the station to 1991, the first power to 1991.

MR. G. FILMON: How many units are there in Limestone?

MR. P. THOMPSON: Ten.

MR. G. FILMON: So they are approximately 125 megawatts each?

MR. P. THONPSON: Roughly, yes.

MR. G. FILMON: It's a requirement in system capacity then for 1993, the increment. It's growing at about 3 percent a year - that's three times 4,000, that's about 125 megawatts.

MR. P. THOMPSON: I don't actually have those numbers in front of me, but our sequence has indicated that it was required in 1992 if you did not have the sale. I'm not sure how much of it is being used by 1993 of what's put in, but our sequence has also indicated that if you add 500 megawatts to that you need more than you would have, so you have to advance Limestone by a year.

MR. G. FILMON: Mr. Chairman, I could be wrong, but I think in the NSP analysis or summary of the agreement it refers something to markups on resale or something like that. Is there any restrictions on Northern States Power to resell the energy that they purchase from us, or any opportunity for us to participate in the profits of any resale that they might have?

MR. CHAIRMAN: Mr. Derry.

MR. A. DERRY: Were you referring to the summary of the agreement?

MR. G. FILMON: Yes.

MR. A. DERRY: What article?

MR. G. FILMON: I'm not sure. Is there any reference in it to resale?

MR. A. DERRY: No.

MR. G. FILMON: So, there's no restriction on Northern States Power to resell any of the power that they purchase from us?

MR. A. DERRY: No.

MR. G. FILMON: What's the total, given the system capacity rate or what would be the number of kilowatt hours of energy produced by Limestone in a year at full capacity?

MR. A. DERRY: Your average flow is 6,900 gigawatt hours.

MR. G. FILMON: 6,900 gigawatt hours.

MR. CHAIRMAN: Mr. Enns.

MR. H. ENNS: Mr. Chairman, just for the record. Last year Mr. McKean, addressing this committee, gave us a year-by-year reprojection, having indicated to the committee that Manitoba Hydro does this every year. I'm quoting from Hansard of April 28,'83. "Mr. McKean indicated to this committee that the load growth starting the year ending March'83 was estimated at plus 2 percent, but he indicates earlier this morning the actual figure for that year actually shows up as minus 2 percent.

Then, he goes on "From thereon in, we are expecting a 5.8 percent increase in'84, then a 4.9, a 5.1, 3.1, 4.7, 3.2." In other words, he gave us a 10-year projection last year at this time.

I wonder if Manitoba Hydro can give us the same kind of projection for each year, as he indicated was the habit of Hydro doing. He says that Manitoba Hydro does a complete reprojection every year. Are those comparable figures available for the committee this year?

MR. CHAIRMAN: Mr. Arnason.

MR. J. ARNASON: Mr. Chairman, we can provide that information, I believe, as soon as we make our report and some of our financial people will be showing slides and projections that will probably provide an answer to that question.

I'm not sure whether we're dealing now with Manitoba Hydro's Report or whether you're still dealing with the Manitoba Energy Authority.

MR. H. ENNS: I suppose, Mr. Chairman, Mr. Arnason is expressing perhaps some of the difficulties that some members are having in this Committee, as well, in terms of who we're dealing with.

Might I just ask of Mr. Arnason, I accept that answer, and when we are dealing with Manitoba Hydro and when you have your officials with you, what can you tell me generally? The projections that the Manitoba Hydro made to this Committee last year, are the projections that you will be presenting to us when next we meet, or when we get onto the affairs of Manitoba Hydro more directly, is there is any significant alteration of those projections that you gave the Committee last year, without being specific?

MR. J. ARNASON: I would think they would be reasonably similar, Mr. Chairman, without having those figures in front of me. I don't think there'd be a major change.

MR. H. ENNS: I retract the statement just made without being specific and do ask one specific question. Last year, Manitoba Hydro told the Committee that they anticipated a 5.8 percent load growth for the year'84. Is that the figure that is still being used by Hydro this year?

MR. J. ARNASON: Mr. Chairman, I don't seem to have those figures handy, but we'll certainly make a note of the question and answer it as soon as we can get the numbers.

MR. H. ENNS: Just on a more general question, Mr. Chairman, and I first want to acknowledge my lack of expertise in this particular area. However, over the years that I've been attending committee meetings and hearing Manitoba Hydro's presentations, I've certainly always been led to believe that one of the fundamental differences between our Hydro generating dams, as compared to the thermal coal-fired plants, the major difference being that the capital costs were all up front in our case, whereas the capital costs were considerably reduced in the coal-fired thermal plants. Over the years that cost may spread out because of the continuing high maintenance and operating costs of a coal-fired operation.

Information that we receive from the Manitoba Energy Authority now is that in reference to Sherco 3, the capital costs of that coal-fired thermal plant are equal to or in the same range as our hydro generating costs. I just ask that general question of anybody who wishes to answer. What has happened to that traditional kind of difference in the two types of plants to generate electricity?

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: Mr. Chairman, I believe the general observation just being made with regard to the past was correct, but there have been significant changes taking place particularly over the last four or five years. Probably the major factor responsible for increasing U.S. thermal stations is the U.S. Federal Government requirement on new coal plants to put in place quite expensive, sophisticated, pollution control equipment. The capital equipment for pollution control, for example, on the Sherco 3 plant is about one-quarter to one-third of the total capital costs. Previously, those requirements did not exist.

As a result, we have found certainly in our analysis, and this is why we have been greatly encouraged in the context of attempting to investigate attractive arrangements for Manitoba that in the context of the alternatives and the comparisons that are available, the capital costs really of those thermal plants are almost up to the costs of a Limestone plant.

Furthermore, we have found one additional factor which makes these coal plants, particularly in the areas adjacent to us because that's our natural market, is the kind of charges, the rates of return, for example, capital charging costs are higher than those for Manitoba Hydro. When you combine those two, you have a new coal plant in the States which is just marginally higher over that of Limestone.

To answer your question very specifically, yes, that change has taken place just recently. The main reason is the pollution capital equipment that's required.

MR. H. ENNS: I believe when you indicated that this change is relatively recent in the last three or four years, such significant changes have taken place.

MR. M. ELIESEN: Mr. Chairman, as it applies specifically to new coal plants.

MR. H. ENNS: So that in 1977 or 1978, perhaps it was not possible to bring about a set of figures that you are presenting to us now.

MR. M. ELIESEN: That may be correct, Mr. Chairman. The world has changed and it's changed pretty dramatically, particularly over the last two or three years. The attractiveness of Manitoba Hydro power certainly is evident in the discussions that we have been having with U.S. utilities who are looking at their own systems and are looking at the kind of load growths that they have to anticipate in the future, the extensive problems, as I referred to earlier, of other forms of generation.

Manitoba energy and power looks very very interesting and very attractive and benefits, as I may emphasize - I hadn't mentioned this earlier - it's beneficial to both sides. For there to be a successful agreement, both sides have to come out of the agreement with benefits. There are benefits as a result of the kinds of transactions that we are pursuing these days.

MR. H. ENNS: On another subject, Mr. Chairman, specifically the MANDAN line, as recently as a year ago at this committee and subsequent to that, it was the hope of Manitoba Hydro to indeed proceed to final approval from the National Energy Board this September for an agreement under that program. I appreciate that the Manitoba Energy Authority and/or indeed Manitoba Hydro have been busy with other matters. What is happening with respect to negotiations on the MANDAN project?

MR. M. ELIESEN: Mr. Chairman, we have been pursuing the MANDAN discussions quite vigourously. A lot of time and resources have been expended by both sides over quite a number of years. In fact, the U.S. side has expended probably five or six times the financial resources that we have in Manitoba, so there certainly is a vested interest.

Nebraska have informed us though that we would like to have further discussions with some of the people that they had assumed would be part of the arrangement. Some of those discussions are proving to be a bit more difficult than I had anticipated earlier. Furthermore, some of those customers have a requirement for some of the diversity exchange at a later time frame than Nebraska itself. As a result, the 1989 in-service date appears that it will be deferred. To what degree, we don't know yet. We are furthering our discussions with Nebraska and their own participants. We hope certainly that we'll be able to make progress with them over the next few months.

MR. H. ENNS: Mr. Chairman, is it still the hope on the part of the Energy Authority to have something completed to the MANDAN line this September? I pick on the date, September, because September is specifically mentioned as a target date for approval from the National Energy Board. I asked the Minister of Energy and Mines a question earlier on during the course of this Session, and we confirmed that date. What is the target date, if any, that the Energy Authority has with respect to the MANDAN line?

HON. W. PARASIUK: Mr. Chairman, I quite clearly reported back to the House that because of court cases in the United States and further negotiations, I did not see that September target date as being met. I saw it being postponed and that, when there was a later date to announce, it would be announced, but certainly the September target date was not going to be met. I did indicate that in the House. That was pretty clearly indicated then.

MR. H. ENNS: I accept that correction. My impression was that the Minister had indicated that they were still hoping to meet that target date . . .

HON. W. PARASIUK: I'll dig out Hansard.

MR. H. ENNS: . . . I'll accept the Minister's word.

Mr. Chairman, again the difficulty in dealing with hydro matters and yet not having Manitoba Hydro really before us at this time, I put this general observation as notice to the Manitoba Hydro because Manitoba Hydro can appreciate that many people in the agricultural community are becoming increasingly concerned, and perhaps even alarmed if I might say so, about the spate of announcements that are coming from the government with respect to ever increasing power sales to the United States, and leaving out the question of the sales themselves entirely.

But simply from an agriculturalist point of view, the concern about particularly the fertile Red River Valley being crisscrossed with ever growing numbers of high power, high voltage power lines, has to be a concern to Manitoba Hydro, as indeed, it is to some of my constituents and those of the constituents of the Municipality of Cartier and all through to the southern border.

I hope the Minister will recall this correctly. I took the matter up with the Minister in the House, is it not just about time to consider seriously the idea of developing corridors, particularly should the Minister and the government proceed in increasing the number of sales to the south. We have existing lines on what I call the eastern side of the valley and, of course, many of the people that are farming the prime agricultural land in the heart of the Red River Valley feel that consideration ought to be given to placing these lines, in effect, in a corridor on less arable, less prime agricultural land and simply save a lot of headache for a lot of individual farmers and, I might say, a lot of problems and increasing costs to Manitoba Hydro.

When we get into Manitoba Hydro's Report I would want to pursue this matter a little further and ask the Manitoba Hydro what they are facing in this area alone, just the matter of erecting the kind of high voltage power lines that would be required should all these sales come to fruition. There is a growing concern about the environmental factor of these lines themselves; there's the disturbance factor that farmers have to cope with; I would suggest a growing cost to Manitoba Hydro in coming to settlements, settlements which are not going to get easier to arrive at and more costlier to arrive at; whether or not we could not begin considering, as a matter of policy - it may well involve the government as well as Hydro, if we accepted that as policy - to show some concern environmentally, some concern for prime agricultural land in the erection of the necessary transmission lines to the south.

MR. CHAIRMAN: Mr. Parasiuk.

HON. W. PARASIUK: Yes, indeed, I did refer this matter over to Hydro and I think I even complimented the member in the House, I thought it was a suggestion that was meritorious and deserved some study. I don't think it had been done in the case of just the MANDAN diversity line, which is a big line, but I wanted them to take a look at that.

One of the things that will probably come up is the fact that there are a number of options involved as to routing. If there's a sale to Wisconsin, it would be obviously down in the east side of Manitoba; a sale to Golden, Colorado conceivably would be on the west side, and there are some advantages possibly to having a line in through there if one could find a way that doesn't cause very much environmental damage. But, at the same time, despite the sort of practical necessities and some of the benefits that might be accrued by looking at specific lines the notion of having a corridor, in my estimation, certainly deserves consideration and I certainly hope that Hydro is pursuing looking at this.

I did have some general discussion with them but, frankly, right now I can't remember the specifics of it in terms of what the practical considerations were, but on the surface I think it's a good idea.

MR. CHAIRMAN: Mr. Filmon.

MR. G. FILMON: Mr. Chairman, I trust that the utility will be bringing forth for our next meeting the projections and the graphs, and perhaps copies for members of the projected energy and capacity growth rates that they have for the next while, and thereby demonstrating when the need for Limestone occurs and so on.

As well, did Mr. Derry indicate that the firm energy from Limestone was 5,900 gigawatt hours or was it 5,500 gigawatt hours?

MR. CHAIRMAN: Mr. Derry.

MR. A. DERRY: It was 6,900. Not firm, average energy.

MR. G. FILMON: What's the firm energy?

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: I'm not sure exactly, but I believe it's quite close to 5,000, maybe 5,100 gigawatt hours.

MR. G. FILMON: And are we committing 3,300 gigawatt hours firm energy to NSP annually?

MR. P. THOMPSON: It comes out of the system, but it is for 3,285 gigawatt hours. When you add losses to that we estimate it's around 3,600 gigawatt hours per year; but the 5,100 that I mentioned is the dependable energy from Limestone and that would occur under low flow conditions. In the contract one will see if that comes about, NSP is obligated to provide up to 1,500 gigawatt hours to us. So, under that condition, really all we're having to deliver to them would be the 3,600, minus the 1,500, would be 2,100 I guess and that could be compared to the 5,100.

MR. G. FILMON: Getting back to the point that I was discussing earlier. I'll just run some figures through, utilizing the figure of 11 percent rather than the 10 percent that Mr. Derry assumed for Limestone, to arrive at the common bus rate, and it seems to me that utilizing the 11 percent for interest rather than the 10 percent, would bump it up to about 6.6 cents a kilowatt hour, whereas we're selling it, on average, to Northern States Power at 8 cents a kilowatt hour. It seems to me that the profit margin on that sale is substantially less than that which is being indicated by the figures that have been presented.

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: First, I'm surprised at the 6.6. I thought it would have been less than that but that's easily worked out, I guess, but I think it would be more like 6. It's difficult maybe to fully appreciate what we are doing, but it's a one-year advancement of Limestone . . .

MR. G. FILMON: Yes, I understand that.

MR. P. THOMPSON: . . . and the average cost of power out of Limestone is not the number that one can relate to the revenue to determine what the profit is. It has to be a sequence evaluation.

MR. G. FILMON: It seems to me, Mr. Chairman, that if you don't sell power based on the incremental cost of the new construction to you, then what you are doing is asking the ratepayers in the system to pick up the so-called rate shock that occurs when each new plant comes on stream, and they pick up proportionately greater and in effect subsidize the sale price. So if you don't look at it in those terms, then somebody is kidding somebody when they say that really we are only talking about incremental costs because we would need it, in any case, for the system demand because then you adopt the mentality that says, well, you know, it's in our interest to find ways of sort of expanding the system demand; whereas, under normal circumstances, if adding to your capacity was going to come at great costs, you would look for ways to delay that addition of capacity. You'd look for opportunities for conservation.

For instance, this article, and I commend it to the Minister and to the members of the Manitoba Energy Authority, that our utility is obsolete from the Business Week. It talks about the fact that all utilities are promoting conservation. They are projecting lower and lower rates of energy demand increase, and much lower than what Manitoba Hydro is.

It indicates to me that there must be a mind set that says we are going to have increasing demands and therefore we are going to need those plants sooner; at the same time, if we are going to need them sooner, we might as well sell part of them to Northern States Power and just charge the incremental cost to them instead of their proportionate rate of what it cost to put that new capacity on stream. It seems if you don't adopt an approach that says that sale must bear its proportionate share of what it costs us to produce that energy that goes out to that sale, then we are just

kidding ourselves. We are not going at it in a normal, rational fashion.

MR. CHAIRMAN: Mr. Parasiuk.

HON. W. PARASIUK: Mr. Chairman, I should point out to Mr. Filmon that I have in fact looked at that article and I can pull out some other articles in Barron's and other business journals relating to utilities that provide some counter opinions to that with respect to the future of utilities, especially with respect to some of the utilities that we have, in fact, been having discussion and negotiations with.

Some of the utilities have run into some very grave difficulties because of wildly escalating utility prices, because of wildy escalating costs, and you have the whole WHPPS debacle on the West Coast where $2 billion worth of bonds were forfeited. But the utilities that we have been talking with are very sound utilities who have prices that in some respects are pretty favourable in connection with many other utilities in the United States. They are still far less favourable when compared to Manitoba, but we in Manitoba have indeed been taking a balanced approach with respect to energy development.

We have indeed been pushing and promoting energy conservation while at the same time trying to promote energy sales that would make money for the people of Manitoba and pay down a plant so that over the long run we would have a plant that had generated some revenue that, indeed, would have predictable prices; that indeed could be the type of option that we would look to in the future for things like hydrogen development, which we could look to for other types of development 15 or 20 or 25 years from now, which I think is the time frame that one has to look at when one looks at those other types of developments.

What we have tried to do is take that balanced approach. I believe that energy is going to be an increasingly valuable commodity and to the extent that people have prices that are a bit more predictable, I think that they will probably have increased growth in their demand. I think one has to take this balanced approach and at the same time be wary.

Some of the considerations in that article, I think, are certainly valid, but I will look in my files and pull out a couple of the others from the other side that take a much more optimistic view, especially with respect to certain particular areas and certain utilities.

MR. G. FILMON: The point I am making, Mr. Chairman, is that if you take the actual cost, using the 11 percent, of production of energy from Limestone - and I could be out plus or minus a little bit - but it comes to something in the range of 6.5 cents a kWh and we are selling it, on average, for the life of the contract at 8 cents a kWh. That would, it seems to me, produce costs of about 2.5 billion versus revenues of about 3.2 billion as projected.

So we are now talking about a potential "profit" if all of our assumptions are right on interest rate, on the cost of Limestone and so on. That is, if we can get interest at 11 percent for the life of the project and if we can keep our costs to about $3 billion, we are now talking about a potential "profit" of 700 million, not the 1.7 billion that the Minister projected.

I am a little concerned that we are justifying the sale by only attributing a portion of it, the incremental cost, and making the ratepayer in effect subsidize it and absorb the system rate shock that occurs by virtue of Limestone coming on stream at 6.5 cents a kilowatt hour as opposed to the average system cost being way down at half of that.

HON. W. PARASIUK: I think one of the things we should in fact take as notice - and I think it will be in Hansard - the statements, and do the calculations on what the rates may be; but, secondly, I just want a correction in there. The statements that I have indicated have not been my projections; those have been the projections of Manitoba Hydro based on the analysis that they have done.

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: Mr. Chairman, I just want to emphasize again we are not selling the Limestone plant with regard to the NSP sale. Manitoba requires Limestone for its own purposes which is a pretty large plant of 1,275 megawatts and which is amortized over a 67-year period by Manitoba Hydro even though it lasts for a 100 years or more.

What we are doing in the context of the sale, as we tried to explain, because we do not believe there is any other way of estimating or evaluating the benefits and the costs of the sale without looking at the situation as to what would take place with the sale as opposed to without the sale and because of the length of the contract, which is 12 years, we want to measure the costs that affect not only Limestone, although it's negligible in terms of the totality, but Wuskwetim and Conawapa as well. Those are the capital costs as well as the other category which was mentioned, of the operational maintenance plus the additional cost of lost opportunity sales in export markets and those are the three main areas which were presented earlier.

MR. G. FILMON: It seems to me, Mr. Chairman, that if you weren't looking at this opportunity at Northern States Power and even, in fact, the opportunity to bring it forward a year or two, the construction of Limestone, that the utility would rather be looking at stabilizing the load growth rate in terms of domestic; encouraging conservation; making diversity exchanges; opportunity purchases of energy that avoided us going into the major capital investment that produces at 11 percent, $330 million a year in interest alone.

Surely by taking advantage of diversity exchanges, interim energy purchases over a period of a few years you would delay that investment in that major $3 billion capital project and be saving yourself, in fact, hundreds of millions of dollars that is not being attributed to the NSP sale.

MR. CHAIRMAN: Mr. Parasiuk.

HON. W. PARASIUK: What would happen if you postponed any type of construction? Would the cost of Limestone or Conawapa go up? Would you not be faced with a significant rate increase jump when you ultimately had to build it because the big dam, like

Limestone or Conawapa, is not finally divisible. So to meet Manitoba's ultimate need you have to build something that produces this great surplus, and you are not in a very good bargaining position in terms of selling that surplus as opposed to making a decision to sell some on firm and bring a facility on. Are those considerations that Hydro or MEA take into account?

MR. CHAIRMAN: Mr. Arnason.

MR. J. ARNASON: Mr. Chairman, financial staff of Manitoba Hydro have made projections on the 40-year outlook without an NSP power sale, and a 40-year outlook with an NSP power sale, and at a subsequent meeting we'd like to show a graph, or a chart, that will clearly indicate the net benefits from the two scenarios and I think that will probably answer some of the questions that have been raised.

Another point I want to make, Mr. Chairman, was to correct an earlier statement when I was asked about the actual energy figures for the past year. I have been given the numbers here. It's quite interesting in that in the fiscal year ending March 31, 1983 we actually had a negative 2 percent energy growth - and I think I reported that last year - and that was due to the fact that primarily the mining industry was in pretty poor shape.

In the past fiscal year, that is to March 31, 1984, with the recovery of the mining industry to a large degree there has been quite a sharp peak in the energy requirements in the past year and that's gone up to over 8 percent. We will be showing this on the graph showing our projections year by year at the next meeting but I just wanted to correct that one point. I gave the impression that it may have been from 3 percent to 4 percent but there actually is quite a spike because of the recovery, and the energy growth was actually over 8 percent. But that'll settle down in terms of our forecast to about 3.1 percent based on a 10-year forecast. We'll show that at the next meeting if that would help.

MR. CHAIRMAN: Mr. Enns.

MR. H. ENNS: Earlier, Mr. Chairman, I was making the general observation about the changing conditions vis-a-vis capital costs involved with Hydro generating plants, and coal thermal plants. I suppose we can get a little bit more specific following from Mr. Eliesen's statement.

In his introduction on Page 7 he makes the statement on the top, the second paragraph of the page that "— capital charges of the coal fired plant are higher than the capital charges of Limestone." I'd like to deal specifically with Sherco 3 which I believe is a 750 megawatt plant? Is that correct?

MR. M. ELIESEN: 800.

MR. H. ENNS: 800 - and I must assume that the Manitoba Energy Authority is aware of what is it's capital cost, and what is it coming in at in 1988?

MR. M. ELIESEN: Yes, Mr. Chairman. Would you like some of that information?

MR. H. ENNS: Yes.

MR. M. ELIESEN: Mr. Chairman, the estimated cost of Sherco 3 is $611 million U.S. 1988 dollars.

MR. H. ENNS: $611 million U.S. 1988 dollars.

MR. M. ELIESEN: That's correct.

MR. H. ENNS: Mr. Chairman, I never did win a gold metal for maths but the Americans are building an 800 megawatt plant for $611 million U.S. dollars; we're building a 1,275 megawatt plant for $3 billion 1984 dollars. Where is my arithmetic wrong?

MR. M. ELIESEN: Mr. Chairman, I'm sorry I misled the member. I was relating that figure, the $611 million, to NSP's percentage of the Sherco 3 which is 472 megawatts, so 472. There are two other partners in the NSP, two other partners in the Sherco 3 plant. NSP will have 472 megawatts of the 800, and their estimated capital cost for that 472 megawatts is $611 million U.S. in 1988 dollars.

MR. H. ENNS: That improves it a little bit, but not enough. Americans are still building 472 megawatts of power for 611 million U.S dollars. We're building 1,275 megawatts at 3 billion 1984 dollars.

MR. M. ELIESEN: No, no, no. The $3 billion, Mr. Chairman, I guess that accounts for the confusion. The 3 billion, that is the figure that has been used is the estimated Manitoba Hydro costs of the Limestone plant coming in as-spent dollars in 1992. If you discounted that back to today's dollars, it would be about $1.1 to $1.2 billion - let me get a clarification on that - around a billion dollars.

MR. H. ENNS: Well, as I said initially, I never did win a gold medal in mathematics.

MR. CHAIRMAN: Mr. Manness.

MR. C. MANNESS: I'm curious about the discounting on 3 billion that comes in a short period of nine years that brings it back to 1 billion. What discount rate was used? I always lived on the rule of 72. Whatever the percent went into 72, you could tell exactly what a figure would double; 12 percent goes into 72 six times. Your principle would double in six years.

What rate of discount has been used to bring 1993 dollars, some 3 billion in total, down to 1 billion in 1984 terms?

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: I'm not sure I can really answer it, but the $1 billion is, I believe, the cash flow expressed in 1984 dollars. Is it 1982 dollars? Okay, maybe it's even 1982 dollars. Then to that, when you construct the station for - what is it? - 1991 or 1992 date, you have to escalate each year to the year that you're spending it. Then you accumulate interest during construction until the station comes on-line, and you do, in fact, find that the in-service cost becomes this 3.2 billion, even though the 1982 actual dollars were around a billion.

MR. C. MANNESS: Could a schedule providing that type of information, compounding over 10 years plus additional interest costs that come into play, could that be provided another day also?

MR. M. ELIESEN: Yes.

MR. CHAIRMAN: Any further questions? Mr. Filmon.

MR. G. FILMON: Has Manitoba Hydro done a scenario based on load growth, for instance, at 2 percent rather than at the 3.1 percent that Mr. Arnason says is the assumption that's built into the dates that have been used for the start-up of Limestone?

MR. CHAIRMAN: Mr. Thompson.

MR. P. THOMPSON: I don't know if we've done it at exactly 2 percent, but we did do it at the lower end of the growth. In our load forecast, there is the expected one which is the one we've been talking about, and there is a high end and a low end, in other words, the range that we think it will fall in. We did do an evaluation which I don't have here, at the lower end and determined, as I think Mr. Eliesen indicated, that the NSP sale in that case would have even larger benefits.

The concern, if you want to call it concern, or when our profit will become slightly less is under the high end of the load growth when we are having to advance the more costly stations after Limestone, in addition to the Wuskwetim and Conawapa that was indicated.

MR. G. FILMON: When you're dealing with figures, even at 11 percent of $330 million a year in interest, surely it's in everybody's interest in the system to delay the start up of the next big plant?

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: Mr. Chairman, what is at issue is the question of a sale and the anticipated benefits of the sale compared to the anticipated costs of making that sale. The presentation we have made to you this evening is an evaluation with the sale as opposed to what would be required in Manitoba without the sale. We presented the various costs associated with making that particular sale.

We have not looked specifically, because it does not mean that we are selling a Limestone plant for 67 years. We are looking at a 12-year sale of capacity and energy which has an impact on Manitoba Hydro's sequence generation. We wanted to evaluate what is the cost to Manitoba as a result of making that sale. What is the impact on the sequence generation?

There are numerous costs associated with them which we have identified. That is the only way, we believe, that you can evaluate of making a sale as opposed to without making any sale. The benefits that we were able to estimate reflect that kind of 2.2:1 benefit-cost ratio for that 12-year NSP sale.

MR. G. FILMON: Surely, Mr. Chairman, as I pointed out, the operating costs or at least the incremental costs of Limestone alone during that period of that sale are $2.6 billion. The sale value is 3.2 billion. So you have a vastly different set of numbers if you make different assumptions. If your assumption is that you shouldn't work on reducing the load growth or you shouldn't look at diversity exchanges or short-term energy purchases that would delay your having made that major capital investment, then you have to attribute all of the costs of the proportionate share of the energy and capacity that's sold to NSP to the sale. That's the only fair way you can look at it, otherwise you'd have an entirely different perspective on how you'd handle the system growth demand.

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: Mr. Chairman, that is exactly what I believe we've done. We've looked at the costs of making the sale; we've looked at the impact on Manitoba Hydro and their sequence generation of making that 12-year sale. I repeat, we are not making a sale of the output of a Limestone plant, which is 1,275, for a 67-year period. In that particular case, if we were doing that, then the kind of suggestions being made would be the way to evaluate the benefits and costs associated with the sale.

What is being considered here is a 12-year sale and the impact on Manitoba as a result of making that particular sale. We've taken into account the costs as a result of bringing forward Limestone to service that sale, the costs related to the next sequence, which is Wuskwetim, and the costs related to Conawapa, and those are the costs related to that 12-year period.

MR. G. FILMON: Mr. Chairman, I'm not talking about a 67-year plant being attributed to it, I'm talking about the very capital costs that Hydro would assign to it, which is 1.5 percent per year of the capital, plus the interest costs, plus the operation and maintenance cost, plus the transmission costs and that arrives at a figure, and that figure, Mr. Chairman, as far as I'm concerned, is the true cost of providing that power to Northern States Power. What Mr. Eliesen is telling me is that the system users pick up all of those extra things and Northern States Power is really just an incremental situation that we get all benefits from.

I'm saying that you would look at an entirely different scenario for ordering your system growth if you weren't trying to satisfy the Northern States Power Agreement, so you've got to look at it in realistic terms.

MR. M. ELIESEN: Mr. Chairman, we believe we have in fact looked at it in the most realistic terms possible. We haven't changed any particular load growth forecast. We've assumed the same kind of load growth forecast that have been assumed all along. We have looked at the cost associated making the sale with regard, not only to the capital costs that are involved, but the transmission that may be involved, which obviously is involved with Conawapa and Bipole 3 coming in, but the costs involved for the period of time in which the sale is being considered.

Those are the costs related to the sale and counter those costs are the benefits and the pricing related to that which result in the kind of 2.2:1 cost ratio for making that 12-year sale. We believe, as will be reflected

in the hearings before the National Energy Board, this is consistent with any other application that has been made previously, applications that are being made today, for example, by Hydro Quebec, and the kinds of judgments and kinds of criteria that the NDP look at in evaluating the overall benefits of such export sales to the United States.

MR. G. FILMON: I guess what I'm curious about is why the projection of system requirement that's been made by Hydro doesn't include any suggestion that diversity exchange, or short-term capacity purchases, might forestall the need for the next generating station, or short-term energy purchases over a period of a year or two, would again forestall that construction by a year or two, thereby saving us some several hundred million dollars a year in those ongoing charges once you enter into that next plant development. I don't see that as one of the options that's been looked at and I'm saying to you that if NSP were not there those other ones might well be looked at by Hydro.

MR. CHAIRMAN: Mr. Parasiuk.

HON. W. PARASIUK: I'll check through Hansard and determine whether, in fact, that was the approach that was being taken six years ago, five years ago, four years ago, and three years ago in terms of looking at this; and whether, in fact, the Leader of the Opposition is saying that rather than constructing our own generating power here in Manitoba that what we should be looking at is buying power that is produced in the United States.

We can see from the figures that we have that producing power in the United States is a lot more expensive than producing power in Manitoba, and I guess it's a matter of saying that we'd be better to rent something for short periods of time, rather than going ahead and building something that one could pay off and have for a longer period of time than the amortization period of the facility.

I'll certainly check in Hansard to see whether, in fact, that was an approach that was being suggested in the past. I don't recall it being suggested in the past but I certainly will look into that and we could possibly discuss this further on Monday.

MR. G. FILMON: Mr. Chairman, if the costs of renting on an annualized basis are less than the carrying costs of the construction of a new facility, then the net benefits are to Manitobans, and it's an option that should be considered; that's all I'm suggesting.

A MEMBER: What about the benefit of all the construction and the jobs?

MR. G. FILMON: That's another topic and if that's the way you want to justify it, then you say so, but you don't justify it on the figures.

One further minor couple of questions that I'd just like to just have put on the record so that information can be brought back is what is the difference if, instead of assuming 11 percent interest rate, if you were to assume, say, 14 percent interest, what difference would that make to the net benefits to Manitobans on this project?

HON. W. PARASIUK: I think we could look at that, and I would ask them also to look at 7 percent and 8 percent as well.

MR. CHAIRMAN: Mr. Manness.

MR. C. MANNESS: Mr. Chairman, that was going to be the tenure of my next couple of questions, was the degree of sensivity analysis that has been done throughout some of these areas of assumptions. Obviously they must have been done. I would have to think that almost every number that has been laid before us in the assumptions used in the analysis, there must have been some bounds either way placed around that number and there must be, by now, a model built which allows for the plugging in of various numbers for every factor, such that we can determine what the ultimate revenues and costs would be under various sets of circumstances.

I'm wondering if an undertaking can be given to us by Hydro that they will provide that type of information for us when we meet again.

MR. CHAIRMAN: Mr. Eliesen.

MR. M. ELIESEN: Mr. Chairman, I believe, earlier I went through a list of about five or six factors related to the impact, both on benefits and costs, and we believed - at least at that time I tried to make the comparisons between some of the assumptions used - I emphasized at that particular time that we believe the assumptions we've used, particularly with regard to the benefits, have been extremely conservative. I mentioned in that context a number of areas, particularly the whole question of coal costs which comprise about one-third of the total costs of Sherco 3.

In that particular regard, the kind of escalation that we are assuming for the period of the sale, there is no relationship whatsoever to what has taken place over the last 10 years nor does it bear any relationship to what had taken place in the sister plants already built, Sherco 1 or Sherco 2. Nonetheless, we felt we wanted to take the most conservative escalation that anyone had even considered with regard to the new plant. We can estimate for you and bring back some figures in those areas and the kind of possible pluses and minuses one way or the other. We can do that with the MANDAN line, for example; we can do that with Limestone costs; we can do that with exchange rate.

I mentioned specifically with the exchange rate, we had assumed an exchange rate of $1 equal to .825. Right now with the dollar at 76 cents, the benefits today are about 8 to 10 percent higher than what we presented, but certainly we can bring back some general parameters in the areas which would impact the sale, both on the cost side, as well as the revenue side.

MR. CHAIRMAN: Mr. Manness.

MR. C. MANNESS: Well, that's specifically what I'm asking for. I can't believe for one second that basically every factor within every equation that has been entered into by way of contract hasn't been tested by that type of analysis. I can't believe it for one second.

I just ask that that material and information be presented to us. Of course, it covers many factors as Mr. Eliesen has just indicated. I was out of the room for a short period of time, but he made comments about load growth and indicated that conservative estimates had been taken. I'm wondering if he could lay on the table, or if Hydro can lay on the table, specifically what estimate was used there and under varying assumptions, both below and above, what is the impact of those assumptions on specifically the final outcome. I would welcome that because I believe that it must be available.

My final question regarding interest rates and inflation rates - at the very beginning of the assumptions page, how is that there is an assumed narrowing of those two factors between'84 or'85 and thereafter 1986 and on. I know there's no hard and fast rule as to what real rate interest should be above inflation. I can't help but notice the narrowing of those differences. I again would question why.

MR. M. ELIESEN: Mr. Chairman, perhaps I can ask Mr. Charles Kang who is the senior economist with the Department of Energy and Mines to make some observations on the interest and inflation factors.

MR. CHAIRMAN: Mr. Kang.

MR. C. KANG: The assumptions here, if you looked at long-term bonds, actually the real rate of interest on long-term bonds historically has been about 3 percent.

Now, in recent years, real interest rates have been very high and this has been reflected in the price of long-term bonds as well, and that's why you see a spread in 1984-85, an assumed spread of 7 percentage points between the escalation rate and the interest rate. We're assuming that this is going to narrow somewhat, but for purposes of the analysis, we haven't assumed that it will go back to the 3 percent real that we've been seeing since the post-war period.

MR. C. MANNESS: Fine, I accept that explanation and I would include these two factors at varying levels, at varying spreads, and ask if that information be brought back to the Committee also another meeting.

MR. CHAIRMAN: Any further questions?
Mr. Filmon.

MR. G. FILMON: Mr. Chairman, committee rise.

MR. CHAIRMAN: Committee rise? Mr. Parasiuk.

HON. W. PARASIUK: Yes, I would like to before committee rises, I would like to see if there are any other questions that members of the opposition might have as notice, so that we could have the material and not have questions come out in a way that we can't provide the information. Certainly, we're trying to provide the type of information. If there's no more, fine.

I would like to check as well and determine the types of sensitivity analysis that were by Hydro in the past with respect to other power sales that were being considered to see whether, in fact, matters like advancing Conawapa was looked at, to see whether matters of advancing Wuskwetim or other things involved in selling the entire output from entire plant was looked at.

MR. CHAIRMAN: Before committee rise, I would like to advise the committee that we'll meet again on Monday at 10:00 a.m. and, if necessary, at 8:00 p.m. as well.
Mr. Enns.

MR. H. ENNS: Mr. Chairman, I think honourable members opposite will agree that we're dealing with pretty momentous decisions with respect to the ratepayers of Manitoba Hydro and, indeed, the taxpayers of Manitoba. It's my request to the Government House Leader in view of the fact that Hansard may not be available to us over the weekend that he considers calling this committee on Tuesday morning.

MR. CHAIRMAN: Mr. Anstett.

HON. A. ANSTETT: Mr. Chairman, we had previously agreed to the three meetings. We can consider that. We can check with the Clerk of the Committee as to the availability of Hansard. It may be possible in view of the absence of a House sitting tonight to get the committee transcript by late tomorrow, that may be quite possible.

MR. CHAIRMAN: Order please. I'm informed by the Clerk that they're working on the blues right now.
Mr. Filmon.

MR. G. FILMON: One further matter. A number of our members are rural members and traditionally we haven't sat on Monday mornings in deference to them coming in. May I suggest that we do it Monday evening and Tuesday morning?

HON. A. ANSTETT: Mr. Chairman, there's no requirement that the Hydro Report be passed while the House is in Session. We can continue those discussions on Monday morning and Monday night on the assumption that we'll get the transcript, and if the Session ends and the report hasn't been passed by the end of the Session and there's a desire to come back and do further work, we can do that.

Let's take it under advisement until tomorrow and we can make an announcement in the House with regard to further sittings of the committee and I'll consult with the Opposition House Leader on that.

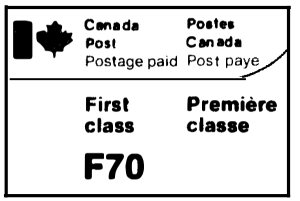
MR. G. FILMON: I just make the point that our purpose is not in dragging this thing out and worrying about whether or not this ends before the Session ends. I'm suggesting that in three working sessions, with all the information and time for consultation between Sessions, we will get it through. But if you give us a Monday morning Session, we'll be treading water till we have various bits of information and consultation over with. That's my only suggestion and we'll take it under advisement for tomorrow morning.

HON. A. ANSTETT: Mr. Chairman, I have no problem with taking it under advisement. My only concern is

we might have legislation before a committee on Tuesday morning as well. We also have to schedule legislation.

MR. CHAIRMAN: Committee rise.

COMMITTEE ROSE AT: 10:26 p.m.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