



Legislative Assembly of Manitoba

HEARINGS OF THE STANDING COMMITTEE

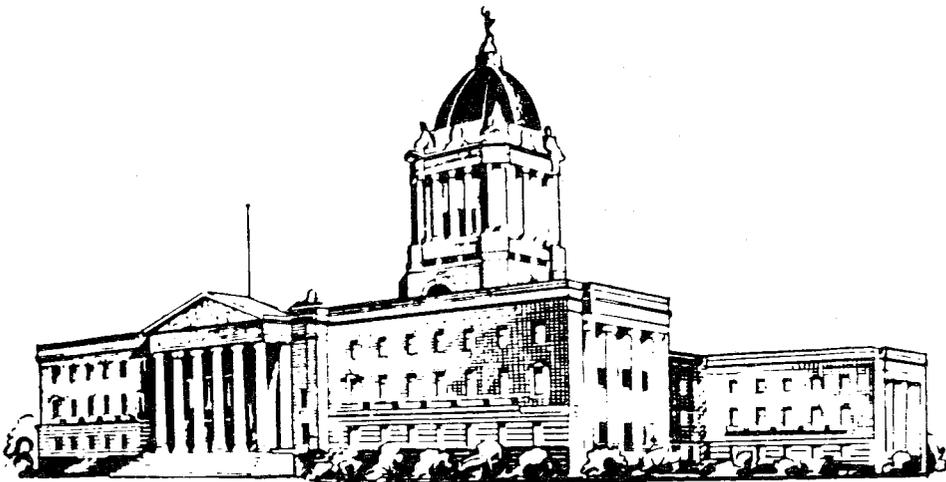
ON

PUBLIC UTILITIES

Chairman

Mr. Harry Shafransky, M.L.A.

Constituency of Radisson



10:00 a.m., Tuesday, April 13, 1976.

THE LEGISLATIVE ASSEMBLY OF MANITOBA
STANDING COMMITTEE ON PUBLIC UTILITIES
10 a.m., Tuesday, April 13, 1976

Chairman: Mr. Harry Shafransky.

MR. CHAIRMAN: Order please. We have a quorum, we shall proceed with the Report for the Manitoba Hydro-Electric Board for the year ended March 31st, 1975. I had at the last day, Mr. Craik will ask questions. Mr. Craik are you prepared to proceed?

MR. CRAIK: Thank you, Mr. Chairman. I think the last day the questions that arose from Mr. Bateman's presentation, there was a couple of questions asked. One was whether or not we could get copies of the charts that were shown, that wouldn't be contained in the testimony as it appears in the Hansard. I think Mr. Bateman indicated that those would be available in printed form.

MR. BATEMAN: Yes, I have those, Mr. Craik, and I'll ask the Clerk to distribute them now. I'm going to say a few words perhaps before he just does that. I'd just like to make a few remarks about the projected rate increases that I announced for the next few years at the close of your last session, Mr. Chairman.

I have these sheets as I indicated for distribution - perhaps it might be just as well for you to distribute them now and the committee members would have them.

I'll also project on the screen - well I guess we don't have to if you have them with you. But I have attached with that table the supplementary data that you asked for, Mr. Craik, that indicates what the assumptions are that went into making up our estimated rate increases. Now you will note that after next year there is a need for decreasing rates of rate increases, if you look at that front page; this should continue until it is necessary to bring the next source of generation at Limestone into the system. And we are currently scheduling that for 1983-84. However, I mentioned last week that the dates can continue to be reviewed until the general contract is awarded and that will not occur for at least two more years before we have to make the final commitment to the Limestone project.

Now most utilities during this period, while you see Manitoba Hydro with decreasing rates of increase on our rates, most other utilities across the country, in fact any utility that I have talked to, are faced with increasing rates of increase. In fact the minimum rate of increase that I have been able to determine is in the order of 16 percent, consistently throughout the next period of time, as long as these utilities are projected. So I think the message I wanted to convey to you in presenting that information was that we are indeed in a preferred position in that we can control the increases, providing of course the assumptions that I make are held up. In other words, if we are going to change the rate of inflation, or if we're going to increase the cost of money, then the assumption we're making - or if we're going to make larger wage settlements than what we're anticipating within the guidelines.

Now one of the newspapers made some editorial comment about the fact that there are no fuel costs in Manitoba system. And that is more or less true. We are relatively immune from the cost of inflation affecting our production costs as a result of fuel, but we are not immune to the inflation in the cost of construction and in the cost of money. Interest has been and will continue to be one of our biggest costs, until we can get some cheaper money.

Now in addition, as those of you who have house mortgages are well aware, the impact of interest on your payment is highest immediately after the construction period ceases or after you take possession, and then the interest decreases as you pay off the capital cost. Now this is no different than the manner in which Manitoba Hydro does its financing. When you take out a mortgage you're literally paying off the debt over the period of the term of the mortgage, which may be a 20 or a 30 year period, and consequently the amount of capital that you pay off each year or as we refer to it in our accounts, the depreciation charged each year, is based on the declining balance, or the interest that we have to pay each year is based on the declining balance. Now that becomes a very significant factor in the cost of running your utility.

Well one of the things that I could say, Mr. Chairman, is it's indeed fortunate

(MR. BATEMAN cont'd) the Manitoba Hydro has followed the advice of the Programming Board and the studies that were done to determine whether we move into the Nelson in the early sixties, which was tabled in 1966, with the agreement with Canada, moving into the Nelson, by putting the diversion project from the Churchill River and the Lake Winnipeg Regulation project into the front end loading, so to speak, has resulted in these rate increases. But when costs are at the levels they're at today, which I will say are more reasonable than they're going to be as we project into the future, as you see from those pieces of information I gave to you. Now these projects, that is the Lake Winnipeg Regulation project and the Churchill River Diversion project should serve to make better use of our plants at Kettle and Long Spruce and therefore defer the addition perhaps of the Limestone plant as long as possible.

Now perhaps we can just talk a bit about those pieces of information you have. Let's look at this one first. You have here the estimated range of escalation rates, the interest rate is this figure here. You see we're assuming 10 percent up until the mid '78 period and then dropping to about 9-1/2 and then by 9 percent out into the 1980 period. Now our escalation rates on operating labour - we hope that we can get these down into the guidelines by the end of this year and maintain . . . we have estimated, maintaining somewhere between 7 and 8 percent in the escalation rate on our labour through into the period I've presented to you.

Now the range of escalation rates is contained in this dotted area here. That's how it's going to affect our capital expenditures, when you put these things together.

Now one of the things that should be quite obvious to everyone that is trying to borrow money, that if you can build things today cheaper than the cost of money, then perhaps you should do that because you'll never build them cheaper. But I wager, Mr. Chairman, that before very long if we do not bring inflation under control, we will have interest rates that will be higher than any we have previously contemplated. I would be quite convinced that these interest rates could well go as high as 14 or 15 percent if not higher, unless we bring inflation under control. Now if that is the case, then the impact it would have on these construction costs would be indeed very significant. And to the extent that those rates of escalation on our construction projects increase, so does the cost of the project increase. And when we look at what I told you last week, where we built the Kettle plant for \$320 million and we're building or projecting that the cost of the Limestone plant, within these guidelines, is going to cost 1.1 billion, then when we bring that into our operating accounts in the mid-eighties, we don't want to bring it in any sooner than we have to, it's going to mean that we have to find an extra \$100 million of additional revenue to carry the Limestone plant, the year it's brought in. Now from then on, of course, the declining balance that I spoke to you about means that the cost of power from that plant will go down each year. Our straight line depreciation method will result in lower cost power as time goes on. But if we do not bring inflation under control and if the cost of money has to go up to bring it under control, because that's going to help bring it under control, then we're going to be faced with not finding \$100 million in 1983 to bring this plant on the line, but perhaps finding a quantity of money twice that high out of our rates. Every million dollars, roughly, in 1980 will mean slightly less than one percent increase in the rates that we have to charge. So to the extent that our revenue does not rise from increased sales or better use of our facilities and so on, then we have to find that additional revenue from our own customers.

Well that explains the table that I had shown you last week only we had reached more or less the conclusion of the meeting and I didn't have a chance to emphasize the points that I wanted to emphasize and of course you can look at the other tables. The one that you asked for, Mr. Craik, shows the actual figures I projected last week; the other two are supplementary to it.

Now I'd like to say a couple of other things. I think you . . . or were there any further questions on that? Perhaps we could have the light.

MR. CHAIRMAN: Mr. Craik.

MR. CRAIK: Well it all depends on how we want to handle it, Mr. Chairman, while we're on that Mr. Bateman has introduced a couple of other points here on the escalation of costs as a result of interest rates increases as well as inflationary effects. But there seems to be still a missing part of the picture that Mr. Bateman hasn't

(MR. CRAIK cont'd) commented on. When the Lake Winnipeg regulation, for instance, was mentioned the other day Mr. Bateman said the cost now was at 260 million dollars for the Jenpeg generating plant. I presume that includes Lake Winnipeg control and regulation.

MR. BATEMAN: That does, that includes the entire project.

MR. CRAIK: The entire project at the Jenpeg site. Mr. Chairman, in 1971 when this project was announced, the Hydro chairman at that time said that - first of all the task force in '70 said that this project would probably be around 65 million. And in 1971 the Chairman of Hydro at that time, Mr. Cass-Beggs said that as a result of an engineering breakthrough that there would be a reduction in that and the price would now be \$50 million; and at the Public Utilities Committee meetings in May '72 he announced an increase in this estimate to \$56 million, and that it was due to the inclusion of some reservoir clearing and some accumulated engineering design costs. Now, Mr. Bateman, you're telling us the price is at \$260 million and it's as a result of high interest rates and inflation. I don't know of any other industry that has suffered from that rate of inflation and interest rate effects.--(Interjection)--No I want to deal with Manitoba, I don't want to deal with the Arabs, I don't want to deal with the Tar Sands, I want to deal with Manitoba Hydro, and deal with Manitoba Hydro's performance in the last five years compared to how it's performed for the last 50 years in Manitoba. And I want some justification greater than what we have seen that there has been a reason for the price of Winnipeg control to go from \$56 million indicated by Mr. Cass-Beggs, to \$260 million in a period of five years.

MR. CHAIRMAN: Well, Mr. Craik.

MR. CRAIK: Which is five years to the month, Mr. Chairman, from the time we were told it was going to be there.

MR. BATEMAN: I think, Mr. Chairman, that Mr. Craik is well aware of the committee meetings that were held last year, the year before, and the year before that. Now I have the transcripts here and I happen to have reference to Lake Winnipeg, I told you last year, and the year before that what these costs were, how they were going up, why they were going up, and so on. Now I can tell you all again if you want but I'm sure the situation is no different today than it was when I told you before. We are suffering inflation. We are not immune to it. Now there has been some increase in costs due to change in engineering decisions. I told you that last year, and the year before. For example, when we look at the feasibility study of Lake Winnipeg Regulation, we as engineers must accept the advice that the engineers would give us, otherwise we are making a grave mistake. Now the best engineering advice we had, was that we should move the Jenpeg control structure from where it was recommended in the consultants report, at Whiskey Jack, down to the lowest point on the Nelson River that it was feasible to move it to, to remove the ice generation problem. Now that is not the \$50 million job. If you look at the task force report and the estimates in the Crippen Report you'll find that was a comparable job of some 84 million dollars, or thereabouts. It wasn't the same job.

MR. CRAIK: It's the same job, Mr. Chairman, was it not that was intended when this project was undertaken, that is to provide control of Lake Winnipeg, whether it's located at Whiskey Jack or at Jenpeg? From all exterior purposes it does the same job.

MR. BATEMAN: Well, you wouldn't have built it, Mr. Craik, in the face of the best advice to put it upstream at a lower cost, when it would have given us severe engineering problems and operating problems throughout the life of the project. I have some effect figures of these projects on the total costs of operating this system, and you know you can argue what you like about the costs - we are not trying to spend money any more than we have to spend money. We have a job to do, we're trying to get it done in the most economic fashion possible. Now the fact that these projects are being built now instead of sometime later, if they were built later, they would not have conformed with the studies that were done under the Programming Board Report. Let me just refer you to the Programming Board Report, in this sense, that if the load on the system for 1975-'76, which is the year just ending, had been 1840 megawatts and you had added some export on top of that, 800 megawatts of export on top of that, you would have been required, according to the study board report, the engineers and so on that worked on this, to build both

(MR. BATEMAN cont'd) the Lake Winnipeg project and the Churchill River Diversion project for service in the year 1971. Now we didn't export 800 megawatts but we haven't got a load of 1,840 megawatts either. Last winter our load was 2,250.

Now you must appreciate that all the attempts that are being made to try and say it was either/or, either Lake Winnipeg or Churchill River, really won't stand up in the light of this report which is dated February 1967 and was tabled in the House back about March of '67. Now I contend that those projects are necessary to provide a reliable source of power to the Province of Manitoba, if we're going to stay with the hydraulic system we have; not only do I contend that they are necessary for a reliable source of power but I contend that by building them when they have been built we will never have any cheaper power than we're going to have from them.

Now you asked about costs. Costs are going up. Here's the, I wanted to show you the effect of the Lake Winnipeg Regulation on both these projects. Here's the Churchill River Diversion and the Lake Winnipeg Regulation project. Now, this is a very conservative way of doing it because there's the capital cost of the Churchill River, here are the annual carrying charges, that's what we have to meet out of our rates. Here's the average annual energy that we will produce in the two plants downstream at Kettle and Long Spruce, the two plants that are presently in service; 11.8 billion kilowatt hours each year. Now the cost in mills per kilowatt hour from the Churchill River Diversion project on those two plants is 1.75 mills per kilowatt hour. Now you can readily see that as we add the next plant at Limestone, we add another 5 or 6 billion kilowatt hours, the average cost in mills per kilowatt hour for the three plants against the Churchill River Diversion will be less, perhaps, than one mill per kilowatt hour. Excellent incremental energy costs from the diversion project.

Lake Winnipeg Regulation - the regulation portion \$120 million. Well, of course, because the generation is going to produce power and be charged for--(Interjection)--we're charging 130 for control, right. Now the annual carrying charges \$12 million - again there is \$11.8 million assumed from these two plants only. But to this, the chap that made this chart up should have been generous enough to include Kelsey, and Kelsey if we had included it, would give us another - this would be up to 14.6 billion kilowatt hours, and instead of a one mill charge per kilowatt hour against those two plants, it would be down to .83 mills per kilowatt hour when you take the Kelsey plant in.

Now when you add Limestone in it's going to decrease still further. Now that's the advantage of having this hydraulic system as it's presently designed, and if we had no inflation and no high cost money, then the average cost per horsepower installed on the Lower Nelson River as we add each succeeding plant, would be correspondingly less. It's a very preferred position to be in.

Now the fact that we are fighting inflation, that we are fighting high cost money is raising our costs. We're not immune to it. I wish we were.

MR. CHAIRMAN: Premier Schreyer.--(Interjection)--Mr. Craik.

MR. CRAIK: Mr. Chairman, this ground's been covered before as Mr. Bateman has said, he answered some of these questions last year. He uses the preferred and selected references to justify his position now and I want to refer him to the background of my question which was a statement that goes back into one of his own reports in 1970 that says, "Lake Winnipeg control plays no significant role unless it come in at a cost of less than \$15 million." And then I go on to the next report which is one brought out in October of that year. The first one is March of 1970, the second one is October, which contains his own signature, which refers to the cost here of being of the order of \$65 million. That's a report signed by both him and Mr. Cass-Beggs. Then you go on to the next presentation . . .

MR. BATEMAN: I wonder if you'd mind giving me the references you're quoting from, Mr. Craik.

MR. CRAIK: I'm referring first of all, March 1970 to the Underwood McLellan Report on System Power Studies; and secondly to the Manitoba Hydro Task Force Report in October of 1970. I'm referring latterly, in the earlier statements, to the statements made by Mr. Cass-Beggs for this committee at the time the decision was made to go ahead with Lake Winnipeg Control which went from 65 then came to 50, went back up to 56 because of the added engineering costs stated, and we now have it coming in at

(MR. CRAIK cont'd). . . \$260 million in that space. Now, I'm not particularly interested, Mr. Chairman, at this point in exactly what's happened in-between. But a decision and a judgment was made by Hydro at the time to go ahead on a project on the basis it was going to cost \$50 million. It's now in at \$260 and reflects an inflationary in the interim period of an excess of 100 percent per year with the same result that was foreseen at the time it was undertaken; and you can't lay that at the feet of the inflation monster or the added increased costs of interest charges.

Mr. Chairman, I'll go one step further. We see in the private sector, in McMillan Bloedell right now in the coast where we have the two - they've lost \$19 million in the last year. It's the first time they've lost money in years and years and years, and the Board of their organization is in great difficulty in having to go through some substantial changes. I want to ask you whether the members of the Hydro Board have considered tendering their resignation on the basis of what's happening on Lake Winnipeg Regulation.

MR. GREEN: Mr. Chairman, on a point of order.

MR. CHAIRMAN: Mr. Green on a point of order.

MR. GREEN: I think that the Leader of the Opposition should consider tendering his resignation because he has just said, Mr. Chairman, that the costs went up from 65 million to 260 million. He claims to be an engineer. He says it is for the same project and he either knows or is concealing the fact that there is an additional project included in those figures, that 65 million was the Control Structure project; the 260 million is a Control Structure plus the generating plant. And if the honourable member knows that he should resign for misleading the committee. If he doesn't know it, he should resign because of his ignorance.

MR. CRAIK: Well, thank you very much, Mr. Chairman, for the opportunity to straighten out the Minister of Mines. Maybe he'd like to refer to some of his own literature that was tabled at that time.

MR. GREEN: I'd be very happy to.

MR. CHAIRMAN: Order please. Order please. Premier Schreyer on a point of order.

MR. SCHREYER: No. I was going to ask questions instead of engaging in a diatribe.

MR. CRAIK: Mr. Chairman, I've got a series of factual detailed questions I wanted to ask, but if you want to proceed with some other, that's fine. I'm going to in the meantime dig up the reference for Mr. Green so he can read it for his own purposes, and then he'll know the facts.

MR. CHAIRMAN: Thank you, Mr. Craik. Premier Schreyer.

MR. SCHREYER: Well, Mr. Chairman, if Mr. Craik has specific questions, my name is on the list. If, however, he is not pursuing questions, I would like to pose some.

MR. CHAIRMAN: Premier Schreyer.

MR. SCHREYER: My first question, Mr. Chairman, is to ask Mr. Bateman to clarify, confirm, whether the chart he used just a few minutes ago is to be interpreted as indicating an incremental energy cost with respect to Churchill River Diversion and Lake Winnipeg Regulation of something in the order of one mill per kilowatt hour of incremental energy resulting therefrom.

MR. BATEMAN: Putting the costs of the Churchill River Diversion over those two plants results in an assigned cost - you could call it an incremental cost if you like - of the figure that I quoted you, and it will go down as we add new plants.

MR. SCHREYER: That was calculated on the basis of Kettle and Long Spruce - the figure that you showed.

MR. BATEMAN: Yes, the figure I showed was for the two plants, right.

MR. SCHREYER: One and a fraction mills per kilowatt hour? As the third plant is brought onstream and a fourth, that will come below one mill per kilowatt hour approximately?

MR. BATEMAN: Yes, Mr. Premier.

MR. SCHREYER: From your personal experience is there any utility in our country that is obtaining incremental energy any more cheaply as a result of new works brought into operation?

MR. BATEMAN: No, there is no plant that I'm aware of. And as I said, Mr. Premier, I'm rather pleased with the performance of the Manitoba Hydro System this last year that we have just concluded. We have met our costs. Yes, we have had to make increases, but the future looks very promising for Manitoba Hydro in that we can see our costs going up less than other utilities' costs. Most other utilities are not in the favoured position of having a hydraulic system where the regulation and control structures and so on are in place. I think this is a very preferred position to be in.

MR. SCHREYER: Mr. Chairman, I'd like to ask Mr. Bateman, if given the document which he held up there a few minutes ago, that's not the Programming Board Report I don't think . . .

MR. BATEMAN: Yes, that is the Programming Board Report, Mr. Premier.

MR. SCHREYER: Dated 1967.

MR. BATEMAN: February, 1967. Final Report of the Nelson River Programming Board to the Government of Canada and the Government of Manitoba.

MR. SCHREYER: And then again in 1970, I believe it was, or early 1971, a blue-covered document was also presented which was under the general nomenclature of Programming Board Report as well, was there not?

MR. BATEMAN: No.

MR. SCHREYER: The Task Force which you headed in . . .

MR. BATEMAN: The Task Force that I headed was a Hydro Study which took the report that Mr. Craik referred to, the Underwood McLellan Report which I have commented on before and it took the Crippen Report, which I have also commented on before, and melded them together with the System Studies that were necessary to find out what the impact of those various reports was on Manitoba Hydro's System.

MR. SCHREYER: Right. And that system's planning report, that completely blue-covered document - I'm just searching for the nomenclature for it, it escapes me at the moment - short title, long title, it doesn't matter, I'm referring to that particular report and this one, the Programming Board Report, and I would like to ask if both reports do not, in effect, postulate proceeding with Churchill River Diversion and Lake Winnipeg Regulation.

MR. BATEMAN: Well, of course they do, Mr. Premier. The whole intent of the original studies that were done in the mid-sixties by the Federal Government and the Government of Manitoba participating, looked at the development of Churchill River Diversion and the Lake Winnipeg Regulation. Now, Mr. Craik is concerned about the increased cost of Lake Winnipeg. I haven't heard him express the same concern about the increased cost of Churchill River Diversion or the increased cost of our Long Spruce project. These are affected by the same factors that are affecting the cost of Lake Winnipeg Regulation.

MR. SCHREYER: Well, Mr. Bateman, I'm not going to question you as to why Manitoba Hydro is experiencing the same phenomenon with respect to construction costs as any other utility anywhere else in the free world. Although certainly that is the most obvious starting off point. But I take that as given, that Manitoba Hydro is not by some miracle immune from the same phenomenon of construction costs and costs of money as, let us say, Ontario Hydro and Consolidated Edison or Nova Scotia Light and Power, or whatever. But my question is that on the basis of your engineering experience and career in utility fields, whether in the light of all that has been said by way of Monday morning quarterbacks, whether you with the luxury of retrospection - we can all engage in that luxury - I would invite you to also engage in it - engage in the luxury of retrospection and indicate whether on the basis of systems planning and development for Hydro you have any regrets with respect to proceeding on the basis of the Programming Board Report recommendation and the Task Force recommendation - looking back in retrospection.

MR. BATEMAN: No, Mr. Premier. I have no regrets at all. I think that I'm convinced that to any engineering problem there is more than one solution. The solution that we came up with in the Task Force Report is a viable one and it was a viable solution, it was the economic alternative that we had in front of us when we were faced with the assigned costs for the environmental effects that the Churchill River Diversion would have; and I think that history will prove that it was a very wise decision because of the mitigation effects that we are encountering on the downstream reaches of the Diversion route.

MR. SCHREYER: Mr. Chairman, I would like to ask Mr. Bateman if looking back in retrospection there is still any basis for believing that alternative incremental energy could have been put in place or capacity for that could have been put in place at costs, given the inflation syndrome at costs any more favourable than the course of action that Manitoba Hydro has indeed been following pursuant to the Canada-Manitoba Agreement, the Programming Board Report and the Task Force Report?

MR. BATEMAN: No, I think, Mr. Premier, if we had the foresight of what was going to happen to costs we might have been inclined to try and build these projects earlier. On the other hand, we probably would have been faced with much larger rate increases had we done so because of the fact that the costs would have been a charge against the users of the product.

MR. SCHREYER: Well, Mr. Chairman, I would like to ask a related question then. About three weeks ago - three weeks to a month ago - a source known as National Utility Service published the comparative electrical utility rates for Canada, and one of the points that I gleaned out of it was that rates in Manitoba compared quite favourably with other utilities in Canada, and given that there is some second guessing as to whether or not this systems expansion could have been done in a cheaper way or a cheaper sequence, but given that the problem of construction costs, inflation generally, are, I think it's fair to say, facing all utilities in Canada more or less equally, are you relatively optimistic that whatever the pattern of escalation, that we will be able to maintain approximately the same relative position of rates in Canada as we have, let us say, in the past decade?

MR. BATEMAN: Well, that's a very difficult question to look into the future on, Mr. Premier, because in addition to what we know today of the relative costs of fuel in the various parts of our Dominion which are going to have a direct impact on the cost of energy production, there is also another very important component, and that is the rate of growth that's going to occur in those utilities. Now, I could look at Alberta as an example, where it would be additional capacity they're adding. Their rate of growth, their need for new capacity, because they're growing faster, is adding a high priced plant today which means that everybody has to bear the cost of it. Now, to the extent that you could bring some of these things under control, if there was some way of regulating the growth pattern to the additions that you make to your system, then it would change this, but I at this time, know of no sure way of doing that. But with that qualification about the cost of energy, like the basic energy that is being used in Alberta, for example, such as coal, and oil, and gas for the generation of power, I would think that, of all utilities, they perhaps are in the preferred position, but nevertheless, they're still faced with very significant rate increases, in the past, and they project equally significant rate increases in the future as they add new and higher cost capacity.

MR. SCHREYER: Mr. Chairman, just to try and take that to a little more specific. It is sometimes alleged, Mr. Chairman, that the cost of construction at more northern latitudes is, of course, higher, and that, there is, therefore, somewhat of an exponential effect in a time of inflation in terms of construction costs in northern latitudes. But, given that, I would like to ask Mr. Bateman whether he has seen enough cost data with respect to the nuclear alternative to indicate to him whether the nuclear alternative is likely to be any cheaper; or, conversely, whether the nuclear alternative is not also in construction cost terms, escalating at least as much as project construction costs in northern latitudes.

MR. BATEMAN: Well, Mr. Premier, we do know from the information that we have that nuclear costs are escalating very significantly. As a matter of fact, if we were to place a nuclear plant on our system for the mid-80s now, it would be more expensive than any alternative we have open to us. Now for the late '80s, I'm not sure, because there is a tendency for construction companies, at the present time anyway, to bid a higher price in northern Canada than they would bid in southern Canada. And, we notice that in some of the work that we have going on at both ends of the DC Transmission line, for i.e., conventional civil works associated with foundations and so on, are significantly higher when bid in the north than they are when bid in the south. Now the factors that affect that are the cost of moving the equipment up north, the rail service, the cost of moving the men up north and the cost of housing the men up north, as opposed to the

(MR. BATEMAN cont'd) cost in the south where you don't have to house the men, they literally travel to their home by their own car, and so on, so you don't have to provide a construction camp facility as a rule. If we were building a nuclear plant somewhere in southern Manitoba, then of course, we'd probably have to put some camp facility in, because the infrastructure in the surrounding area would probably not support the size of construction force that we would need to build such a facility, and it would perhaps have an effect of increasing some of these costs. But, by and large, I think the nuclear alternative as we see it today is still a more expensive alternative than hydro.

MR. SCHREYER: Mr. Chairman, I don't know if it's particularly relevant just at this point in time to go into greater depth on that question. I gather from Mr. Bateman's reply that while there is, connected with nuclear plants, it's not a case of higher costs as a result of infrastructure or logistic support which we tend to relate as part of the reason for the higher costs of project construction in northern latitudes. If it isn't a case of logistic support and infrastructure costs then there are, I take it, other reasons inherent in the nuclear alternative that are causing the escalation and furthermore has nothing to do with the cost of nuclear fuel which I understand is also - unlike earlier predictions, nuclear fuel costs are now projected to be on a significant cost increase. Could I perhaps just in a brief way ask Mr. Bateman if the main reason for escalation costs of nuclear plants is what has caused some of the utilities in . . . well Ontario Hydro for one, and a number of American utilities, to postpone some of their plans for nuclear expansion?

MR. BATEMAN: Well, Mr. Premier, the rising costs of construction, the construction industries which are going up at quite a significant rate in Canada, are largely the result of the higher cost of nuclear power from the nuclear alternative. But while you say that fuel is a relatively small part, a fuel component used to be about one mill per kilowatt hour, the latest projected costs of fuel that I have seen indicate that it will be in excess of two mills per hour. Which means that the price of the fuel has gone up four-fold pretty well in the time span we're looking at for the mid-80s.

MR. SCHREYER: Finally, at least for now, Mr. Chairman, I'd like to ask Mr. Bateman, with respect to the Winnipeg River, which has been perhaps a subject of not very much attention in recent years, we've been preoccupied with Grand Rapids and then with the Nelson, but I think it's fair to say that it is widely assumed that the Winnipeg River is a fully developed power river, but could you perhaps indicate whether there is for reasons of outmoded plant design, etc., prospect of some significant addition to Winnipeg River energy production? I'm not sure whether I mean increase in capacity or an increase in energy potential as a result of increasing, updating and reconstructing some existing plant, or plants.

MR. BATEMAN: That's a multi-barrelled question, Mr. Premier. I think within the last week or so we did issue a news release to the effect that we were going to be varying the flows on the lower Winnipeg River from McArthur Falls down, for the purpose of studying the impact of larger flows on the ice formations and break-up, and so on, and we issued a warning to residents to stay off the ice because it may be hazardous for other reasons. At the same time I noticed that the Red Cross issued a warning to stay off the ice in any event, so we probably didn't need to issue ours, but in any event we did want to warn the public that we were going to be changing the flows on the Winnipeg River for the express purpose of determining whether or not we could operate those plants with higher installed capacity.

To reflect the increasing value of energy close to the market, the Winnipeg River represents an ideal source of both capacity and energy. Now you say that the Winnipeg River is fully installed. Well, yes, all the sites have been built, but there is room to instal additional capacity at some of them. For example the oldest, Pointe du Bois Plant, the upstream plant at Pointe du Bois is under-machined for the river. It has an installed capacity that would use about 23 thousand or thereabouts c.f.s., whereas all the other plants, including the city's Slave Falls Plant, has an installed capacity to utilize something like 32 to 36 thousand c.f.s. So there's room there to pick up some increased capacity and some increased energy, which would be very valuable at this point in time, although what we usually compare that against is the incremental cost of Nelson River Power.

(MR. BATEMAN cont'd)

Now, in addition to that we are faced with the need to do some refurbishment on the dam at Great Falls and over the next few years we will be . . . As a matter of fact we have a task force appointed internally to study the redevelopment of the Winnipeg River. There are also improvements in technology which indicate that you can get more energy out of the same site. If you look at the production capability of any one of the Winnipeg River plants, if you are able to improve the efficiency by as little as three percent, and perhaps as much as ten, you would be making a significant contribution to the increased energy supply picture. Now this of course you have to weigh against the cost of refurbishing the plant. But, we are looking at that, Mr. Premier, and it's something that it's not too early to look at because it certainly may be the place to get a year's growth to defer say a Nelson River plant with some smaller capital expenditures which would produce some incremental energy and some incremental capacity. I think that covers most of the points.

MR. SCHREYER: That's all for now, Mr. Chairman.

MR. CHAIRMAN: Mr. Enns.

MR. ENNS: Yes, thank you, Mr. Chairman. Mr. Bateman, I would like you to help me out with my arithmetic, schoolboy or otherwise, and determine the actual capital expenditure that is in place as of now. We have, I trust, your statements of the last hearing. Maybe we could just run through them. We have Jenpeg and Lake Winnipeg Regulation coming in at 260, I believe, 260. Do you have a figure available to you, Mr. Chairman, through you to Mr. Bateman, a figure for current capital expenditures available at Missi?

MR. BATEMAN: Yes, I think I gave those last week, Mr. Enns. If I could just quickly refer to my notes from last week.

MR. ENNS: You have the Churchill River Diversion at 206 million dollars.

MR. BATEMAN: Churchill River Diversion, the estimated cost of the Missi Falls controls is \$46.7 million. The control structure, that's reading from last week's notes, the control structure is complete. The job this summer is to put the dam in the north channel which will take - oh, I think we'll be all through, cleaned up probably by late summer.

MR. ENNS: . . . the Churchill Diversion capital expenditure in place as at this time.

MR. BATEMAN: In place at this time, well. . . the Notigi control structure is complete and it's in place and actually operating, although it's not passing any Churchill River water yet. Let's see if I can find what I said last week about the cost of that.

MR. ENNS: I have your notes here of . . .

MR. BATEMAN: Notigi. I haven't got a figure, but I'm sure - oh, yes, here we are. The estimated total cost of the Notigi control structure is \$27.3 million, and it is complete.

The South Bay Channel, which is I guess a ditch about six miles long be enough to pass the flow of a river equivalent to the Winnipeg River. The Churchill River water, 30 thousand of it is going to be moved down that channel and we are hopefully going to blow the rock plug this week in that structure. And the estimated cost of the South Bay channel is \$76 million.

MR. ENNS: And did you give me a figure for the Missi?

MR. BATEMAN: Yes, I gave you \$46.7 for the Missi.

MR. ENNS: And what do we have in place at Long Spruce?

MR. BATEMAN: At Long Spruce, well I last week invited the committee to come to Long Spruce to see the plant. I showed you some slides which were a little bit outdated in that they were taken last fall; some of them were taken during the winter but they were the interior shots. We have the superstructure steel up for four units and the base headblock concrete is in for most of the units, and the draught-tube work is getting up to the top of the draught tubes in most of the units. So it's well along the way. I can perhaps give you a capital figure for what's installed, or our payout if you like, if that's the figure you'd like.

MR. ENNS: That would be, Mr. Chairman, through you to Mr. Bateman, part of the half billion or the 501.4 that you indicated yesterday that we have allocated for Long Spruce.

MR. BATEMAN: Right now, Mr. Arnason, who is the General Manager in charge of that section of our organization, tells me that we have at the end of January paid \$215 million towards the Long Spruce project.

MR. ENNS: I take it then it will take what? . . . another . . . before Long Spruce come on stream.

MR. BATEMAN: Long Spruce, the first power will be on stream perhaps as early as June of 1977.

MR. ENNS: With the additional amount of how much capital required?

MR. BATEMAN: Well, the initial capital by that time I would anticipate would be getting close to the \$400 million mark. The estimated total cost of Long Spruce is \$500-odd million, \$502, I believe I said - \$501.4, which is the same as I gave the committee a year ago. We built enough escalation into that in our estimates.

MR. ENNS: Mr. Chairman, the point that I would like to do, if I can, with Mr. Bateman . . . Just very roughly then what Mr. Bateman is telling us, is that we have, roughly speaking, very close to a billion dollars in place, in capital expenditures, at Lake Winnipeg, Jenpeg, including the Missi structure, the Notigi structure, and the work done to date on Long Spruce. Would that be . . . ?

MR. BATEMAN: If you look at that table.

MR. ENNS: . . . a fair statement.

MR. BATEMAN: Yes, that's a fair statement, it would be getting up there. I didn't give you the table of - I guess I haven't got it here - of capital expenditures projected.

MR. BATEMAN: But yes, that's the right order.

MR. ENNS: Yes. Well now, Mr. Chairman, I'd like to take and ask the Chairman of Hydro to help me with some figures from yesteryear. I want to assure the Chairman that I'm not just doing this for an exercise in nostalgia, but there is a purpose to the questioning. Had we proceeded along the course indicated in '69, which called for the Churchill Diversion development of the sites on the diversion route and then with carrying on eventually with the other plants on the Nelson, in using in fact even today's escalated figures of construction costs, assuming that there would have been some delays in pursuing that course at that time, we would have in place, roughly speaking, the same, how much money, how much capital, for the diversion at that time, or even give me your today's cost for the diversion.

MR. BATEMAN: For the channels, total cost for the . . .

MR. ENNS: Diversion route as you have it today.

MR. BATEMAN: . . . Churchill River Diversion route, \$206 million.

MR. ENNS: \$206 million. It is my understanding from the information of those considerations that we would have then been in a position to begin a stage development of the lesser plants along the route, referred to as the . . . plants of smaller capacity, these were at that time talked about in the nature of 75 to perhaps 100 million dollar generating plants. Is that correct, Mr. Bateman?

MR. BATEMAN: Yes, Mr. Chairman, Mr. Enns is making the point, that what would have happened had we proceeded to develop the Churchill River Diversion first, and this is the year 1969 and here's the consumer price index. You see the consumer price index was rising; now this is a direct measure of the inflation that would have been experienced over the years of building that plant or those plants, and you'd have had the same impact. We were building Kettle during this period and we were faced with these sorts of increases in costs. So the fact that we had done one, or the other, wouldn't have made that much difference in - the only difference would have been that if we had built the Burntwood River plants we'd have been building more than one a year. In other words, to bring one on - you see each of the Burntwood plants is good for about one year's load growth. That means if it takes you four years to build one Burntwood River plant then you're going to have four plants under way at the same time. The first year you'll start with one; the second year you've got to have two going; the third year you've got to have three going; the fourth year, you finish one and you've got four going in effect. So, in order to meet the projected load growth, now we felt that we could get that load growth more economically, and our cost estimates show that we could, out of the larger incremental capacity that's available on the Nelson River, plus the fact that we

(MR. BATEMAN cont'd)..... already had established the infrastructure at Gillam. We had the construction camp in place relatively close by. We could move it the fourteen miles downstream, and those were some of the factors that moved us into doing the Long Spruce project first, plus the fact that we haven't yet got assurance that we can get the Churchill River Diversion water down there in the quantities we need. Now when we look at the size of the load growth that we have experienced in this period of time, there is no way we could risk going into a system that wasn't secure from a supply point of view. The most secure - you people want electricity when you switch the lights on - and maybe we could ask the man to switch the lights on now - you people want electricity when you switch the lights on and you can't be waiting for something to happen on the Churchill River Diversion, or something like that, we must provide for a secure supply for Manitoba, we can't provide for an insecure supply. We think we're going to rely in the future more on imported capacity as we make these north south ties work, which will make it possible for us to defer these capital expenditures. The whole cost of power that we have to charge our customers is related to how much money we have to spend to build the plant and pay the interest on it. Now the longer we can defer those expenditures, as I told you this morning and last week, the better off our rate structure will be.

MR. ENNS: Mr. Chairman, it's not my intention to get into an editorial argument with the Chairman of Hydro as to what should of or could have been done, but the information that I was soliciting is that even with the escalated costs of diversion, the fact of the matter is that had we proceeded on that course for roughly about \$300 million, and a \$100 million every year thereafter, we would have been adding on these Burntwood site plants onstream as the system required, we would have \$300 million of capital in play as compared to the billion dollars today, which is not generating a kilowatt of energy, and we possibly wouldn't be scurrying around the United States trying to sell the Yanks some cheap power, we would be developing our Burntwood sites, I believe there were four in number, and as you indicated too, Mr. Chairman, there would have had to have been overlapping of construction. . .

MR. BATEMAN: So you would have a billion dollars worth of construction under

MR. ENNS: Well that's debatable.

MR. BATEMAN: Well it's debatable. I agree, everythings debatable but the facts are that in order to meet the projected load growth that we were trying to meet you'd have had to have four of those plants under way.

MR. ENNS: Thank you, Mr. Chairman.

MR. CHAIRMAN: Mr. Green.

MR. GREEN: Mr. Chairman, I want to make sure that my understanding of the figures is not incorrect so I'd like to try to get certain things confirmed as well. First of all Mr. Craik has indicated that the Lake Winnipeg regulation estimate was originally - I think he said about \$60 million.

MR. CRAIK: Mr. Chairman, I'd like to clarify that matter if I might. I dug up the information here and I'll supply it to Mr. Green so that he can have it at his fingertips. The amount indicated to the committee at the time the decision was made was \$54,776,000 for the power station and \$36,666,000 on control, for a total of \$91,442,000. Now, Mr. Chairman, I was in some error, the inflation hasn't been 400 percent it's only been 300 percent since that time.

MR. GREEN: Mr. Chairman, I believe I am entitled to ask the questions now, and my recollection as to the honourable member's giving me a Manitoba Hydro, Lake Winnipeg supplementary study dated August 1971. The Jenpeg site is suitable for development as a generating station up to 200 megatts capacity, minimum average unit, etc. A 160 megawatt station can be constructed concurrently with the control works for an estimated \$54 million. These figures are derived from the capital costs of scheme 1F, minus the capital costs of scheme 1A, 91 million minus 36 million. Mr. Chairman, I must admit that those figures don't readily make meaning to me, they are possibly correct, but I can recall that before Lake Winnipeg regulation was started, before it was started, because I had to go to several meetings in Northern Manitoba, that at that time estimated figures were given for the control structures alone of approximately \$50 million. Now is my recollection correct?

MR. BATEMAN: Well at the time, Mr. Green, that that information was out I think I gave the members of your committee, Mr. Chairman, the relative costs of the various projects that were involved. And what we had spoken about in the first most simple way of controlling Lake Winnipeg, we thought we could do it cheaper by putting a control structure in the two channels, Metchnais and the Ominawan Channel. Now thank God we didn't do it that way, because we couldn't have controlled the lake levels from going up. If we had blocked off some of that channel capacity with these high flows we have experienced in the past few years, we'd have been in real trouble. But the advice then instead of that \$56 million for those two channels, and I've got three different estimates for it, depending upon the types of structures that were involved, and the types of channels that were involved, ranged all the way from the - and I'll give you the figures without the studies because they are on a comparable basis then. The 50 million was 56 with studies that had been done previously - so they ranged from 50 to 74 million dollars to do the original scheme that was involved in the control of Lake Winnipeg in those two channels. Now. . .

MR. GREEN: Mr. Bateman, I want to stop there because - are you talking about between 50, that is a low of 50 and a high of 70, for the control structure alone, or the control structure and the generating system?

MR. BATEMAN: Control structures alone.

MR. GREEN: All right. So then this is what I'm driving at, the control structure alone, the minimum estimate was \$50 million.

MR. BATEMAN: Now if you go down further, well I should say when I say control structure, the control structure with the associated channel improvements.

MR. GREEN: Oh, yes. I'm talking about the program of regulating Lake Winnipeg, ignoring the generating stations, was estimated, as I recall it and the figures that I gave, and I hope I wasn't misleading, I got those figures I believe from the task force, was an estimated approximately \$50 million. Control works alone. That includes the . . .

MR. BATEMAN: The scheme that was actually selected, Mr. Green, was the scheme that was compared at that point of time, it was an \$84 million scheme, the scheme that was actually selected. Now \$84 million, and with all due respect to Mr. Craik and his estimate of inflation, our current costs as I indicated on the screen this morning for the Lake Winnipeg Regulation project is at currently \$120 million, I believe I showed you this morning. Now 84 to 120 million dollars is the sort of inflation that we have experienced.

MR. GREEN: All right, Mr. Bateman, I know that the scheme that was selected was \$84 million but when the task force made its report, was there not an estimate of Lake Winnipeg regulation that is without a generating station in the neighbourhood of \$50 million?

MR. BATEMAN: There were statements made by some people at that time and I would have to research the records to find out who was making them.

MR. GREEN: In any event the estimate that I am now referring to does not include the generating station.

MR. BATEMAN: Does not, you're correct.

MR. GREEN: The first estimate that you can recall, what would the estimate of the generating station be?

MR. BATEMAN: I haven't got that report with me, Mr. Green, but I think that the generating station initially was something in the order of 70-odd million dollars.

MR. GREEN: All right. So that even if we take the low of 50 million for control work and the 70 million for the generating station, that is an estimated cost of this facility of \$120 million. Is that correct?

MR. BATEMAN: When you say this facility, I can't agree it was this facility. It was a facility.

MR. GREEN: A facility of these works. I'm sorry I can't get the right engineering terms, but that the control of Lake Winnipeg including a generating station, was estimated in the neighbourhood of \$120 million, 50 and 70. I'm taking the lower estimate, 50 and 70 is - I want to be fair to Mr. Craik, instead of to Mr. Bateman, I want to give the figures at their worst possible connotation, that the estimate for the control works was \$50 million, and control works with a generating station was \$120 million.

MR. BATEMAN: On the basis of your hypothesis you are correct.

MR. GREEN: And that the work is now coming in at roughly \$260 million, which in approximately a five-year period is an inflation factor of just a little over 100 percent. Is that correct? Now can you tell me what James Bay was estimated at in 1969?

MR. BATEMAN: Well all I know, Mr. Chairman, is that James Bay has been experiencing the same sort of influences, perhaps slightly worse than we have because of their construction labour difficulties, but I think initially the James Bay project was assumed to be in the order of $3\frac{1}{2}$ or 4 billion dollars.

MR. GREEN: What are the figures now?

MR. BATEMAN: I think it's close to \$12 billion.

MR. GREEN: An escalation factor of roughly 400 percent, 300 percent. Do you know of anybody in the James Bay Hydro Board that is resigning? Do you know anybody resigning on that board?

MR. BATEMAN: No, Mr. Green, I don't.

MR. GREEN: Do you know whether the Chairman of the Quebec Hydro is being told to have his board members resign?

MR. BATEMAN: No, Mr. Green. I think those people that are trying to build the James Bay project for the Province of Quebec are doing it with as much dedication and interest in keeping the cost down as we are in Manitoba Hydro.

MR. GREEN: Do you know whether the opposition in Quebec are saying that the James Bay project has been purposely escalated for political reasons?

MR. BATEMAN: No, Mr. Green.

MR. GREEN: Do you know what the original estimate on the Olympic Games was? Mr. Chairman, let's ignore that, let's go to a different province. Can you tell this committee what has happened to Nova Scotia power rates without the putting into place of capital facilities for the generation of power?

MR. BATEMAN: Well of course they have been caught in the oil price escalation which instead of absorbing it as it was made they've saved it up for a little while, and the impact was pretty severe. But they have a very high price incremental cost of fuel component and when you compare various utilities, you know, you're going to pay for the cost of power either in the form of energy prices or interest costs. In our case the cost of the water is very low but the cost of the money to build the plant is very high and you can compare utilities, you'll find that one will have a 20 percent interest cost and the other will have - and a 30 percent fuel cost, whereas we have about a 50 percent interest cost. Well it's not 50 percent, but it's high.

MR. GREEN: You couldn't, and I'm not going to push you for it. If your gentlemen can get it without you answering from where you are, I would like to know the actual increases in the hydro costs in the Province of Nova Scotia without the emplacement of capital facilities, these costs without putting any capital facilities in, what has happened to hydro costs in Nova Scotia?

MR. BATEMAN: Well I have a small energy cost report for the user, summary, which comes out in a little communicator publication and the Winnipeg rates happen to be the lowest. Nova Scotia Power Corporation compared to our commercial rate of average, I guess it is, the average commercial rate in Winnipeg is about 1.56, the Halifax Nova Scotia Power is 3.25.

MR. GREEN: Mr. Bateman, I want to know what they were two years ago.

MR. BATEMAN: Well, I'm sorry that I can't, but I can tell you that over the past five years the price went up, from this table anyway, the price went up and this is before our last increase, went up 36 percent in Winnipeg and it went up 67 percent in Halifax, and 83 percent in Toronto, if you want the highest increase.

MR. GREEN: And in Nova Scotia, I gather, that it is not attributable to putting in place any capital facilities.

MR. BATEMAN: I wouldn't know whether that's true or not, but largely it's due to the cost of oil.

MR. GREEN: All right. Now I want to get to Mr. Enns' questions, because I think that his are very pertinent questions. Mr. Bateman, I gather the reason for putting into place capital facilities and spending money on a Churchill River Diversion or a Lake Winnipeg Regulation, we can argue about whether they are - how you feel or not,

(MR. GREEN cont'd) it is not to spend money but to save money that the system of computer programming is to put in all of the possible alternatives. To put in the alternative of building nothing and buying power; to put in the alternative of building thermal plants or hydro plants, that as many possible alternatives as your engineers can imagine go into the system, and that you come out with the answer which is least expensive and that is what you proceed with. Is that generally how you proceed?

MR. BATEMAN: Generally that is how the system expansion studies are done.

MR. GREEN: So that if we had not proceeded with the Churchill River Diversion, and had not proceeded with Lake Winnipeg Regulation, then, perhaps not this year, our costs for hydro for the people of the Province of Manitoba, would be higher than what they are?

MR. BATEMAN: Based on the charts that I showed last week, Mr. Green, and the amount of energy we are now bringing out of Nelson River, I would wager that because of the increase in the cost of fuel and the freight rates that we have experienced, we would likely be paying higher costs for our power now than we are by reason of having developed the Nelson River.

MR. GREEN: And we would not have the power potential that we have developed, which is a plus?

MR. BATEMAN: Right. Right.

MR. GREEN: And which also goes into this computer.

MR. BATEMAN: The advantage is that we would be putting less dollars in place and one of the big advantages that Manitoba Hydro has here - and I want you to really understand this, that the decision that was made to go to the Nelson River invested a lot of capital dollars in the early years - we have a plant at Kettle that is completed, completed on the basis of the last unit going in in 1974, you're never going to get a cheaper plant. It's producing energy and will continue to produce energy at a fraction of the price that you'll have to pay for the same energy out of the Limestone Plant which is coming on ten years hence. Now if you had made the decision not to proceed with the hydraulic development of the Nelson River in the sixties, you'd be making it today because of these same points that Mr. Green is trying to make relative to the cost of energy from other alternative fossil fuels, and the only advantage is that you'd have put less capital in place but you'd be putting a lot more capital in place today at much higher rates of interest.

MR. ENNS: That's my whole argument, Mr. Chairman.

MR. CHAIRMAN: Order.

MR. GREEN: Mr. Chairman, for the moment I am dealing with, and I'm trying to determine, how Hydro decides what they will proceed with and my understanding is that they put every possible scheme or every reasonably possible scheme into the computer, that they do not do it as Mr. Enns did, they cannot take one alternative and decide what happens, they have to take various alternatives, including the surplus power that is obtained, they put them all into the computer and they come out with what is the cheapest form of power.

MR. ENNS: The computer has difficulty with politics, we'll say.

MR. GREEN: I am going to get to that -- (Interjection) -- Mr. Chairman, I am going to get to that but before I do I'm trying to determine, and I prefer, Mr. Bateman, if we can have it fairly briefly, is that generally the way in which you make your selection?

MR. BATEMAN: Yes.

MR. GREEN: All right. So one of the things that would go into the computer is Churchill River Diversion alone at 754 feet, Churchill River Diversion plus Lake Winnipeg Regulation at 750 feet with Lake Winnipeg Regulation; Churchill River Diversion first, Lake Winnipeg Regulation second; Lake Winnipeg Regulation first, Churchill River Diversion second. All of these alternatives went into the Task Force Report.

MR. BATEMAN: Yes.

MR. GREEN: And out of the Task Force Report came the program that you are now proceeding with?

MR. BATEMAN: That is correct.

MR. GREEN: Now I understand that when Mr. Campbell appeared before this

(MR. GREEN cont'd) committee it was said that Churchill River Diversion should be proceeded with first, and perhaps not proceed with Lake Winnipeg Regulation, that one of the things that he said is that no government will be able - and I'm paraphrasing and I hope I'm being fair to the statement, if I have to go back I will get it - that there will be tremendous public resistance around Lake Winnipeg to proceeding with the Lake Winnipeg Regulation program and that the government will have too much trouble politically selling this program. Was that opinion ever expressed to you?

MR. BATEMAN: Well, as a matter of fact, Mr. Green, the late D. M. Stephens told us as engineers in Manitoba Hydro not to wait to do Lake Winnipeg too long because it would become increasingly more difficult to do.

MR. GREEN: Why more difficult?

MR. BATEMAN: Because of the same as - don't forget that Mr. Stephens was a member of the Lakes Winnipeg and Manitoba Board that reviewed the flood of 1950 on Lake Winnipeg.

MR. GREEN: So you're suggesting that there were political considerations that were brought up against proceeding with Lake Winnipeg Regulation because it was suggested that the government would not be able to overcome these considerations?

MR. BATEMAN: I'm not suggesting that, no.

MR. GREEN: No, but you are suggesting that Mr. Stephens indicated that it would be more difficult.

MR. BATEMAN: Well, the general feeling was that it would be more difficult because of the public hearings that had been held in the 1950s. . .

MR. GREEN: That's what Mr. Campbell said.

MR. BATEMAN: . . . and everybody around Lake Winnipeg in 1955 when the Lake Winnipeg Board was hearing the public reaction, they all wanted Lake Winnipeg controlled. That was the general thrust. Everybody says, "When is the government going to control Lake Winnipeg?" And the answer was when it can afford it. When you can develop power on the Nelson, that's when you'll be able to afford Lake Winnipeg. That's right in the Lakes Winnipeg and Manitoba Flood Control Board Report.

MR. GREEN: Well, Mr. Bateman, I'm suggesting to you that Mr. Campbell, when he appeared before committee, raised the political concern of the public not being willing to accept Lake Winnipeg Regulation. Other than the fact that there was a direction to take into account, to take into account the resource losses that would be occasioned by a high level program on the Churchill River Diversion, has any political decision influenced the Manitoba Hydro Board in its consideration of the Task Force Report?

I know that the Leader of the Opposition doesn't want to hear this question because he's basing - the Leader of the Conservative Party - because he's basing his whole political future when you're answering yes to that question. And I therefore want to hear the answer to that question.

MR. BATEMAN: The Task Force Report . . .

MR. GREEN: Yes, well I want to hear it.

MR. CHAIRMAN: Order please. We are not in a debate with the people from the audience.

MR. GREEN: I want the answer to this question because I want to know. --(Interjection) -- Mr. Chairman, I'm entitled to the answer as to whether political pressure . . . --(Interjection) --

MR. CHAIRMAN: Mr. Enns, on a point of order.

MR. ENNS: Well it seems to me that Mr. Green is very insistent on basing a particular point that he wishes to establish on his recollection of somebody's testimony before this committee. That person is in the room. I would ask the Chair and the committee to consider having him reiterate whatever statements he made - I'm referring to Mr. Campbell - that if Mr. Green wants to pursue this course.

MR. CHAIRMAN: Mr. Enns, you are out of order. -- (Interjection) -- Order.

MR. GREEN: On a point of order. If I'm incorrect, the transcript will so show it. Fortunately the statements are transcribed and are available and we are not going to again make a platform up for Mr. Campbell who went from city to city trying to sell his position without success, and I don't intend that we should have it done again. I am asking the Chairman of Manitoba Hydro whether any political considerations, whether any governmental direction was brought upon them to deal with the Task Force Report as they have done, other than the fact that there was a request that resource losses by the high level diversion be taken into consideration.

PUBLIC UTILITIES

MR. BATEMAN: Mr. Chairman, when I was Chairman of this Task Force Report that is now being referred to, we selected - I personally selected a group of engineers within Manitoba Hydro who had wide experience in the fact that some of them had worked on the original Lakes Winnipeg and Manitoba Control Board Report and some of them were also very capable in the systems studies area. We have a good team together. I was very careful in making the recommendations - and I'm trying to find the letter here, the covering letter for the Report. I was very careful in presenting this report to the then Chairman of Manitoba Hydro that we as engineers - and here's my letter - that we as engineers would not make any recommendation. We have considered the facts as they had been given to us by the engineering information that was then available, the stipulation that we should not ignore the resource values of the Churchill River Diversion- South Indian Lake were taken into account, and consequently we passed our report on to the board of Manitoba Hydro. I think I was asked to attend the board meeting to explain some of the points in the report, and as a group of engineers, I mean this is engineering work, and it's professional work, and none of the engineers that were on that Task Force need to be ashamed of it. As I say, Mr. Chairman, there are more engineering solutions to any problem than some people might like to believe. There are opportunities in looking at this Task Force work and we said that in presenting this report; I feel that the Task Force has completed the assignment which was given to them, and I personally want to record my sincere appreciation for the very commendable effort that was displayed by all the members of the Task Force, and I know that some of the members are looking forward to the challenge of continuing with the work of engineering the Lake Winnipeg Control Stream, while others will return to their normal duties, but will still be interested in and associated with expansion of the corporation.

Now, the fact that with the unknowns that were still prevalent in the supply picture for Manitoba Hydro to be able to assure a firm supply of power to the Province of Manitoba, that was one of the factors that affected the decision. But, when you look at the work that we had, and I'd like to refer back to this programming board report because all of the work that we did, you know, had been done in another fashion, and the conclusions that were arrived at were very very similar. Lake Winnipeg Regulation and Churchill River Diversion, the need for both of them was never in dispute. It was always in the programming report, in the agreement with Canada that followed this report, these are shown here very clearly for anybody to read, in the summary of the various sequences that were studied, and as I pointed out this morning, Mr. Chairman, based on certain assumptions as to how the load was going to grow, you would need these two projects if you assumed the worst case of load growth, that six percent that this report considered, you had these two projects in about five years apart.

Now then under the assumption that you were going to be able to export some power - and we haven't exported any firm power other than to Ontario, which was surplus from the Kettle plant when the decision was made to build it - but if you were going to take the basis of this report that you had that six percent load growth in Manitoba, and as you know, Mr. Chairman, we exceeded it, and as I showed the committee last week, we exceeded it every year in our load estimates.

MR. SCHREYER: On a point of order, Mr. Chairman.

MR. CHAIRMAN: Mr. Schreyer, on a point of order.

MR. SCHREYER: Could we have that last passage in the transcript underlined, double underlined, triple underlined, because that is the whole nub of the point which constantly keeps being ignored, that in terms of those internal to Hydro with professional competence, the advisability of the both components was never in question.

MR. CRAIK: Mr. Chairman, on the same point . . .

MR. CHAIRMAN: Mr. Craik, on the same point of order.

MR. CRAIK: Let us also enter in the records, double underlined and triple underlined, the statement made back in 19. . . , - Mr. Chairman, the First Minister indicating the unanimous agreement in five year interval only, and so on - Let's record Page 6 - 5 of the March, 1970, report which says, "Control of Lake Winnipeg

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(MR. CRAIK cont'd) levels and outflow by regulating structures would not be economically beneficial to the system prior to 1993."

MR. BATEMAN: I would like to object to that, Mr. Chairman, on the basis that Mr. Craik is saying that's Manitoba Hydro's view, and it is not Manitoba Hydro's view. That is a consulting report. We engaged a consulting firm. Nobody has to accept the advice of a consultant if they don't want to. You engage consultants because you want them to do some work for you. You don't have to follow their advice. Now I have told this committee, three years ago, that the work they did was very good in most areas, but we could not accept the limited amount of work that went into the systems studies upon which that report is based and there's no engineering justification in that report for the recommendations they made.

MR. CRAIK: Mr. Chairman, that . . .

MR. CHAIRMAN: Order, please. Order, please.

MR. CRAIK: On a point of order, Mr. Chairman, the statement was that this was unanimous, it was always considered that the two would go ahead nearly simultaneously, or within five years. Let the record show that despite whether that engineer belongs to Manitoba Hydro or that engineer who may be equally or greater qualified was a consultant, it was not unaminously accepted. In fact the most recent guidance, up to the time of the change of government, was that Lake Winnipeg control was not a major part of the development, and this report vindicated that it may not in fact be proceeded with at all.

MR. GREEN: Well, Mr. Chairman, I'd like to continue my questions if the Points of Order are finished. I want to ask, well first of all, with regards to the question that has just been raised, does that Report predate or anti-date, is it before or after the Task Force Report recommendation?

MR. BATEMAN: It's one of the reports that was used in preparing the Task Force Report.

MR. GREEN: So that report was before the Task Force recommendations?

MR. BATEMAN: Yes.

MR. GREEN: Now the Task Force made a recommendation to Manitoba Hydro, the Manitoba Hydro Board on the basis of the Task Force recommendation, decided on the program that we are now engaged in. Is that correct?

MR. BATEMAN: That is correct, basically, yes.

MR. GREEN: I have continued to read stories, particularly one editorialist in the Winnipeg Free Press who I can't place any credence on, but I have to have - I'm disturbed by the figures, therefore I have to ask the question, even though I don't place the credence on them, I want to ask the question. He says, the editorialist continues to say that there is \$400 million being spent on the Churchill River Diversion which is wasted money. Can you confirm that statement on the basis of the Task Force Report?

MR. BATEMAN: Well, I think, Mr. Green that you're referring to the Lake Winnipeg regulation are you not?

MR. GREEN: Yes, on the Nelson River Development Program, that I continue to read in the continuing recurring editorial to the effect that sometimes \$200 million, sometimes \$400 million is being spent, which is in addition to our Hydro costs, which should not be spent.

MR. BATEMAN: Uh, hmm. Well, I've assured you, Mr. Chairman, and the Committee that Manitoba Hydro is not spending any dollars that we do not think are justified in view of the importance of providing a reliable power supply for this province.

MR. GREEN: What about the cost of that power supply?

MR. BATEMAN: Well, the cost of it, we're not providing any excess capital dollars other than those that are needed to supply the reliable power supplies.

MR. GREEN: All right. Now Mr. Bateman, the Task Force Report, the Underwood McLellan Report, the Crippen Report, all of these documents, have been available to the public.

MR. BATEMAN: Yes.

MR. GREEN: Are you aware of any engineering advice as distinct from

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(MR. GREEN cont'd) editorial advice that has come to your attention, Hydro Engineering advice that has come to your attention which criticizes Manitoba Hydro for spending \$200 million or \$400 million, take your pick, depending on the day of the editorial, more than you're supposed to pay, and I except from that engineering advice from the Leader of the Opposition.

MR. BATEMAN: No, the only advice that I think I can say we received is the advice not to spend as much money, or I should say to spend more money than we're actually spending. For instance, on the mitigation works on the Churchill, we now have the Town of Churchill wanting us to spend \$130 million, which would mean that we'd have to raise our rates at least 10 percent to pay for it, and that's the sort of thing that rather than be criticized for spending too much money, we're normally criticized for spending too little.

MR. GREEN: Well, then, I want to put this quite plainly, because I want to, and if it is wrong, Mr. Bateman, and if there are credible engineering authorities criticizing you it wouldn't be unusual, that is true in any profession, but again, are you aware of any credible engineering advice to the effect that we are wasting between \$200 and \$400 million on the existing program for the development of the Nelson River?

MR. BATEMAN: No, I'm not.

MR. CRAIK: Well, Mr. Chairman, on the same point, on a point of order

. . . . MR. CHAIRMAN: Order, please. Order, please. It was not a point of order. Order, please. Mr. Green are you finished with your questions?

MR. GREEN: Yes, I am.

MR. CHAIRMAN: Mr. Craik, you are on the list.

MR. CRAIK: Mr. Chairman, the Chairman of Manitoba Hydro indicated this morning that the costs of the channeling from South Bay were \$76 million from South Bay to the Rat River?

MR. BATEMAN: That's what I said, yes.

MR. CRAIK: That's the breakdown out of the \$206 million?

MR. BATEMAN: That's correct.

MR. CRAIK: What was the anticipated amount of cost for that channel?

MR. BATEMAN: The anticipated amount of cost in the estimate, it wasn't much less than that, but the contract was let for \$36 million, but of course the contract doesn't include the infrastructure of the camp, the access roads, and the cost of maintaining the camp, and so on, room and board over the life of the job.

MR. CRAIK: Your contract on it was 36 plus your extras, plus your camp facilities. The total cost comes in at 76, bringing the total for the whole project to \$206 million.

MR. BATEMAN: Right.

MR. CRAIK: Mr. Chairman, you sent out a Press Release here some time ago announcing that the Notigi structure and the Missi structure were completed and all would be well some time next fall for the operation because the channel would then be finished. Is it not the case though, wouldn't your Press Releases have been more accurately stating the facts if it has been said that the structure, the entire thing was going to be held up one year because the channeling was behind a year.

MR. BATEMAN: I told you last year, Mr. Craik, that we were going to be held up a year, and I showed you pictures that showed you why we were held up. We had an unusually mild winter last year. We put a pretty tight schedule on the contractor, that we awarded the contract to, to try and excavate six miles of very unconventional material in two winters. The success of that project was completely dependent upon the temperature remaining cold in the north. The second winter we had an unusually mild winter and the material, this unconventional material that we got bogged down in, just didn't lend itself to excavation by conventional scrapers. He was forced into a sort of a farming operation in order to try and get it to freeze. You just couldn't work heavy equipment on it. It was sort of a plastine type clay which had a very high moisture content which wouldn't freeze until it was exposed.

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MR. CRAIK: Mr. Chairman, this Press Release which was December, 1975 - I must point this out because I think it's the sort of thing that those that have tried to follow these activities with any degree of concern and interest, this reads, Notigi control in operation.

MR. BATEMAN: And Notigi control was in operation when that release was put out.

MR. CRAIK: Except there was no water.

MR. BATEMAN: Of course, there was water. We'd been impounding water for two years. Don't you recall, Mr. Craik, that we were getting complaints because we shut the water off in Rat River, we were getting complaints at Nelson House and at the Town of Thompson, because we shut the Rat River off. Now as soon as we got this structure complete, we released first of all 500 then we went up to 1,000. So we were able to pass Rat River water that had been held in storage, impounded behind the cofferdam to permit us to build that structure, it's still being released I might tell you.

MR. CRAIK: But it's designed for 30,000 cubic feet per second . . .

MR. BATEMAN: Of course.

MR. CRAIK: . . . normal flow.

MR. BATEMAN: But there's no Churchill River water . . .

MR. CRAIK: But as I read this, it tells me that it's operating. Well, I don't want to make a national issue out of it, Mr. Chairman, but I object strongly to this kind of statement coming out when in fact it should be a statement indicating that a \$200 million project is held up one year because the channel is not finished, which is what the real facts are in the case.

MR. BATEMAN: Not quite, Mr. Craik.

MR. CRAIK: Well, it's pretty close to it.

MR. BATEMAN: Don't forget that we have to yet hear the mitigation problems downstream on the route of the Diversion. We haven't got the property at Nelson House yet. There's a mediator resolving that now, but I'll accept your criticism, Mr. Craik, and we'll try and do better in the future.

MR. CRAIK: Mr. Chairman, the point that seems to escape all of us is we've \$206 million on the Churchill River in place, with no power production, until a future point. We've now got \$260 million on Lake Winnipeg, with no power production at the moment, but it's bound to come.

MR. BATEMAN: Just a minute, Mr. Craik. Just a minute. It's not very proper for you to say no power production, because the Lake Winnipeg Regulation project the water has been going through the Jenpeg structure and it goes through the two plants downstream, Kelsey and then Kettle, so there must be power production because that's where we're getting the power from.

MR. CRAIK: Well, are you generating power at Jenpeg?

MR. BATEMAN: No, not yet. We didn't plan to generate power at Jenpeg until later this year.

MR. CRAIK: So there is no power production at Jenpeg.

MR. BATEMAN: No, but . . .

MR. CRAIK: The channeling is not finished.

MR. BATEMAN: The two mile channel is not finished.

MR. CRAIK: So there's nothing - so the basic control feature is still the Warrens Narrows.

MR. BATEMAN: Oh, that's one of the major control features, right.

MR. CRAIK: So, in effect your Jenpeg Plant is providing very little control to the Nelson System at this point, or virtually not what it was designed for.

MR. BATEMAN: That's correct, because we haven't got the two mile, and then as I said last year we didn't anticipate finishing the two mile until the end of this year.

MR. CRAIK: Well, adding it up, Mr. Chairman, if you add this 260, we're up over \$400 million, close to a $\$ \frac{1}{2}$ billion, at 10 percent interest, which some of it may be written off, and that was one of the questions that I wanted to ask, what the

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(MR. CRAIK cont'd) schedule is for charging interest off onto the plants, that the \$450 million or \$460 million at 10 percent gives us an interest charge of \$50 million a year, 46 million dollars a year, on a system applied to a system that only in total generates a revenue of \$140 million.

MR. BATEMAN: More than that.

MR. CRAIK: \$150 million. Depending what year you pick. This last Annual Report . . .

MR. BATEMAN: Last year, Mr. Craik, when those components of the Lake Winnipeg Control Works were made operational, that is, when the Eight Mile channel, and the Ominawin by-pass channel, and so on, were made operational, they were put on the books of Manitoba Hydro, and they are reflected in the rates we are charging last year and this year.

MR. CRAIK: Is the structure itself . . .

MR. BATEMAN: The structure itself will be treated the same as any generating station. We usually amortize the cost of the generating station against the cost of the units as the units are brought onto the bus to produce commercial power.

MR. CRAIK: Well, we have in addition the amount you've indicated at Long Spruce which brings the total capital up, but I'm looking at the capital, this front-end load that's being applied to the system. Surely this must be one of the basic arguments, is that if the investment itself is one that is only going to produce a benefit somewhere down the line, surely the question must rise whether the system is large enough to carry that kind of a front-end load.

MR. BATEMAN: Well, I can assure you, Mr. Craik, the system is large enough, and you can see from my opening remarks today and the information that I gave to you, that the Manitoba Hydro System is going to be in a very preferred position come a few years hence, in that the rate of increase that we will have to apply gets down to a very manageable proportion. Now I caution of course the committee that that statement is predicated on the fact that we've got to bring inflation under control, otherwise we're going to be faced with higher costs and also higher costs for money. But with those conditioning factors, I'm very pleased with the way we've been able to maintain the productivity within Manitoba Hydro. I've showed you curves last week where we have no more staff per kilowatt hour today than we had five years ago. In fact we have less than five years ago, and I think those are records that the staff of Manitoba Hydro can be very proud of.

MR. CRAIK: Well, Mr. Chairman, I acknowledge, and don't criticize that aspect of Manitoba Hydro's performance, but that surely is not the most fundamental and basic thing that is of concern to the shareholders of the Manitoba Hydro, mainly Manitobans, and that is to whether the course of action has been taken that allows Manitoba Hydro and causes Manitoba Hydro to live up to the Act under which Manitoba Hydro operates, and the Act is very clear, that is, to provide the most economic power. I realize you had forces put on you because of land claim settlements and environmental requirements, and all the rest of these things, but the fact of the matter remains that we maintain, I wouldn't make the earlier accusation, or not namely accusation, Mr. Chairman, but ask the question that I did this morning if I didn't have serious doubts, if we didn't have serious doubts as to whether or not the economics of Manitoba's Hydro operation has not taken a little too far back seat, and now we're starting to see this show up on our, very seriously on our Hydro bills at a time when everybody else is being told to restrain, we have Hydro increasing at 20 percent rates.

MR. BATEMAN: Well, we of course don't like putting rate increases in but to conform with that same Act, Mr. Craik, we must provide power at cost. We haven't anybody to subsidize us. The people that use the power have to pay for it. We are going to operate within the cost restraints that the Act imposes on us, and the message that I get from our customers - sure they don't like the increases but the main message is, are we going to have enough power? I mean, they are most concerned about the future supply of power, and I can assure them very sincerely that that's the job that we've undertaken to do, is to ensure that there is a reliable source of power for this province and as long as I'm obligated or committed to that, I will do my best to see that it's carried out.

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MR. CRAIK: Well, I have to say, that we have no doubt that you'll do it, too.

MR. BATEMAN: Thank you very much.

MR. CRAIK: We're not questioning that. I would like to know specifically, on something like the level on South Indian Lake, was the level of 850 decided by Manitoba Hydro or decided by government?

MR. BATEMAN: Well the 850 elevation was an optimum level that came out of the costs relating to the various restraints that were placed on us relative to the value of resources. Now we asked for 850, our license is 847, maybe some day we'll apply for a new license or the final license and get 850. But at the present time we haven't even got 850.

MR. CRAIK: But your objective level of 850, the question was whether this was set at primarily as a hydro decision or was it one that was primarily set by government.

MR. BATEMAN: No, this was a technical decision. You see this same report that you're quoting from, you are neglecting now when it comes to all those resource values because that same report quoted all the resource values that we were asked to take into account by the government. And when we took all those resource values into account, and you will find that the engineering recommendation in that report also the curves indicate that 850 is close to the optimum level. So that's how the 850 was arrived at.

MR. CRAIK: Then basically it was arrived at on the basis of conditions that you were asked to meet by government.

MR. BATEMAN: Basically when you consider the resource values and the values that were assigned to those resources by the consultant's report, yes, that would be the way it was arrived at.

MR. CRAIK: Have you decided what the difference in total would come to had you gone to the 854 level?

MR. BATEMAN: Well to begin with the 854 level wouldn't have done you any good if you can't pass more water down the channel than the 30,000. We're going to be concerned about the mitigation effects with 30,000 in the channel. It would have been worse with more.

MR. CRAIK: The size of your structure at Missi, which is one that you had called tenders on at a very early stage in the game when a level of 869 or 860-odd was being considered . . .

MR. BATEMAN: 869.

MR. CRAIK: . . . 869-870 was being considered, the price on that at that time was \$17 million.

MR. BATEMAN: Yes. And our tender on the revised structure came in at, I think it was 16 million or something like that.

MR. CRAIK: Then the Missi now has ended up . . .

MR. BATEMAN: Well it's an entirely different structure to begin with. It's a gated structure that can control the flow between any limits. It wasn't the overflow type structure with minimum gates that we had designed in the original one.

One other point that we can't lose sight of and that is that over the escalation that we've encountered in this past few years, I think you'll all appreciate that the resources that we see around us, the land values, the timber values, the mineral values, these have escalated faster than some of our construction costs. So to the extent that we had gone to a higher elevation on South Indian Lake, the consultant's report would have been inaccurate to that extent that the resource values perhaps that they had used would not be as high as the present day values would be. And I think this is what you're finding in all engineering projects in the north, the tremendous values that people are placing upon the resources when you look at the McKenzie Valley Pipeline which is I'm sure a subject that you are very familiar with.

MR. CRAIK: Well, Mr. Chairman, I had a series of questions I wanted to ask and Mr. Bateman may not have all the information here. I wonder if I could just run through them and maybe he can indicate whether he wants to take them as notice. They're to do with the financing.

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MR. CHAIRMAN: Proceed.

MR. CRAIK: First, I wondered if you could give us a projection of your annual retireable debt from here on in that you are going to require. Secondly, you indicated that the long term debt at March '75 was 1.35 billion, and was some larger figure in March '76. I wonder if you could indicate how much of these amounts are you paying interest on and how much is interest accumulating? How much are you capitalizing and how much are you actually writing off?

MR. BATEMAN: Well we're capitalizing the interest on the projects that are not on the operating accounts as yet. By 1979 all of the capital costs that we're currently going through will all be on operating accounts and the rate increases that you see, that I indicated to you will be sufficient to cover all of those costs.

MR. CRAIK: Yes. What I wanted to get was whether you could give us a table indicating those that are being written off now and how much are those that are being capitalized, in total, to give us a total figure.

MR. BATEMAN: We can get that information and have it delivered to the committee if you like.

MR. CRAIK: If you could. The other question was, if you could give the time - if you have at present calculated when these would come onstream, when you'd be writing off these capitalized . . .

MR. BATEMAN: Some of it's already, as I indicated, Mr. Craik, some of it's already in our operating accounts and by 1979 all of it, all of the current plant that's under construction, with the exception of Limestone, will be on our operating accounts.

MR. CRAIK: Well the likes of the Jenpeg plant.

MR. BATEMAN: Yes. We should have Jenpeg all on the accounts by, oh, a year this summer.

MR. CHAIRMAN: Are those all the questions?

MR. CRAIK: No, I had some more, Mr. Chairman. I'll have to take - this will take perhaps a little time. I wanted to ask you about the electric heat as well and ask you what Manitoba Hydro's present policy is with regard to recommendations to the public about the installation of electric heat, keeping in mind that you're going perhaps out of hydro at some point in time and into nuclear and perhaps into other fuel methods. Has Manitoba Hydro done any studies to determine whether they should be promoting electric heat at this time or otherwise?

MR. BATEMAN: Well we are fairly convinced that we should promote it more vigorously perhaps than we have promoted it in the past. The recommendation we would give you today would be to - regardless of the type of heat you're using - make sure you have adequate insulation and if you look at the relative costs of oil versus electric heat, you'll find that we are currently more competitive than oil, and with the projected increases in the cost of oil, I think we will be, with our rate increases and the projected increase on July 1st of this year, we will perhaps again be more competitive than oil. When oil reaches the world market price, I think our rates will probably still be competitive despite the projections that I have given you.

Now I think in addition to that, it's conserving a valuable natural resource. It's in the interests of Canada to displace the consumption of the fossil fuels, the petroleum products and the natural gas products and I projected last week before your committee, Mr. Chairman, that the cost of natural gas is going to rise to figures that, I think again, the electricity will be more economic out somewhere between 1978 and '81. Now I am very concerned about the cost that will result from the McKenzie Valley Pipeline, for example, where we're now estimating I believe, this line has gone up significantly in the last year or two, it's in excess of \$7 billion now. To deliver gas over that line to the end of the Trans Canada Pipeline which is presently in place, and then to pump it down to the various provinces, you will find that natural gas will probably exceed \$3.00 an mcf.. Now my contention is that rather than spend the \$7 billion on the natural gas pipeline Canada as part of it's energy policy should be putting that sort of money into alternative forms of energy production such as electricity from nuclear where other forms are not available, or into energy from hydro such as if they would loan us some of that

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(MR. BATEMAN cont'd) money it would help us keep our rates down, if it was at a favourable interest rate, and it would also, if we had it at a favourable interest rate, would reduce our cost of power and perhaps make it possible to displace more of the non renewable resource type energy consumption in this province.

Now if we were to do all of those things, then we get to the point where we need to build the McKenzie Valley Pipeline, perhaps we could absorb it on the then gas base at a more reasonable cost figure than we're going to absorb it now because just on the same basis that when we bring our Limestone plant into being, the incremental cost of limestone is going to have to be shared by everybody in the province. So is the natural gas user going to have to share the cost of the McKenzie Valley Gas. It's going to raise everybody's gas bill as you bring that higher price gas into the system.

MR. CRAIK: Mr. Chairman, Mr. Bateman has indicated that costs of oil and gas are at this point competitive.

MR. BATEMAN: I said oil. Oil with our products . . .

MR. CRAIK: . . . are competitive. An awful lot of the calls that are received from people deal currently with their problems of having put in electric heat and they're concerned about the increased costs. Most of them are now somewhat concerned, that with the increase in costs that they didn't wait until there was a gas supply, to go into gas installation. And there's also some dismay on their part that their electric heat costs are substantially higher than they thought they were going to be.

I'm wondering if Manitoba Hydro is not experiencing this same sort of concern and complaint coming back from people that are putting electric heat in at this point.

MR. BATEMAN: No on the contrary, most people that I talk to about electric heat are very well satisfied with the service they get, the comfort of it, and the cost of it. For example, I look at my own house and for slightly in excess of \$500 a year, last year, which works out to about \$1.65 or thereabouts a day, it's less than two packages of cigarettes a day to give me not only electric heat, electric hot water, heaters for my cars, and all of the conveniences of television, and so on. I don't think you get an energy bargain anywhere comparable to that.

The secret of any of these heating forms, and let's face it, gentlemen, the alternatives are going to go up as fast, if not faster, than electricity. And the secret to keep your heating costs down is to put adequate insulation in your house, I don't care what type of heating you're using.

MR. CRAIK: Has Manitoba Hydro revised its standards for house construction in that respect?

MR. BATEMAN: Yes, we have increased the recommended insulation, I think, R-24 in the ceiling now as opposed to R-20 if I'm not mistaken. Is there somebody here from the Rates . . . --(Interjection)-- R-27 now.

MR. CRAIK: In the ceilings and in the walls is it still R-12?

MR. BATEMAN: What's the wall recommendation now? R-12 in the wall.

MR. CRAIK: Presumably you'd have to go to two by six construction if you're going to . . .

MR. BATEMAN: No, I think you can get that . . .

MR. CRAIK: No, I know but . . . R-12 you can get it but if you're going to go to something higher you'd have to change those structural . . .

MR. BATEMAN: Right, right. But the big heat loss is in the roof not the wall.

MR. CRAIK: Are you advising triple glazing in your electric heat houses yet?

MR. BATEMAN: I don't know whether we're advising it but I've put an extension on my own home last year and I put triple glazing in.

MR. CRAIK: Is consideration being given to making it a requirement?

MR. BATEMAN: If anybody would ask me I'd say, it's a case of figuring out whether they can afford to pay the cost of triple glazing against the cost of energy loss through the windows.

MR. CRAIK: Well we seemed to be governed by codes that are set here, principally CMHC and NHA codes that are established in the east. Everybody seems to work to a code now. We have the National Building Code in Manitoba throughout. I wonder if

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(MR. CRAIK cont'd) it wouldn't be worth Hydro considering actually having some input into it- not input but imposing a code of its own if people are going to go into electric heat, that may be way ahead of what's presently being required.

MR. BATEMAN: It doesn't matter, Mr. Craik, what type of heat you're using, electric, gas or oil, you're still wasting BTUs through the walls if you haven't got adequate insulation. You're wasting it through the ceiling if you haven't got adequate insulation there. So you'll reduce your costs if you invest a few dollars in insulation. I strongly recommend that the Federal Government Energy Policy contain that sort of a requirement. But there is a real problem here that there's a - the other side of the coin is that everybody's concerned about the high cost of housing and trying to keep the cost of housing down. You can't do it and put adequate insulation in.

MR. BATEMAN: Right. Yes, it's a short-sighted policy.

MR. CRAIK: These costs of insulation are really pretty cheap. All I'm saying is I agree entirely with what you say. I'm just asking if Hydro shouldn't be moving progressively here to establish and require a code that is ahead of the code that . . .

MR. BATEMAN: The National Building Code.

MR. CRAIK: on the National Building Code.

MR. BATEMAN: Yes. Well the joint industry standards, that is, the electrical industry standards are the values I quoted to you and I think oil and gas are also recommending the same . . .

MR. CRAIK: Mr. Chairman, Mr. Bateman indicated that the line from the lower Nelson where there's Limestone, and so on, would probably be a different line, D.C. line and possibly come down the east side of Lake Winnipeg in the presentation.

MR. BATEMAN: Not the Limestone, Mr. Craik. The Limestone Plant can be accommodated in the present transmission capacity. The Conawapa and Gillam Island sites if they are developed will require a third D.C. transmission line from the north. We are looking at the shorter route down the east side of Lake Winnipeg.

MR. CRAIK: This means you have to have another converter station, and so on, at the lower plant and the whole system basically would be not tied in any way to the other plants in the north.

MR. BATEMAN: Oh, yes, we do have a collector system where we interconnect the generation on a 230 k.v. bus and then can move it into whichever rectifier station can accept it. For instance, the Radisson Rectifier Station, the Henday Rectifier Station and so on.

MR. CRAIK: So there still is a tie-in then from the lower plants back to those stations?

MR. BATEMAN: Yes, yes. The Nelson River plants are connected together.

MR. CRAIK: Right. That's an AC tie-in.

MR. BATEMAN: An AC 230 k.v. tie, yes, synchronizing tie that's necessary.

MR. CRAIK: Yes. Has considerations been given to a tie-in with Saskatchewan in the northern part of the province?

MR. BATEMAN: Yes. As a matter of fact we're discussing another interconnection with Saskatchewan now.

MR. CRAIK: In the far north?

MR. BATEMAN: Two locations. One in the south and one in the north. Which one comes out of it we haven't decided yet. The studies are not complete.

MR. CRAIK: In this decision as to whether or not you brought down another line then wouldn't have any bearing on negotiations with Saskatchewan?

MR. BATEMAN: No, no. It would be for other reasons.

MR. CRAIK: You indicated that recent load growth rates have exceeded your prediction, and your figures seem to indicate that there's excess installed capacity during the next few years. In your opening statement you said that the load growth had never fallen short of the predicted growth.

MR. BATEMAN: That's correct.

MR. CRAIK: Now, my understanding from the National Energy Board hearings when hydro presented its case for export of power was that in fact there was surplus power

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(MR. CRAIK cont'd) because the load demand had not developed.

MR. BATEMAN: I think the short term position is that last year we didn't have the load growth that we anticipated, but we do have some surplus capacity, yes, in Long Spruce. Did you want to pursue that further, Mr. Craik?

MR. CRAIK: Yes. I find a contradiction there. The justification for sale of power to the United States appeared to be on the basis in part that the demand did not develop to meet the load growth predicted by Manitoba Hydro, but your statement to this committee indicates that the load has never fallen short of the predicted . . .

MR. BATEMAN: Up to and including the last year, for instance, I indicated to you that last year we were predicting something like a $4\frac{1}{2}$ percent increase in capacity and we actually had a 7.8 percent increase in capacity, which is right back on the - in fact a little in excess of the long term trend - it's a doubling every nine years if we continue to grow at that 7.8 percent rate, which is quite startling.

The energy, yes, we had a turn-down in energy consumption last year due to the economic cut-back, mining, cement, chemicals, steel, these are all big users of energy and their growth has been very minimal this past year, but the system as a whole on the last year grew 4.7 percent roughly I think it was, 4.68 I think was the exact figure I used, which indicates a remarkable turn-around in energy consumption. For example, our rural and domestic, our farm and domestic load growth on the year to date - well on the fiscal year ending last March 31st, I think was something in the order of 14 percent which is quite a remarkable increase.

MR. CRAIK: Well, does this change in the load growth have any indications then that export of power may have been premature or that slack may be taken up.

MR. BATEMAN: No. No. It doesn't indicate that. The licence that we had applied for that we didn't get, the one licence that we applied for that we didn't get was an export of 100 megawatts for two years. Now, the Energy Board came back and said you can export - you can ask for a licence each year and stack these on top of each other, so we, in effect, have to go back now after having ascertained from the Canadian users whether or not they are interested in any one of these six-month periods. In effect, the Energy Board is telling us that the licence that we had asked for we can achieve in this other form that they've given it to us in, but it just gives a little greater assurance to the Canadian Utilities that they can look at their own system requirements and determine whether they need it on a six-month basis as opposed to the two-year term that we were offering it to the Americans first. Now the surplus energy, they gave us the licence for the export of all the surplus energy we asked for.

MR. CRAIK: Well we appear to have at the present time an excess installed capacity even though the load growth is apparently living up to its predictions. So the question arises as to whether the capacity is being installed to increase the potential for export. Are you extending the capacities of development in anticipation of sales?

MR. BATEMAN: No. We're just trying to meet the Manitoba load with our projected increases in capacity and that's why we're, in fact we might be a little long on Long Spruce at the start because we're adding machines at a faster rate than we contemplated when we originally committed Long Spruce. We've made excellent progress on that construction schedule. So to this extent we can anticipate some surplus capacity from the Long Spruce plant in the early years. On the other hand we're delaying Limestone longer than we should be delaying it for Manitoba's load because, you know, of our security of supply position. But we are counting on the 500 k.v. tie with the Americans so that we can buy power that we exchange with them from a summer to winter basis. We can buy that in the wintertime and stave off the date that we need to install Limestone. So we're going to be actually deficient at that point in time.

MR. CRAIK: How does the cost of providing the additional capacity - you are ahead with your Long Spruce plant and your wanting to export the power - how does the cost of this acceleration on your program . . .

MR. BATEMAN: Well, I was hoping you'd ask that question, because the result is, of course, a decrease in cost.

MR. CRAIK: What's the cost of producing it compared to the price of the export?

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MR. BATEMAN: Well, I can perhaps give you a few notes on that. I've also got a chart or two that might help us here. I showed this chart in the early . . . Well, he's asked about the cost of export now relative to the cost of production. Here's the Long Spruce plant, \$501 million capital cost, annual charge about \$50 million. It'll produce an annual energy of about 5.2 billion or cost in mills per kilowatt hour about 9.65 mills. --(Interjection)-- Pardon?

A MEMBER: What do you get for it in the exports?

MR. CRAIK: Well, it's down at the bottom.

MR. BATEMAN: Well, here you are. 17.4. If you add the transmission costs in for Long Spruce, \$200 million, \$20 million annual charges for the same five billion kilowatt hours, the cost per kilowatt hour for all the transmissions, and that includes the collector system and the DC, about 3.85. So our total cost is 13.5 and on the sale to MP & L firm power, 17.4 mills, which is quite satisfactory from our point of view.

MR. CRAIK: That's on your firm power sales. Was this information provided to the National Energy Board?

MR. BATEMAN: Well, it was, but I'm afraid the Energy Board staff didn't interpret it the way it should have been interpreted. It really is a complex problem, you know, it's not the easiest thing to have experts - they had enough of them - but . . . Actually, perhaps, you know, this has been very sadly misunderstood, this sale that we offered to MP&L, and I think that while we had selected some of that surplus which was a spill, a seller's spill-type energy at the three mills, they have told us now that we must sell that at economy rates, which could in effect result in less than the three mills under some conditions.

MR. CRAIK: This is your surplus sales?

MR. BATEMAN: Yes, surplus sales.

MR. CRAIK: Is this still to be negotiated with MP&L now?

MR. BATEMAN: Well, we are currently negotiating with MP&L because in effect when the Energy Board didn't give us the licence they, in effect, forced us into a negotiation for a new contract and that's what we are currently doing.

MR. CRAIK: This figure, Mr. Bateman, that you show here, 17, in all the period of the NEB hearings, I don't recall one person from Hydro mentioning a figure that was in excess of 10 mills. I don't recall any of the NEB people talking about anything in the order of 17.

MR. BATEMAN: Well, I don't think you were there all the time, Mr. Craik, and it lasted two weeks. I'm quite sure that figure for the map - you see, this 17.4 mills is derived from the current rate which was read into the testimony for the map peaking power which is \$1,667.00 a megawatt month for capacity, and the greater of 6 mills per kilowatt hour or cost-plus 10 percent, whichever works out to be the greater. And on the basis of the peaking power that is contained in the map pool agreement, that works out to the 17.4 mills per kilowatt hour.

It does require, of course, that the person who is doing the computation understand the manner of computing it with the capacity charge and the energy charge.

MR. CRAIK: Does the line at this point have a construction schedule laid out?

MR. BATEMAN: We had a construction schedule laid out. The Americans are still hoping that we will be able to make November 1st. At the present time though we are not doing anything towards construction until we've satisfied first of all the contractual arrangements with the American Utility, and secondly, that we've clarified the condition that pertains to the right-of-way.

MR. CRAIK: What at this point do you anticipate to be your total annual sales, firm and interruptible?

MR. BATEMAN: Well, the Energy Board granted Manitoba the licence to export 3,000 gigawatt hours per year, as well as licences for energy storage, transfers of firm energy and aquachange as well as carrier transfers and unscheduled loop flows, and all of those licences are for a six-year period.

MR. CRAIK: What's the total return in total dollars though?

MR. BATEMAN: Well, I think in testimony before the Energy Board we indicated

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(MR. BATEMAN cont'd) our revenue in the first year would - in the part fiscal year - would likely be close to \$6 million, which is from November 1st to April 1st.

MR. CRAIK: And in November 1st to April 1st, well that's your export period, Your firm power is year-round.

MR. BATEMAN: Well, that's what we had scheduled the line to be ready by November 1st and the end of our fiscal year is March 31st. In that period I think we had estimated revenues of \$6 million. We also entered in testimony that the original transmission line that we built into the American market cost us about \$2 million and last year we made revenues in excess of I think it was \$12 million, nearly \$12 million last year on that original \$2 million investment. --(Interjection)-- Pardon?

MR. CRAIK: On the original line.

MR. BATEMAN: On the original line, right.

MR. CHAIRMAN: I wonder if possibly this might be an opportune time to adjourn. The committee will be sitting next April 20th - Tuesday April 20th at 10 o'clock. Mr. Craik, you're still on the list. I have a number of people who wish to ask questions. Committee rise.