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STANDING COMMITTEE
on
PUBLIC UTILITIES
AND
NATURAL RESOURCES

31 Elizabeth II

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Speaker*



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MANITOBA LEGISLATIVE ASSEMBLY
Thirty-Second Legislature

Members, Constituencies and Political Affiliation

Name	Constituency	Party
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ANSTETT, Andy	Springfield	NDP
ASHTON, Steve	Thompson	NDP
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BLAKE, David R. (Dave)	Minnedosa	PC
BROWN, Arnold	Rhineland	PC
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LEGISLATIVE ASSEMBLY OF MANITOBA
THE STANDING COMMITTEE ON PUBLIC UTILITIES AND NATURAL RESOURCES

Thursday, 13 May, 1982

Time — 10:00 a.m.

CHAIRMAN — Mr. Harry Harapiak (The Pas).

MANITOBA HYDRO-ELECTRIC BOARD

MR. CHAIRMAN: I call the Committee to order. It is Public Utilities and Natural Resources and we are considering the Annual Report of Manitoba Hydro.

Mr. Brown, I had your name on the list, so would you like to go at this time?

MR. ARNOLD BROWN (Rhineland): Thank you. My first question would be addressed to the Minister. I notice in looking over the names of the people on the Board at the present time, I am wondering who is speaking for the farming community; when you will be building transmission lines, a large portion of those transmission lines will be going through the farm community and also they are huge consumers of electricity. Is there anybody representing the farming community on the Board at the present time; that is, an active farmer?

MR. CHAIRMAN: Mr. Minister.

HON. WILSON PARASIUK (Transcona): I will have to do some checking on that, I think that is a valid question. Mr. Minish, I know, had a farm background, but he is now a businessman in Swan River. I don't know if he is still involved in farming or not, but I will check into that. I don't know if the previous Board had anyone who was an active farmer; maybe you were an active farmer. I don't think that Peter Fox, the MLA who sits on the Board right now, is an active farmer as such, although I do know that he is a power engineer.

The Board is still not completed in terms of its composition. There are 3 or 4 other spots to be filled. I know we wanted rural representation and I take your concern as a valid one and I will look into it.

MR. BROWN: It is of special concern in my area where land is selling for between \$1,500 and \$2,000 an acre, where you have a lot of special crops which have to be sprayed by plane, and hydro lines do create a lot of havoc and a lot of negotiation will have to be done with the rural community if they are going to be accepting a line down that way.

There is great concern already being shown on the Mandan line and I believe that it is rather important that Hydro address themselves to that particular problem, if they have any intention, that is, of going ahead with the Mandan line.

There was mention that the Board policies had been reviewed and that some major changes had been made. I believe that this statement was made by Mr. Cherniack. I wonder if he could explain what major changes had been made?

MR. CHAIRMAN: Mr. Cherniack.

MR. SAUL CHERNIACK: Mr. Chairman, maybe it is

too early in the morning; I do not recollect saying that major changes have been made. I will take a moment to look at my notes, but I must say offhand that I do not expect that statement would be a correct one. If I made it, I was wrong. I don't think I made it, in which case Mr. Brown is wrong.

MR. BROWN: I do not have a copy of Mr. Cherniack's statement, so it is just that I made a note while he was speaking, so I could have understood him wrong. I don't really know.

My question would still be as far as transmission lines is concerned. What is the policy at the present time — and maybe Mr. Blachford can answer that one — in getting the right-of-way for transmission lines?

MR. CHAIRMAN: Mr. Blachford.

MR. L.D. BLACHFORD: The policy on these larger transmission lines is once the route for the transmission lines has been selected to expropriate the land, expropriate a right-of-way for the transmission line, and to pay 75 percent of market value for the acreage that is included in that right-of-way.

MR. BROWN: I suppose this would be an easement that you are talking about, that you would get an easement to put the power line across that property. In other words, the policy then really has not changed in the last six months from what was in force previously.

MR. BLACHFORD: That is correct, it has not changed.

MR. BROWN: Thank you.

MR. CHAIRMAN: Are there any further questions?

MR. BROWN: Yes, I have further questions. I notice that the rate that we are selling power to the United States has not increased over the last four years or so, and yet the cost of generating, if we are to understand what is really happening within the industry, is increasing considerably. What is the generation of coal doing in North Dakota? Is that price also escalating or is that the main factor why we cannot get better rates for the power that we are exporting south?

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: I believe the cost of coal just south of Manitoba has remained relatively static. However, a large contributor to the stabilization of the cost of energy down there is the fact that the utilities immediately to the south have in the past years brought on some very large and very efficient generating units and this has tended to keep the price of energy down in that market area.

MR. BROWN: If we are talking about power selling from Limestone — whenever Limestone is built and the cost is going to \$3 billion — has a study been made or do you know what the selling price of that power is

going to be at that time?

MR. BLACHFORD: I don't have the concise figure on the basis of a \$3 billion number. However, I think the member knows we hope to bring it in before that time, and based on approximately \$2 billion, it works out to about 40 to 50 mills per kilowatt-hour, depending on the assumptions made.

MR. BROWN: 40 to 50 mills.

MR. BLACHFORD: If the price of generation from coal of electricity is not going up at the same rate that the price of generation from water is going up, the generation from nuclear power is not going up either and in Ontario, of course, they are producing their power. Do you see a danger that at some point in time in Manitoba, it is not going to be viable for us to generate power from water?

MR. BLACHFORD: No, I don't foresee that. While the current price of interruptible energy in the U.S., immediately south of us, is relatively stable, the projections are that the price of energy in that area will also climb considerably over the next few years. Their new generation also costs a lot more than what the current generation has cost.

MR. BROWN: Mention was made that you were negotiating with Wisconsin. Is there anything further to report on these negotiations? How are you coming along with extending the line, I suppose it would be the line to Minneapolis which would be extended?

MR. BLACHFORD: These negotiations haven't really progressed to the extent where these kind of details are being looked at yet. They are really just getting started with the negotiations.

MR. BROWN: Is the ultimate goal of Manitoba Hydro going into Wisconsin to try to reach the Chicago market?

MR. BLACHFORD: That might be a desirable end result if we could get that far.

MR. BROWN: I believe, if I remember correctly, that you have to get to the Chicago market before you get into an area where there is a price high enough really to justify large expenditures of monies in new generation.

I would like to get back to the Mandan line. How are negotiations proceeding with Mandan line? We have been hearing a lot about the South Dakota and North Dakota communities over there really fighting the line and they have been winning some court cases, which made Nebraska have to justify the power line. How are negotiations coming along with the Mandan line?

MR. BLACHFORD: Our negotiations with the Nebraska Public Power District are proceeding. I think that we are almost at the stage where we will have a definite agreement with them. As far as the NPPD's activities in the United States are concerned, we understand that they have got approval, of course, in the State of Nebraska. In the State of South Dakota,

they were turned down by the public utilities agency there on the basis of having not proved the need for this power in Nebraska. They are taking this to a court in South Dakota and it remains to be seen how it comes out. In North Dakota, they are expecting to file their route for the line sometime within the next few weeks and I think that is a general statement of where we are at.

MR. BROWN: Is there any indication that the route might be changed somewhat because of the objections of the communities?

MR. BLACHFORD: I don't think we can say anything about that at this stage. They tell us that they must file a route that goes from the 49th parallel right through North Dakota. It has to be filed that way. What objections may be raised, we can't say.

MR. BROWN: When you are negotiating with Nebraska Power, at what rate are you discussing? Are you discussing the new rate which we can possibly see from Limestone as the 40 to 50 mill rate? Is this the rate that you are discussing with them, or is rate not entering into the agreement at the present time?

MR. BLACHFORD: The cost of energy is not entering into the agreement at this time. It is based strictly on the diversity of energy between Manitoba and mainly Nebraska. There is no cost of energy entering into the basic agreement.

MR. BROWN: Is there any deadline that you are talking about in terms of when you would like to have this line completed? Is Nebraska pressing Manitoba Hydro for some kind of a date?

MR. BLACHFORD: They have indicated that currently their date for this is 1988. Manitoba Hydro's stance on this is that as long as we keep the conditions of the agreement, as we have them laid out in the Letter of Intent that was signed with them almost two years ago, a year or two or three or four doesn't really make that much difference to the basic economics of the line which is based on the diversity between the systems.

MR. CHAIRMAN: Mr. Downey.

MR. JAMES E. DOWNEY (Arthur): Mr. Chairman, the Manitoba Hydro has initially or, I guess, in the initial stages of their development, through the foresight and the drive of one particular former Premier of this province, Mr. D.L. Campbell, with his rural electrification program, made a very important move to bring a source of renewable power to the farms and to further advance the agricultural people throughout Manitoba in their lifestyle and their ability to produce food. The cost at which that was provided to the farm community was quite reasonable and the cost of installation of the utility to the yard, if I understand it correctly, and maybe there's people here with a little more knowledge of it than I could correct me, but I understand that that particular time there was no direct charge or installation charge to the farmer or to the individual rural resident. Is that correct?

MR. BLACHFORD: I am sorry, I am not aware of just what the circumstances were at the time of the initial installations were made, but currently the installation additions to the systems are made on the basis of costs, and when a new installation is requested it depends really on what the utility has to do to make the connection. There are parameters set out to as how far we'll take a line before the customer has to pay a contribution, a construction contribution. Beyond that, the customer has to pay a contribution and what he has to pay is based on his expected load as well as what the construction cost is.

MR. DOWNEY: I appreciate that. The point I am trying to make is that initially when the utility was made available, the objective was to provide a power source to the farm community because of the fact that we had an abundant supply of water power that would be in the best interest of the domestic users, both residential and farm users, at very low, if any, installation costs. It was built into the overall rate structure and paid for over the developmental stages of the utility.

I guess that's the kind of principle that I would have hoped that we could see still carried out, because I think that when we are looking at the changes that are taking place in agriculture, and the fact that in most agricultural communities we don't have the availability of natural gas as they do in some of the other provinces, and the fact that the nonrenewable energy, such as our traditional diesel fuels and the petrochemical industry, have increased in costs so much that to maintain an advantage, that I think we have as Manitobans — that the present policy, if I understand it correctly, when it comes to modernization of some of the farm units; I would like to first of all, I think Mr. Blachford has indicated what the policy is, after so far there is a charge. When we talk of installation of electric motors to power irrigation equipment; when we talk of additional power, three-phase power to operate grain dryers, because we are seeing a tremendous move towards that in the agriculture community, but in most cases that have been brought to my attention, Mr. Chairman, the initial costs of installation of the equipment needed to provide that three-phase power is prohibitive for those farm people to install that kind of a power supply.

I've had probably three cases brought to my attention that, first of all, there seems to be an inconsistency in the policy that, in fact, different farmers have been charged different rates. One particular case that was brought to the attention of the Chairman some time ago by myself where a dairy farmer right south of Brandon, which is in my constituency, lost his dairy barn because of fire. The power has to be taken from one side of No. 10 Highway to the other side just across the road, and the cost to change to a three-phase power when he's building a brand new dairy operation and wants to modernize his power input, the cost seems somewhat exorbitant when it's compared to the cost of installing three-phase power for a corn drying unit in another part of my constituency.

I would hope that number one, Hydro would be able to work out a mechanism or a financial arrangement with the farm community where rather than paying all the initial costs of the installation of that project up front, that it could be paid for over a longer period of

time. I think it would encourage them to use more hydro-electric power, allow them to modernize their farm operations and after all I think that they have been the basis that has paid for the residential, and farm people have been the basis to help pay for the hydro over the longevity of the utility. Of course, it's advanced into other extra provincial sales and other power uses with the development of the province and that's all a very good objective, but I don't think they should forget the basic people that it was set up to provide service for and that's the people of Manitoba, the residents and rural Manitobans. I would hope and I would request that Manitoba Hydro would consider a financial arrangement with farmers who want to update or modernize their power to three-phase power so that they could pay for that installation over a longer period of time, rather than having to put the exorbitant amount of money in a lot of cases up front which in most cases doesn't allow them to proceed to use the utility that I think should be used first of all in Manitoba and then sold outside the province.

So I think if the Chairman or the Minister could clarify what the policy is currently as far as the updating of hydro service to farms, a change-over to three-phase power, what are the guidelines that they use to say whether or not how much a farmer pays, whether he has to go one mile, two miles, or if he just has to go half-a-mile across the road or even the width of a highway and a road allowance to his dairy farm. What is the policy?

MR. CHAIRMAN: Mr. Minister.

MR. PARASIUK: Well, I'll ask Mr. Blachford to give us the policy. In terms of the concerns that the member raises, I assume that they are concerns about past practices of Hydro with respect to a modernization of electrical provision. I think the concern you raised deserves consideration and I give you the commitment that I will ask Hydro to do a review of the concern that you raise and to tell me what that might cost the Hydro utility, whether in fact it would cost anything or whether in fact it's just a matter, as you say, of phasing payments out over a period of time because there could be a heavy front end cost to it. I think that the concern you raise is a valid one, a legitimate one, and I'll be asking them to review it, but I think if Mr. Blachford could provide any clarification as to what is in place right now, maybe he could do so.

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: As indicated, this policy is based on cost. I believe the original remise when the rural electrification was put in was to supply the home and now that it's getting into industry it becomes a different set of circumstances. The policy that we have, based on length of line and then on cost after that, is consistently applied. It may seem inconsistent to some persons because they are further away from the source than others and this will have an effect on it.

In the case that Mr. Downey mentions, I looked into this myself and it is a good distance that the three phases have to be brought to this particular farm, hence the higher cost, and this is combined with the fact that the particular customer is not going to

increase his load or he hasn't demonstrated that he's going to increase his load with the three-phase power. Hence, we're asking for what certainly seems like a fair amount of money for that.

MR. DOWNEY: To the Minister, Mr. Chairman, I appreciate his willingness to review the policy on paying for installation charges on a longer term period versus up front, because with the feeling that I have and with the information that we have sometimes received from Hydro, at certain times we have excess capacity of water going over the generators and it seems a shame that when we have a Manitoban and a ready consumer ready to use more power that he's kept from doing that because of prohibitive charges. If an agreement could be worked out between the Hydro and the farm community, I think it would be in the best interests of them both.

In getting back to my initial comments about the objectives of providing hydro-electric power for Manitobans, I guess when a person thinks back in his lifetime about what are some of the highlights of happening in rural Manitoba, that when you're living in the southwest corner of Manitoba and you've used coal oil lamps, you've used wood stoves, you've used refrigerators that were not powered with electricity, and about 1952 at a particular day the hydro was installed and the hydro lights came on, and I'll tell you it was one of those times in a person's history that you want to remember and it was really dramatic to any community that had those lights turned on and the power available. That's the kind of objective I hope that we can carry on and as I say with the modernization, particularly with the grain drying equipment and with the irrigation equipment that could be heavy users of power, hydro-electric power, it would be a shame to continue to prohibit them from being used and to use high-cost high-taxed diesel fuels and that type of thing.

To Mr. Blachford, there's one area of inconsistency that I want to point out and that was one particular system was put in for a grain dryer in one particular area of my constituency at a certain cost and it seems somewhat of a reasonable cost. Another individual, sometime following that, had the same kind of work done, apparently at a less distance and the same kind of equipment, and the cost was somewhat higher. Subsequent to bringing it to my attention and to some of the local Hydro people's attention, there was an adjustment made to the latter person who had paid more. What I'm having difficulty finding out is: what is the policy, what are the specific charges and I think it would be helpful if that could be pointed out?

As far as the dairy farmer is concerned, I tried to point out that the hydro does not have to move very far. It moves from the east side of No. 10 Hwy. — and most people here know what it's like south of Brandon, No. 10 Hwy. runs straight south of Brandon. There's a dairy farm, the front page of The Free Press carried the fire and the unfortunate situation that they had. The hydro has to be carried from the east side of the highway to the west side of the highway. I wouldn't want to go metric, I would stick to yards, but it is a very short distance. They put up a brand new modern dairy barn, a commitment to produce food and milk for the people of Brandon and all the southwest corner. They

want to put in a new modern power system from the Hydro, but the one reason that they have to pay so much money is that they are not going to use more power. If they said they were going to use more power, then it probably wouldn't cost them as much. I think the farmer is an honest person. He doesn't want to work the system and say, sure, I am going to use more power and a year later have only used the same amount. I don't think it is a good criteria. I think if he is modernizing his power unit in a way in which will give him other advantages, that he shouldn't be restricted from doing it. I again can't find out why the cost of \$5,000 to do that is put in place.

When we look at what has happened in the grain drying industry, for example, where they have had to move maybe a mile-and-a-half or a mile-and-a-quarter with three-phase power, when the cost to do that is somewhat less than the \$5,000 to go across the road. So, I would hope that I have pointed the problem out well enough that Hydro would take a serious look at it and try to correct the anomaly and come out with a stated policy on it, and as the Minister has indicated give the farm community some ability to pay the up-front costs over a longer period of time on their Hydro bill and I would be satisfied.

Thank you, Mr. Chairman.

MR. BLACHFORD: We don't mind revealing this policy. It is well known to everyone withing Hydro and anyone who wants to ask for it. I will get the policy and make it available.

MR. CHAIRMAN: Mr. Orchard.

MR. DONALD ORCHARD (Pembina): Thank you, Mr. Chairman.

I don't know who would be the best person to respond, possibly the Minister or maybe the Chairman. Irrigation systems have gone in, in the last few years, centre pivot type, and often they are a fair distance away from that three-phase power that my colleague, Mr. Downey, has mentioned. The cost of getting three-phase power to them has caused these people to elect to go to diesel generated electricity. The Federal Government has a number of programs on right now which promote off oil. Do you know whether there is any off-oil incentives or subsidies or grants from the Federal Government to switch centre pivot irrigation systems from diesel generation over to electric generation?

MR. CHAIRMAN: Mr. Minister.

MR. PARASIUK: Right at this time, I couldn't say specifically. We have asked the Federal Government to work with us to try and in fact substitute hydro-electric power in every possible instance for nonrenewable oil and natural gas. Sometimes, what happens, when the Federal Government announces a program, is that they haven't worked out the specifics. We have had that in a number of other instances, but the point you raise is one that has been brought to my attention the first time by you today right now. Certainly, I undertake that both my department and Manitoba Hydro will pursue this with the Federal Government to determine whether in fact there are any incentives or

could, in fact, be developed incentives to do this.

MR. ORCHARD: On past occasions, I have quizzed Hydro on their three-phase line delivery policy. I haven't always been in agreement with it during our term in power. I found some of the charges to be too high to encourage the person to go to three phase and as anyone knows any time you get past, I think, three horsepower in an electric motor, your three phase is less costly for the motor and more efficient to run. I think in today's day and age, everybody is after efficiency. I know that Manitoba Hydro has got about a 9.5 percent interest program for homeowners to replace windows, doors, energy saving sorts of features in homes, and yet when the business community or the farm community approaches Manitoba Hydro on the basis of going three phase and accomplishing some similar energy savings and cost savings to their business or their farm operation, they have been in the past stymied by the cost of three-phase delivery, whether it be a short distance or a reasonably long distance. I think, no criticism of the present administration, this is just a time for the system to take a look at three-phase installation and attempt to develop a policy that would make the conversion over to three phase in as many cases as possible affordable. Sure, you are not going to do it to everyone because everyone doesn't need it. I think, there is a 15 horsepower minimum on a business requirement before they bring in three phase at either a reduced or no cost, but I would certainly encourage this Minister and he would have my support to develop a new policy to get three phase more readily available to the larger business and farm users.

MR. PARASIUK: In this respect, I will ask Hydro to do the study of the costs. I indicated that to Mr. Downey and I think that in terms of whether in fact it should be front ended or paid over a period of time, I think that may in fact require a government decision because Hydro administers the home installation program right not, but it is a government program and that would be a government decision. I think the comments of both Mr. Downey and Mr. Orchard are well taken.

In terms of Mr. Downey, I lived on a farm 7.5 miles from the corner of Portage and Main and we had a coal oil lamp as well. So, I could see the bright lights of the city, but I didn't have them in my house and I can appreciate the change that occurred in our life and the life of our family when we in fact got electricity in there.

MR. ORCHARD: I have always remembered electricity. Another question that is along the lines of this three-phase power provision, a number of people, when they have priced out the cost of three phase to their premises and found it out of hand, that they just can't capitalize that much cost, they have gone to the phase converter route. Once again, I think the phase converter route is not as efficient as direct three phase, but it's sort of in between. While the Minister is maybe reviewing some of the energy programs, maybe a low interest loan or a lower interest loan or a long-term spread out cost of phase converters might also be considered in any of his deliberations with

new policy.

MR. PARASIUK: Sure, and indeed any particular specifics in relation to the topic that has been raised today, if the people think of them later on, please send me a note outlining more of them. I think that if we are going to look at it, which I think is a valid request, I can't commit myself with respect to an answer, but certainly looking at the various aspects that the members are raising today is a commitment that I make. If you have others, please raise them or send me a note.

MR. ORCHARD: A question to the Chairman, I think it was maybe two fall ago, the general Carman and Morden area, there is a belt in between there that went into and will stay in, I presume, corn production for the foreseeable future and there was a lot of grain dryers went in with pretty substantial load increases. It was getting borderline as to whether some of the lines had capacity to carry this very high seasonal requirement. Are any of these areas like the Carman-Morden area or possibly over into the Red River Valley, are there any areas that are now overloaded with the present line capacities that have been in place for several years?

MR. CHAIRMAN: Mr. Blachford. Were you directing a question at the Chairman or the Chief Executive?

MR. BLACHFORD: Mr. Chairman, I am not aware of any specific cases, but I think it's true that we are continually upgrading these lines and increasing the capacity when it is necessary. I am not sure of the geography. I did mention the other day there was a large line plan to go down to Letellier. I think that's in the same general area, is it not?

MR. CHAIRMAN: Mr. Orchard.

MR. ORCHARD: It's further west. Some couple, three, four months ago there was some indication that Ontario was not going to be renewing their power sale agreement with the province. When will they no longer be buying power from Manitoba Hydro?

MR. BLACHFORD: I believe within two years, under the current arrangements, they will no longer be buying power from Manitoba on a continuing basis.

MR. ORCHARD: What will be the revenue implications, the decrease in revenue from the loss of that Ontario sale?

MR. BLACHFORD: It would appear that there would be some decrease. Just from memory, I believe we're getting somewhere in the order of 18 mills for kilowatt-hour on the average from Ontario at this time. That power that sold on the interruptible market to the U.S. — well in the last 12 months, we've averaged somewhere between 15 and 16 mills, so there could be a decrease.

MR. ORCHARD: Then basically the CEO is saying that the Ontario capacity that will no longer be required by Ontario will move into the U.S. market?

MR. BLACHFORD: I would expect that would be the case.

MR. ORCHARD: Does that represent all of the Ontario sales or just a portion of them that they are not going to be renewing?

MR. BLACHFORD: Within the two years, I believe it is all the Ontario sales. They phase out and I believe one of them phases out this year.

MR. ORCHARD: Would it be possible — I realize the figures probably aren't readily available — would it be possible at a later date to provide me with a guesstimate as to what that might represent on a decreasing revenue to the system?

MR. BLACHFORD: Yes, I will look into these figures and as I say, it is from memory, they'll have to be checked.

MR. CHAIRMAN: Mr. Minister.

MR. PARASIUKE: Yes, on this, for these types of questions, we'll take them down as notice and I think the normal procedure is to mail the specific technical information to the members afterwards.

MR. CHAIRMAN: Mr. Orchard.

MR. ORCHARD: In the Annual Report on Page 7, extraprovincial power is broken down at 22 percent of Hydro revenues for '80-81 and I suppose there will be a similar — well, each year they have a similar chart — and when we get into the detailed financial statistics, it doesn't break down the value of those sales say, in dollar value, to Ontario, to Saskatchewan and to the United States. Is that breakdown available?

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: Yes, we have a breakdown between Canadian provinces and the U.S.

MR. ORCHARD: Would you have that breakdown with you this morning?

MR. BLACHFORD: The total for the year just finished, March 31st, 1982, was \$72,383,759.00. Of this amount, \$49,800,000 almost went to the U.S. There was about \$6,900,000 went to Saskatchewan and \$15,700,000 went to Ontario. By the way, I was wrong here. The rate in mills to Ontario for the year was 14.5 mills, the rate to the U.S. for the year was 15.8 mills, so contrary to what I thought, we might gain a bit on this.

MR. ORCHARD: Do you have the mills to Saskatchewan?

MR. BLACHFORD: The actual for the year was 20.1 mills.

MR. ORCHARD: Thank you. I had one more — I will defer until I find my other question, Mr. Chairman.

MR. CHAIRMAN: Mr. Manness.

MR. CLAYTON MANNESS (Morris): Thank you, Mr. Chairman. I have learned one thing today, don't go after Mr. Orchard or he'll ask most of your questions. I would like to ask a question if I can on reserves. I gather that reserves have just really been built in the last three years and for the various reasons given over the other day, that in fact they have dropped and will continue to drop. I am wondering if Manitoba Hydro has a policy regarding the optimum level of reserves which they would — given that Hydro was making money, would there be a optimum level at which they would like to reach and thereat stay?

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: If I may presume to speak for the Board, I don't believe there is a reserve figure that's fixed; \$100 million seems to be a good figure. If you recall the graphs that we showed on the overhead here the other day, we get to a point some years down the line where we could lose that much in one year. That is to say we could fail to earn that much in sales if we had to buy instead of generating with water power. So possibly 100 is a good figure, but as far as I know, there is no policy fixed on that.

MR. CHAIRMAN: Possibly Mr. Cherniack would like to comment on that.

MR. CHERNIACK: Mr. Chairman, I've attempted — well, I've confirmed the fact that according to Hydro records and Hydro memories, there is not a policy on what is a good debt equity ratio and since the freeze was imposed, there was no point in establishing a policy because there was no control. There are many arguments that seem to vary between 80 some percent debt in Quebec —(Interjection)— 70-30 in Quebec; where 70 percent is debt 30 is equity. That, I think, is the outstanding one. I think Nova Scotia is in the deficit position like 101 debt to -1 equity. Manitoba is now somewhere around 97 percent debt, 3 percent equity and the projections by staff is that in a few years, it will be insolvent in terms of having no equity. But I find that there was never any objective established, although it is always being discussed, but it has not been done at any time in my investigation. Does that answer you?

MR. CHAIRMAN: Mr. Manness.

MR. MANNESS: Well, I take it then that it has not, in fact, been discussed at the Board level. But is it the intention then of the new Chairman to make this a relevant topic, one that will be possibly acted upon in the future?

MR. CHERNIACK: Mr. Chairman, because I found that there was no policy, I have certainly indicated that I would like the Board to start discussing what is the optimum objective, but we're long range from that. The projection that we have, that was distributed to all members through the Minister, indicates that we have to know where we stand in relation to our ability to raise the rates in order to think in terms of what is the optimum debt equity ratio. I might say that, because Manitoba Hydro's debt is guaranteed by the Province

Manitoba. I personally am not too impressed with the importance of there being a large equity related to the total assets of Hydro, because the only justification for a large equity would be to be able to go to the market showing a better potential, but I do believe that a provincial ability to guarantee makes it less important. Although I also believe that in the United States especially, they are starting to look at the utilities as a whole and it would be advisable to have a debt equity ratio that is more representative of that which exists in their Crown utilities. But we are far from that on the issue of the projections that have been distributed, which indicate that by 1984 we'll be down to \$15 million in reserve. That would be almost a 99 to 1 debt equity ratio.

I do believe that if you think in terms of rate stabilization, then that is the important reserve one should think about and rate stabilization's objective is, of course, that when one sees that one is running into a deficit position, one can adjust the rates gradually rather than all at once by leaning on the reserve. Here we now have \$100 million, which the Chief Executive Officer says is pretty good at this stage. I think it is true that with \$100 million in reserve you can adjust rates so that they don't hit with a tremendous impact all at once and that is the reason, I assume, I suspect, that management has recommended an immediate rate increase so that the projected deficit will come with a lesser impact and rather than their projection of a minimum of 31 percent increase it could be made less by making use of the reserve. I wonder if that answers the question.

MR. MANNES: Yes, it does. I'll just ask one final question, does the Chairman then see as one of his objectives is working towards a system of rate changes, mostly increases I suppose, that would attempt to work towards a goal of maintaining then a specific debt equity ratio or, indeed, a set figure of reserves?

MR. CHERNIACK: Mr. Chairman, my personal objective, of course, is to serve Hydro and in serving Hydro means the Manitoba ratepayers of Hydro and that means keeping the rates as low as possible. It would be wrong in my estimation to aim at a high equity ratio to debt if it means raising the rates tremendously at the expense of Manitoba ratepayers. I think that might be an exercise that would be of little use. It is, however, desirable in my opinion that you have a constant rate stabilization reserve available to adjust to abnormal times such as we've had in the last couple of years. There's no question that these last two years were absolutely abnormal and that because of that, the projection now is that with normal flows, but with still the pressure of higher interest rates and higher inflation than was expected, that we are still running into a position where it is possible that if Hydro is not allowed to raise rates until the end of the freeze period and as then told, well, you don't go 31 percent or, assuming these projections are valid or hold valid over the next couple of years, that Hydro might be in the position of having to say to government, "We must raise rates under the Act," because in my interpretation of the Act you can run planned deficits for a year or two providing they don't impinge completely on the rate stabilization reserve. I don't think under the Act

we are allowed to operate Hydro to a stage where there is no reserve and we're running an absolute deficit.

So, my own thought is that either we have to be allowed to raise rates or we have to be subsidized further by the taxpayer rather than the ratepayer, or the law would have to be changed, and that I really don't think is a terrible thing, but that's not within my province. But it would be possible to project, let's say, 10 or 11 percent increase over a period of time which will actually drive us, according to these projections, into a deficit position overall, but gradually get us out of it. I think we can only do that if the law is changed and as I say that is not within my responsibility.

MR. MANNES: Thank you. I'd like to change the subject somewhat to a brief question on the transmission line that now goes to the States just west of the river. What is the name of that line, so I can refer to it?

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: There are three of them. Are you thinking about the 500 kV line?

MR. MANNES: I'm thinking of the large one that goes through the municipality of McDonald and Morris.

MR. PARASIUK: That's on the west side.

MR. MANNES: West side, did I say east?

MR. PARASIUK: No. I think they were thinking of the east side.

MR. MANNES: I'm saying the west side.

MR. BLACHFORD: I guess this is the 230 kV line to Grand Forks.

MR. MANNES: I see. I would like to refer to it by name, if it has a name, and I don't know it myself.

MR. CHERNIACK: Isn't that a name?

MR. BLACHFORD: I don't believe so.

MR. CHERNIACK: I think you should give it a name.

MR. PARASIUK: What name would you like to call it?

MR. BLACHFORD: The line to Grand Forks.

MR. CHERNIACK: We'll consider it.

A MEMBER: What about the Mannes line?

MR. MANNES: Well, I have enough things that go through my farm that I have trouble with.

I suppose the question I wanted to ask, I wanted to know if all claims or if all settlements with farmers, through which this line passes their farms, have, in fact, been settled or would you have any way of knowing that?

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: I believe on this line, they have certainly been settled. That line, if we're speaking about the same one, has been there for approximately 10 years. If you're speaking about the 500 kV line from Dorsey that ultimately goes to Minneapolis, I'm not sure that has all been cleaned up as yet.

MR. MANNES: Well, I think that's the one I'm speaking of then, is the Dorsey line then.

MR. PARASIUK: That's on the east side of the river.

MR. MANNES: I'm led to believe that, in fact, there are some landowners that have not at least accepted the settlement officially on the line on the west and I was wondering if there was an open file or if there was any comment that he could give. If not, I'll move to the question brought up by Mr. Orchard on drying and surge drying. Is the heaviest usage on start-up of these dryers that are coming into some areas — they are located in the heavier concentration, of course, than some areas that are growing corn — and I'm wondering if there is a policy, because I happen to know of some people that have put in dryers and then had Hydro come to them to determine the start-up requirement of the fans as such? I'm wondering if there is a policy specifically to this or is it just that if you happen to be the third person on the line you may be precluded from building or establishing a dryer?

MR. BLACHFORD: I'm sure there is no preclusion from putting in a dryer, but if that consumer is unfortunate enough to be the one who asks for an increase at the time when the line has been loaded, then I think he can probably expect to pay more than the others have paid, which is an unfortunate circumstance but that's the way it works.

MR. MANNES: Well, is that just to upgrade then the ability of the line, to bring in higher voltage, or is that just for being further down on the list?

MR. BLACHFORD: It sounds to me as if it will be further down the line of that, you know, further away from the source and therefore it will be an upgrading in the line. Presumably, he has power to start with.

MR. MANNES: And then in the case where you're not further down the line, you just happen to be the fourth person using it but you may be first up, you know, you may be closer to the source, does that have . . .

MR. BLACHFORD: Yes, this is all getting theoretical, but if he were the first to ask for the power and the line capacity was there, he would presumably not have to pay as much as if the capacity was not there.

MR. MANNES: Another question I'd like to ask is the policy surrounding home heating. It seems to me over the last little while or so, I haven't seen the same emphasis on heating electrically. Has there been a change at all in the whole attitude by Manitoba Hydro in this regard?

MR. BLACHFORD: For a number of years, electric home heating has not been pushed, it has not been marketed, but if a consumer comes along and asks for a connection for home heating, he is given it.

MR. MANNES: Is there some specific reason why the policy in effect some, I don't know, four or five years ago when in fact home heating was marketed, why that policy no longer exists?

MR. BLACHFORD: I believe the background on this in the electrical industry is that from the time it began in Manitoba, as in other jurisdictions, you were able to bring down the price of power through the building greater machines and building larger developments, it brought the per unit price down. There was a great incentive to market more in order to bring the price down even further. Now in the last 10 years, unfortunately this has changed and in Manitoba, as in many other places, we've got to the point where building bigger and better does not necessarily decrease the price and therefore, that coupled with inflation, increases the price and there's really no advantage to the general consumers to going out and trying to market more for the purpose of bringing down the cost per unit.

MR. CHAIRMAN: Mr. Cherniack.

MR. CHERNIACK: Mr. Chairman, if I might just add to that. My impression or recollection was that policy was changed around 1975, but Mr. McKean tells me it was even prior to that. That may tie in with the 10-year period that Mr. Blachford refers to where it was found that it was not economic for the existing ratepayers to push further use of power for purposes such as heating.

MR. MANNES: Well, you say it wasn't economical. Are you thinking of the actual consumer or are you thinking of the whole electrical system, the whole Hydro system?

MR. CHERNIACK: Well, my understanding and now I'm not speaking as an expert but just a person who's been asking this kind of question for the last few months. It is not economic, as I understand it, for the consumer to convert from natural gas to electricity. It is economic to convert from a petroleum product or whatever you call it, oil, to electricity at this time. It is not economic for the system, as I understand it, to be increasing the demand in Manitoba for the sale of electricity. Now having said that, I want Mr. Blachford to expand on it or correct me if I'm wrong, but my impression is that it is to the advantage to sell it out of the province. I wonder if Mr. Blachford could elaborate.

MR. BLACHFORD: Yes, that's true, it is to the advantage to sell it out of the province when you don't have any other market for it. But if you would care to look at the prices of energy and I'm speaking about kilowatt-hours that come from the various Hydro plants that we have. We start now with the older plants and the cost of extracting energy from these plants right now. On the Winnipeg River, there's somewhere in the order of, say, 5 mills per kilowatt-hour; whereas you go up to

the Nelson River and look at Long Spruce, last year it cost 10.9 mills per kilowatt-hour to generate the energy from that plant as compared to Great Falls, which is an old one, is 3.71 mills per kilowatt-hour. Now when we have to build another plant on the Nelson River because of inflation, not because of the site but because of inflation, it's going to cost even more than the 10 mills. They suggested it might be 40 or 50 depending upon when it comes into service. So everything that causes Hydro to build more power is going to add to the general cost of electricity within the province in money terms.

MR. MANNES: Well then, in general, are you saying that it would be better if Manitoba Hydro, and I think maybe you made comment with reference to this the other day, that if Manitoba Hydro remained in a static position from now on forever . . .

MR. BLACHFORD: If you looked only at the price of electricity and what the consumers are going to pay, that would be correct, but I'm sure that would not be the policy of the province, so that is another aspect that has to be looked at.

MR. CHAIRMAN: Mr. Cherniack.

MR. CHERNIACK: So again if I could add, what I've been learning and I must say, Mr. Chairman, that when I became Chairman of Hydro, I was surprised to learn this kind of information. I thought it was advantageous to Hydro to be out pushing sales. I think that Hydro, under the legislation, is required to concern itself with providing power to Manitoba users and to maintain the lowest possible rate. Therefore, the objective of Hydro is to maintain the lowest cost and Hydro, therefore, has to recognize that any increased production that is demanded will raise the cost to all the existing ratepayers. I use the word existing because the statement Mr. Manness made applies, status quo or I forget just what term he used, would be, I believe, correct for today's ratepayer. It is a different kind of objective, of course, for the province which concerns itself about the economic advantage of the province to look at expansion as being something helpful to provincial economy, but until Hydro gets such kinds of instructions or legislation, Hydro's objective is not in the Act in that way. Hydro's objective is simply to provide Manitoba users with the lowest possible cost and on that basis, I think that Mr. Manness stated it or summarized it well. I wish I could remember the term he used about a sort of a status quo or —(Interjection)— "Static," yes. That's my understanding, that's what I think I've learned in the last few months.

MR. CHAIRMAN: Mr. Minister.

MR. PARASIUK: I just wanted to add, the problem of front-end costs being high and the operating costs being low is one that is faced by hydro utilities around the world. That's one of the reasons that I contacted the Federal Government almost immediately upon being made Minister responsible for Hydro to, in fact, raise this whole question with them. Mr. Orchard had talked before about some of the off oil incentive programs of a small nature. Well, if we're going to talk

about off oil in a major way within this country, then the Federal Government has to play a big role in developing a national energy policy that just doesn't talk about oil and gas. If we want self-sufficiency in oil, one of the ways of doing that is to start providing financial arrangements in such a way that we can switch from oil to electricity or switch from natural gas to electricity. We feel that the Federal Government has a major role to play in this respect.

MR. MANNES: Well, that is an interesting comment because I'd like to relate a little story and then ask you for your interpretation. I, over the last month-and-a-half, have been actively working with a community in my constituency who is attempting to bring in natural gas. I know there's another area in the Constituency of Rhineland where there's a group working with the aid of the Co-operative Development group, where in fact I think they are taking some of their lead from some of the things that have happened in Alberta, where instead of rural electrification it almost looks like rural gasification. I am wondering, the way the National Energy Program seems to be developing, at least in the written word there seems to be some opportunity for major support to helping groups within small towns outside of large centres to secure for themselves gas supplies. I am wondering what impact this whole policy change on a federal nature may have on Manitoba, but more specifically on Manitoba Hydro.

MR. CHAIRMAN: Mr. Minister.

MR. PARASIUK: This is a federal policy that is changing. It isn't particularly static; it isn't particularly fixed and it is hard to get a clear reading on the amount of money they are prepared to put into this ultimately. It is one thing that the Department of Energy is looking at in terms of when is the crossover point going to be reached in terms of economics. Is it more economical to heat with home heating or to heat with natural gas, if at the same time you are taking a look at what the future prices of oil will be and what the future prices of natural gas might be. We are into an area that right now is quite unpredictable especially given the situation with respect to the world price of oil and whether in fact that is a temporary holding pattern or whether it's going beyond that.

I know Hydro itself is cognizant of these various changes taking place, plus the improvements that are taking place with respect to gas furnaces. There have been some very major improvements in efficiency there and it makes the whole question then of conversion, especially from natural gas to electrical home heating, much more unpredictable.

MR. MANNES: Does this country or this nation have so much surplus natural gas that in fact possibly Manitoba's greatest natural resource in a sense or its second greatest being water directed towards Hydro energy development, is there some chance that we, as a province, will first of all maybe not be eligible for potential federal grants in this area or secondly, do we as a province have an opportunity to tie in our great energy source into this whole program?

MR. PARASIUK: Those are valid points. That is exactly

why we are saying you have a National Energy Policy that has a whole set of programs geared to oil and gas only and has never taken into account hydro-electric power. We are a province situated in the centre of the country, in a sense in the centre of the continent and we are in a position to talk about utilizing hydro-electric power as a substitute, especially for oil which we are importing right now.

With respect to natural gas, that situation seems to change every three to five years. It wasn't very long ago, I think, five years ago that builders and homeowners in Manitoba were being informed that they may not be able to hook up for natural gas with the next house that was being built and there was tremendous concern at that time. That took place three or four years after the Federal Government, through the National Energy Board, had allowed the export of tremendous amounts of natural gas to the United States, so we had this tremendous shift in policy and tremendous shift in long-term outlook with respect to long-term supply of natural gas. That still seems to be as unpredictable as ever, although in the last while, in the last few years, it would appear that there seems to be developing a fairly secure long-term supply of natural gas.

MR. MANNES: What is our province doing actively at the moment as far as attempting to make Ottawa aware of where we fit into this whole energy situation in Canada and what we have to offer?

MR. PARASIUK: In that respect, I think maybe some of this might be better discussed when my Estimates for Energy and Mines come forward, but certainly I have raised this very quickly with the Federal Minister of Energy, Mr. Lalonde. We have launched a whole set of studies in this respect. Again, he said that I was really the first Minister who had come forward in terms of this type of proposition, that the National Energy Policy should really be more than an oil and gas policy. He had felt in the past that provinces had been too hung up about jurisdictional battles regarding energy and we said that we wanted to try and determine the problems and also determine the opportunities for resolving those problems. So, without making any commitments with respect to the future, we certainly are pursuing ways and means by which hydro-electric power may in fact be substituted for oil especially.

MR. MANNES: Thank you. I find that whole area intriguing, but I won't belabour it at this point. I would like to ask a question though that may appear to be somewhat petty. I would like to ask it of Mr. Blachford.

I am wondering if he feels that, in fact, Manitoba Hydro and therefore the Province of Manitoba and all the users of Hydro are receiving the most efficient output by employed field staff. I ask that question only from observations at times and as recently as a year ago or very close, in watching poles being erected with three men working and six men watching. I just ask the general question.

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: I am sure it is always subject to interpretation and individuals, but I do believe the

Manitoba Hydro system is as efficiently served as we know how to do.

MR. MANNES: I'm sorry. I didn't hear the answer.

MR. BLACHFORD: I say, I believe in this respect, the province is served as efficiently as we know how to do. We are constantly looking at this and I am sure no one can say that there is not room for improvement, but this is under constant surveillance.

MR. MANNES: I am glad to hear that. That will satisfy me.

One final question and Mr. Blachford, you were talking the other day about running an experiment, attempting to bring water down from South Indian Lake and then I think you said that Lake went dry and the experiment had to be abandoned. Could you give us some further detail on the experiment which you were running?

MR. BLACHFORD: Yes, the general idea was to find out what the water levels on, I believe, it is Three Point Lake downstream of Notigi and what the water levels would be at Thompson when various flows were run down the Burntwood River. About a year ago, a little more than a year ago, the flows into South Indian Lake were excellent, but about one year ago now, the Reindeer River went from a very high river flow to a flow that was down to what they call about a 2 percentile. This means that 98 percent of the time, it's better. So, it was very low. The result of this was that South Indian Lake, with this draw down that we are doing at about 34,000 cubic feet per second, began to come down very quickly. As you may know, we were restrained by the interim license on that Lake to a two foot draw down in any 12-month period. We got to the stage where we had drawn down this two feet. We still needed the energy. We went back to the department of government and asked them if they could waive this two-foot commitment that we had. They did that, but at the same time we had to cut down the draw from South Indian Lake and it's now down around 20,000 cubic feet per second and depending upon the freshet and the break up this year, it may even be less. But the inflow into that river went from a very high percentile down to about a two percentile flow which is the lowest that has been recorded since the river began supplying energy.

MR. MANNES: Well, I still don't quite understand what the nature of the experiment was. Was it to see how much water and how quickly you could rush it down?

MR. BLACHFORD: No, the experiment was to see what levels would be obtained with various flows in the river at various points in the river. Pointedly, Foot Print Lake, I believe, is the one that is near Nelson House and at Thompson.

MR. MANNES: You managed to reach a level of 34,000 cubic feet per second.

MR. BLACHFORD: I believe that was the figure, yes.

MR. MANNESS: Was that a stated objective or in fact when you attempted to go higher, did you want to reach 34,000 and see how long you can maintain that flow?

MR. BLACHFORD: We would have attempted to go higher depending upon the results of the 34,000 cubic feet per second. Unfortunately, as far as we went has not been fully diagnosed yet, so I don't know whether we would have decided that we would try a higher flow or not.

MR. MANNESS: Well, is this experiment now completed or is it just postponed to a time when, in fact, the South Indian Lake again recaptures its level?

MR. BLACHFORD: It is postponed until such time as there is sufficient water to try again.

MR. MANNESS: Is there any conclusion at all from this experiment at this time that you can relate to the optimum level of South Indian Lake?

MR. BLACHFORD: Sorry, that we can do what to South Indian Lake?

MR. MANNESS: That you can relate to the optimum level of water in South Indian Lake?

MR. BLACHFORD: No, we haven't completed the flow program and until that is fully completed, we won't really have all the answers.

MR. CHAIRMAN: Mr. Scott.

MR. DON SCOTT (Inkster): Thank you, Mr. Chairman. I wanted to make some comments, first off, regarding some of Mr. Manness's earlier questions on a conversion from oil or gas or whatever the house may be heated by towards electricity. I wonder if the representatives from Hydro could possibly give me a cost estimate on the cost of conversion, the upfront cost for hydro. I understand it is in the vicinity of \$10,000 per house.

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: I believe this probably has reference to the current cost of generation in which would be required to supply the energy that the average house would need to heat it in the winter. If we take 10 kilowatts to heat a house and a \$1,000 per kilowatt for the generation and that's only part of the cost, then you arrive at his \$10,000 figure. You also have the transmission between the power plant and the load centre plus the distribution and the transformation to pay for also.

MR. SCOTT: When the incremental costs or the marginal costs increases with additional developments such as Limestone or whatever, I believe you said it was in the vicinity of 40 mills per kilowatt hour, then you could multiply that cost per house by that factor as well?

MR. BLACHFORD: I am sorry. We are talking about

two different things. I am talking about the installation cost of a plant, whether you get a kilowatt hour from it or not. Now you are speaking about 40 mills, and that is referring to a different quantity. When Limestone is built and if it is built to come on the line, say 1988, the price is expected to be about \$2.2 billion. This will work out to somewhere in the order of \$2,000, so instead of being \$10,000, it will be about \$20,000.00.

MR. SCOTT: Thank you very much for that clarification. I think, you know, given that sort of evidence, I would like to commend the utility for almost an about turn from, I guess, eight or ten years ago when there was a strong promotion towards getting on with ready kilowatt and moving towards conversion, especially towards space heating, because I'd classify electricity as one of our highest quality and most versatile forms of energy. To be using it for such an inefficient use as space heating, I think is a very very unwise investment on behalf of Hydro and really on behalf of the ratepayers and the citizens of Manitoba. As the marginal rates go up with the increased production costs for bringing on new rates or new power, it's even going to get worse. I would suggest that there be some form of standards established before a house is even permitted to convert towards electricity; in most instances, that house would have to meet a certain insulation standard. Because if a house is insulated sufficiently, leaks are cut down sufficiently, if it's properly built, then it is possible to heat with electricity for a very low cost.

I believe the demonstrations under the Saskatchewan Energy House are getting down to a mere fraction of what the costs are for a normal home for heating with electricity. I have even heard figures as low as around \$20 a month in the wintertime for heating and most of the heating being waste heat from everything from lights to stoves, fridges and that sort of thing. So I would just, I guess, make a commentary plea to continue the efforts that are presently being made towards seeking and using conservation as a source of supply and as a source to reduce the rate of growth, or the rate of the growth of the demand on the system.

MR. BLACHFORD: Yes, we are following very closely these developments and while it's not Hydro's job to say how houses should be built, we are certainly encouraging people who are considering electric heating to build their house or to change their house in order to make it as heat efficient as possible.

MR. SCOTT: Well, it may not be a Hydro responsibility to set the building codes, I suppose, as to what house qualifies. I would suggest that it is kind of in the interest of the utility that if it does not require some basic standard, then maybe what we should be doing is charging people for heating purposes of heating homes at a marginal rate. Because I understand right now, correct me please if I am wrong, that the hydro rate on a home that is using hydro as a heating source is lower than on a home which is not using hydro as a heating source. There is a different rate adjustment so that the people aren't hit with really the full cost of supplying hydro to the home.

MR. BLACHFORD: They get charged the standard

rate currently, but Mr. McKean points out they get the lowest run-off rate possible, so it looks as if they've been charged a bit less.

MR. SCOTT: Okay, that's fine. That is all I have at this time, Mr. Chairman. Thank you very much.

MR. CHAIRMAN: Mr. Kovnats.

MR. ABE KOVNATS (Niakwa): Thank you, Mr. Chairman. I have a couple of questions, not too technical in nature, but something that's been of some concern to me for quite some time. First of all, I would like it to be noted that I am one who has a strong feeling that the terms of reference for the Manitoba Hydro should be expanded, not just for providing cheap electricity for the people of the Province of Manitoba, but I think that the terms of reference should be expanded and possibly expanded to the energy of the future which is hydrogen power. But I will get back to hydrogen power in just a minute. I wasn't going to bring it up at this time, I thought that it would be best brought up during the Minister's Estimates, but I think that now I've touched on it, I will probably get back to it.

I started reminiscing a little bit back when I heard the Honourable Minister say something about coal oil lights in his home. I do recall a fellow by the name of Mr. Cameron who was put out of business by the electrical power because he used to deliver ice — I guess we don't have iceboxes any more — Mr. Cameron was out of a job and this was quite a few years ago.

After saying that, I would just like to mention that the Customer Services Department of the Manitoba Hydro, I think, is second to none. It is great. I think that they have possibly fallen down a little bit inasmuch as I think that the people of the Province of Manitoba should have been more aware of the rising costs of electricity. I am not looking to put blame anywhere. I think that it is a hindsight that the rising costs of electrical power has discouraged people from using electrical heating in their homes. I think that there should be some concessions to people who want to use electrical power in their homes. I think that there should be some concessions to people who want to use electrical power in greenhouses and businesses and I know that there is special rates for some people in business, but I think that we could encourage people in smaller businesses to use electrical power, particularly greenhouses of which there are quite a few in my constituency.

Rather than just carry on and preamble —(Interjection)— I will just get down to a couple of basic questions. I don't want to get into anything too technical as one who panics everytime he turns on the light switch and the light doesn't go on, so I wouldn't understand the technical aspects too much about it anyway, but can anybody and I would ask the Honourable Chairman to direct the person who is going to answer, can anybody direct me as to what has been done with the Federal Government in the expansion of hydrogen power, the development of hydrogen power which is, in my opinion, the power of the future, as to getting grants from the Federal Government so that we can develop this hydrogen power in the Province

of Manitoba?

MR. CHAIRMAN: Mr. Minister.

MR. PARASIUK: That was one of the topics that I raised with the Federal Minister of Energy and it is one of the things that we are looking at. I have said this publicly elsewhere, that I think that hydrogen is a fuel of the future in that it can be stored. The problem with electricity is that it can't be stored and there have been some early looks at the possibility of producing hydrogen through the electrolysis of water and possibly tapping that into the natural gas pipelines. I think you can ship a mixture of three or four parts natural gas with one part of hydrogen.

Also, hydrogen has a number of other uses. It is the cleanest burning fuel. When it is used, it just produces water and oxygen. So, we are very definitely interested in this and it is not that speculative. It is not that futuristic when you think of these generating stations having a life of 100 to 200 years and I guess with improvements almost an indefinite life, then if one talks about possible uses of electricity 15 or 20 years down the line, that isn't too futuristic with respect to the life of the plant that you are planning or a plant that you have in place right now.

I am concerned about one aspect frankly and that is the political aspect. I am hoping that Manitoba will get an objective look. I know that to date there has been a strong tug of war between Ontario and Quebec with respect to research assistance regarding future hydrogen development. We have put our oar in the water. We feel again, given our position right in the centre of the country, given the open approach that we are taking with respect to electricity being part of really true comprehensive National Energy Policy, that we should get objective consideration. We are pursuing it aggressively. Some homework is being done on it and I hope that in due course, say by next Session, I can be in a position to respond more definitely as to where we are, but we have launched an aggressive approach in this respect.

MR. KOVNATS: Just to clear it up a little bit further, the picture is so wide and broad. It is not just a matter of hydrogen power for the people of the Province of Manitoba. It is something that could develop the future of the Province of Manitoba inasmuch as there could be some arrangements made with — I understand that hydrogen power could be a major factor in the refining of oil and whether we can make arrangements with the Province of Alberta to ship their oil here for refining or whatever. If he had it, it would put us in a real good bargaining position. I am sure that the Honourable Minister will use all of these things in his negotiations with the other provinces and with the Federal Government.

I do agree that there has been money allocated, because, I guess, I have been reading the same articles as the Honourable Minister where Ontario and Quebec have received fairly large grants for the development of this hydrogen power. I think that we are in a position; we have cheap electricity; we have abundance of water power and we are the leaders when it comes to that sort of thing. I think that, with the Honourable Minister pushing, maybe we can get

something done on it. I think we are looking to somewhere 20, 25 years in the future, but now is the time to start.

I have just got one other point that I would like to bring up. We do have an abundance of water and it is good quality water. I am not looking for a supposition of, if Garrison comes through because I don't think Garrison will come through. I think that we will take the necessary action, and I am not suggesting violent action, but I think that we do have to work to see that this water coming from Garrison is not going to be damaged. Can the Honourable Minister or Mr. Blachford advise me whether the water that would come from the Missouri Basin, if it did come, would have any effect on the generating of electricity in the Province of Manitoba?

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: No, Sir, it would not have any effect whatsoever.

MR. CHAIRMAN: Mr. Orchard.

MR. ORCHARD: A question to the President, what is the — I'm not in metric here — but what is the British thermal units, the BTU's in a kilowatt of electricity?

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: Approximately 3,700.

MR. ORCHARD: Thirty-seven hundred BTU's per kilowatt hour. The Chairman of the Board mentioned that it was probably prior to 1975 when the case for home heating was de-emphasized. I can assure the Chairman that it wasn't 1973, because that is when I moved back to Manitoba and that is when the campaign was still on and that is when I unfortunately converted and I am now burning wood. Can the President indicate whether there is any basic difference in the efficiencies for electric space heating in homes between the baseboards, the electric furnace, central furnace concept and say, the ceiling radiant? Are there any basic differences in the level of efficiency of recovery of that 3,700 BTU's per kilowatt hour from using those three prime systems?

MR. BLACHFORD: No, there is no difference in efficiency as far as getting the heat is concerned. There is probably a difference in losses before it is felt. For example, in the basic centralized heating unit, the air that is heated will have to go along ducts before it gets to the place where you want the heat, but I would say it is a very small loss. I believe that type of installation, assuming you are converting, is probably the most economical way to do it, but as far as efficiency is concerned, there is very little difference.

MR. ORCHARD: Mr. Chairman, since we have had Hydro indicate that there is some indication that further home heating may not be in the best interests of the Manitoba ratepayer because of the cost of future expansion and Mr. Scott shares that concern. I wonder if the Minister might give us a little clarification on his May 4th address to the Electric Service

League of Manitoba wherein he says, "Many of you in this room are directly involved in electric home heating and you are very conscious of the comparative costs of the various energy sources. With the current rate freeze in Manitoba and the price increases under the Alberta-Canada Agreement, electric heat is less costly than oil and fast closing the gap with natural gas. One considers in the long term the conservation ethic resulting in homeowners better insulating their facilities. You very quickly reach the standards set for the energy efficient and the super energy efficient homes promoted by the Manitoba Electric Service League. To me it makes good sense to use electricity as your source of heat in these well insulated installations."

MR. PARASIUK: We have a number of instances especially in rural Manitoba where people in rural Manitoba who have to rely on heating oil will, indeed, find it to be economic to switch to electricity. There are instances where, if you had to look at natural gas and natural gas is very unpredictable — right now, we are at a stage where I think people would find it difficult to predict the price of natural gas over a 10-year period, but from a provincial perspective and, I think, Hydro has particular perspective, but from a provincial perspective when we deal with natural gas we're dealing with the interest costs or the Capital costs associated with natural gas distribution and the interest rate factor in terms of making that more or less economic depending upon the particular project that one looks at and you're also looking at what has in the past been unpredictable supply. So, we do have more unpredictable factors in dealing with natural gas than we do when we're dealing with electricity.

So, if one takes the long-run view, as I said to Mr. Kovnats, of a plant that will last for 100 years and one takes a look at that over a period of time, I personally do see electricity being economic for home heating, especially if people insulate their homes in a much better manner.

MR. ORCHARD: Well, that may well be, but are not those costs relative because we're getting down to a basic comparison of energy and energy is expressed in BTUs and I think in terms of BTU content per dollar, natural gas today and for quite some time appears to be a good buy in comparison to electricity to generate heat and if you talk super-efficient or super-energy efficient homes, it's all relative. The gas furnace will still be your cheapest source, because if you're going to use less electricity, you're going to use less natural gas.

In rural areas, certainly, there is a disadvantage in that there may not be a distribution system for natural gas, but in new subdivisions, for instance, the natural gas pipe is probably at the end of one street, as is the electricity and infrastructure costs are going to cost both Manitoba Hydro and a gas provider money to provide the infrastructure for delivery of either energy source to a new subdivision and with some of the downstream implications of the next plant at 40 to 50 mills and \$20,000 per unit of installed cost, assuming completion in 1988 in Limestone, it does make the whole consideration of a wholesale conversion or a promotion of conversion to electricity for space heat

as a question mark item as pointed out by the Member for Inkster.

MR. PARASIUK: Sure, the member has quoted from an address I made. It certainly wasn't my intention to induce people converting from natural gas to electricity. What I was trying to do was lay out long-term options with a broad brush. I do still think that in the long-term future electricity for home heating can, in fact, be viable, but that is in the long-term future and if the member has read more into it, or if I didn't express myself well enough in that address, certainly it's not our intention, certainly not the government's intention, it certainly hasn't been Hydro's intention in my discussions with them to try and raise and set of false expectations with respect to converting from existing or easily accessible natural gas to hydro-electricity.

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: May I just say a word here. I think it should be recognized that we have a couple of moving targets in this conversation. If you get a super insulated home, I believe that Mr. Scott was saying that you can heat them with 4 or 6 kilowatts instead of the 10 kilowatts I was speaking about, that makes a difference. The same saving would, of course, be the case if you were heating it with gas, but you also have the rising efficiency in gas furnaces, which is also a factor in this thing too. So, it's a moving target and I think the member has the right idea.

MR. ORCHARD: A question to the President. When he was discussing, and I found it very intriguing the mills on various plants, in new construction possibly up in the 40 to 50 mill range. Now, if we're considering export of hydro-electricity and trying to penetrate say a Nebraska market or the Saskatchewan Alberta market, are not our on-line costs in Manitoba relative to what the on-line costs say of Alberta would be to develop coal fired or Nebraska to develop nuclear? Like, are we not still in a position where the next power plant built, we can do it for as low an on-line cost as any jurisdiction in North America or is that not correct?

MR. BLACHFORD: Again, this is another moving target. If you take levelized costs over the depreciated life of a hydro plant and compare that with the costs of the fuel and construction of a thermal plant, even though it sits on top of a coal mine as they do in Alberta and in certain parts of North Dakota, the hydro power will be lower, but in the initial years when you're hit with the full cost of the total construction, it costs very much more compared to these areas. But at the end of the life of the thermal plant, the hydro power will be costing less. So, it depends where you want to pick and how you set the thing up and also how you set the financing up.

MR. ORCHARD: So, then right now if you were making a comparison between hydro generation and say thermal generation and nuclear generation for Manitoba, is there any other option to consider than than hydro? Are thermal and nuclear for Manitoba not as cost efficient as say Limestone on the Nelson River?

MR. BLACHFORD: The hydro option is the best one. Nuclear costs, I'm thinking about a Candu reactor, is not far off the cost of hydro itself, but it is lower, but then you have the cost of the nuclear fuel, which of course is more than the cost of water. I would say the cost of thermal for Manitoba is certainly out of the question for the time being.

MR. ORCHARD: I found my other couple of questions, and once again to the President, this gets back into our topic of grain drying. Grain drying now primarily uses either propane or natural gas for the heat source and there are electric heat source dryers on the market but with conventional resistance heating. They haven't even come close. But there are dryers being developed in the U.S. which are microwave dryers for grain and apparently they are getting into some pretty incredible efficiencies.

Would the Manitoba Hydro consider as the technology develops and I believe there are prototypes of these on the market, although I haven't had that confirmed yet, but would Manitoba Hydro consider putting in one of these microwave grain dryers in, say, the corn area where there's a pretty intensive use of grain drying? Once again, I'm thinking of Pembina Constituency naturally. Would Hydro consider putting one of these facilities in on a test basis because if microwave drying ever became the feasible technology, it could be an incredible cost saving to our producers in Manitoba with our electric source and with all the, you know, benefits of keeping energy costs in-province rather than extra-provincial?

MR. BLACHFORD: I think we might look into assisting in this. It seems to me though there are other agencies that are more suited to doing an experiment of this kind.

MR. ORCHARD: Well, I will certainly pursue that with the other agency, namely the Minister, as well as Manitoba Hydro because the concept certainly is intriguing of a microwave dryer for any kind of grains that are being produced in Manitoba.

That's all the questions I have right now, Mr. Chairman.

MR. CHAIRMAN: Mr. Ransom.

MR. A. BRIAN RANSOM (Turtle Mountain): Mr. Chairman, I understand from the comments that were made the first day the committee met that the necessity for Hydro to recommend a rate increase arises from changes in the rate of inflation since 1979, changes in interest rate and low water, but I believe even with average water levels that Mr. McKean advised us that it still would be necessary to recommend that rate increases.

Could Mr. McKean and Mr. Blachford supply us with information as to how much the revenues have been reduced or how much the costs have been increased since 1979 by low water, by higher interest rates, by higher inflation rates? Mr. Chairman, I don't necessarily need the information immediately, just if it's possible to get that information in the next day or so because the committee I'm sure is going to be meeting again on Tuesday.

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: I believe if the member could be specific about what he'd like, we could certainly have it available.

MR. RANSOM: Well, Mr. Chairman, there were projections made in 1979 as to revenues that were going to arise as a consequence of certain flows and certain sales. The assumptions were based on certain projected interest rates and rates of inflation. There have been changes from the predictions with respect to water flows and with respect to inflation and with respect to interest. I want to know how much has revenue been reduced by low water flows and how much have expenses been increased by inflation and by interest rates that vary from those that were assumed to be the case in 1979?

MR. BLACHFORD: Yes, fine, we'll provide that as soon as we can.

MR. RANSOM: Thank you. Some general questions, Mr. Chairman, perhaps even hypothetical questions. If Hydro was entering into a long-term contract with a potential user within the province that would require the construction of a new generating facility, would it be likely that Hydro would want to have negotiated the price for that in advance?

MR. BLACHFORD: I think depending on the load and the circumstances, we would certainly want to know where we started; we would certainly want to know where we were going before we'd make a commitment.

MR. RANSOM: I assume that any company, any business entering into an agreement would also want to know in advance what they could expect their price of power to be and that, therefore given the answer that Mr. Blachford has given, and what I would assume to be the position of any large user of Hydro, in fact, that would be something that would be established in advance, at least for an extended period of time. I believe in the case of Inco back a few decades ago, it was a 20-year agreement that was entered into?

MR. BLACHFORD: Yes, I expect that's the case.

MR. RANSOM: Another general question which I would want to confirm that my understanding is correct on the basis of some of the discussion that's taken place, that if there was to be a large scale user of power in Manitoba that required construction of another facility, that would increase the general system rates?

MR. BLACHFORD: If no special provision was made to circumvent this, this would certainly be the case.

MR. RANSOM: What might Mr. Blachford mean by a special condition?

MR. BLACHFORD: Such as paying the marginal rate if that were determined to be the case.

MR. RANSOM: Would that be a probability that a

large user would end up being faced with that kind of requirement? For instance, what will the rate be that HBM&S is going to be paying now as a consequence of the new arrangements between Saskatchewan, Manitoba and HBM&S?

MR. BLACHFORD: I believe it would depend on the circumstances, the user, certainly also the view of the province, but in the case of HBM&S specifically, their rate which they are paying is based on the standard published rates. There are slight modifications for their particular circumstances but their basic charge is based on the standard rates.

MR. RANSOM: Would most potential users of power then, looking at Manitoba, be safe to assume that they could expect power at those standard published rates or is there some level of volume of use where Hydro would say to a potential user that no, you can't expect to get power at system rates and that you would have to have a specially negotiated arrangement?

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: I would say that each case has to be looked at separately and the circumstances considered. I don't believe there is a blanket answer to that query.

MR. RANSOM: I am not quite clear then just at what point that a new potential user of power within the province has to expect that they would be required to negotiate something beyond the rates that other heavy users of power are now getting within the province. Is it possible to clarify at what point that might come about?

MR. BLACHFORD: I think that is the problem. There is no clear point to where you would say, this is this way and that is that way. You would have to look at the circumstances of the consumer and, again, what the province would like to do.

MR. RANSOM: I am not sure that is an entirely satisfactory answer, but I guess it is one that we will have to accept for the moment. A couple of other questions then, Mr. Chairman, reference was made in the discussion on Tuesday to the potential agreement with Alcan and the possibility that the province might want to require the power station to be put back into public ownership for some other purpose after a period of, say, 35 years. I was just wondering what circumstances the Minister might foresee that would come about, assuming that with Alcan, if they were here, they would have a plant in place, they would be employing hundreds of people and generating economic activity? We have heard today that the facility doesn't really want to promote Hydro for home heating purposes. I am just wondering what kind of circumstances might be visualized that would require it to be taken back.

MR. CHAIRMAN: Mr. Minister.

MR. PARASIUK: If we talk over a 35 or a 50 or a 65 year period which is the period contemplated by the Alcan Agreement, one could envisage a situation

where we don't have any more petroleum. One can envisage a situation 65 years from now where we don't have any more natural gas and Hydro has said, when they hook up people's homes that they will provide firm power to them as long as that home shall exist. What happens if the consumer of Manitoba cannot get oil or cannot get natural gas and no other technology has been developed? That is the situation that could develop.

Japanese companies are developing some alternative technologies for processing aluminum. I think that is embryonic at this particular stage. That is what the Japanese Consul informed us recently, but over a 35-year period they may in fact develop some new technologies for smelting aluminum, which may in fact require very much less power. So, it may turn out that in 35 years Alcan itself may want to possibly have a smelter elsewhere or any other company may want to have a smelter elsewhere, because we do have a transportation disadvantage relative to the markets. So, that may be a circumstance.

It is just that I can imagine the possibility of circumstances 35 or 50 or 65 years from now whereby for one reason or another, either the company or the province may indeed want the plant, especially the province, at that stage there could be a very major disagreement as to what the buy back for that particular power plant or portion of it would be. Those are possibilities that I think should be considered.

MR. RANSOM: Mr. Chairman, I am assuming that if there is no oil and there is no gas and there are no alternatives to that, 35 years from now, that it is going to be a rather sticky wicket for everybody involved and this particular problem might at the time seem rather small relative to the ones that we would face in general in the economic structure of the country and indeed the world under those circumstances.

Reference has been made from time to time concerning the cost of Limestone and how it would escalate over a period of time and I believe it was said that looking at the present projection of being required by 1992 that the cost would be approximately \$3 billion. Is that calculated cost of \$3 billion then based upon the inflation figures that were presented to us on Tuesday?

MR. BLACHFORD: Yes, they are.

MR. RANSOM: Mr. Chairman, we frequently hear it argued that it would be better to build a facility when the price is lower, because the cost is \$2 billion now or would have been 1.5 billion, if it had been done two or three years ago, because of that lower cost it would be better to have built it earlier. I am assuming also then that Hydro would also be looking at the same interest rates that they have projected as appear on the sheet with the inflation projections. Would it not be true then, Mr. Blachford, that the cost would in fact be greater, the carrying charges would be greater over that period of time than the inflated costs of the power dam?

MR. BLACHFORD: If we assume, for example, that we build it in 1988 and the price is \$2 billion, if we were able to borrow money to build it at the rate of 15

percent, we would have to have additional revenue to pay that 15 percent and it would amount to \$300 million per year. That is three-quarters of what Hydro's revenues were in 1981-82. The power involved in Limestone would be about 7 billion kilowatt hours and this compares with approximately the 21 billion kilowatt hours you would get from the current whole system. So, for a third of the output, you would require the same amount of money again, three-quarters of the amount of money again. This is the order of magnitude of the numbers that we have to look at. From this, I think it can be seen very clearly that you would have to get a lot of money in order to do that and it would have to come from somewhere.

MR. RANSOM: So, given that there are no projected additional revenues then, the argument makes no sense at all that just because the dollar cost today is lower, that we should proceed to build it because it is going to cost more in the future.

MR. BLACHFORD: That would appear to be correct, yes.

MR. RANSOM: So, Mr. Chairman, then it follows that Mr. McKean's comment made on Tuesday and he said, I guess one of the best things from a financial point of view that's happened to us in the last two or three years is that our Capital spending has been at an all time low. I take it then from that statement, Mr. Chairman, that it would certainly not have been wise to proceed with the construction of another generating station during that period of time.

MR. BLACHFORD: That is correct, from the point of view of the consumer, that's correct.

MR. RANSOM: Could I have an updated figure on how much money has been paid out to stabilize the rates to this point, what's the cumulative amount that the government has paid on the rate stabilization?

MR. BLACHFORD: An approximation, \$76 million.

MR. RANSOM: To the end of March, 1982.

MR. BLACHFORD: Yes, to the end of March, 1982.

MR. RANSOM: Mr. Chairman, I will have quite a number of other general questions for Tuesday after I've had a chance to review the Hansard, the transcripts of the committee proceedings of Tuesday and today. I would prefer to leave those until Tuesday. I have one brief question that I might place at the moment, and that has to do with the lines that are being put in, the plan to be put into the communities on the east side of Lake Winnipeg. Is the decision to put those lines in based on the economics of the situation? Is it cheaper to have the lines in than it is to generate the power by oil or is the decision based on some other factor?

MR. BLACHFORD: It is an economic decision as far as Hydro is concerned. The Federal Government has committed itself to pay half of the cost of these lines and this is enough money to get back our investment.

It is enough money that we will be even with the alternative of supplying diesel within, I believe, five years. After that the general consumer will be gaining on the matter.

MR. RANSOM: Is it because the Federal Government is putting up some of that money that they are in charge of the line clearing?

MR. BLACHFORD: No, this is part of, I guess it's Hydro policy to have the line clearing done by the person for whom the line is being put in. We also did this in the case of a recreational area — (Interjection) — Grindstone Point, yes. This was done for these people who they were committed to clear the right-of-way. We are doing the same thing for Jackhead and it will be done for the communities on the east side of Lake Winnipeg also.

MR. CHAIRMAN: Mr. Ransom. Are there any further questions? Mr. Orchard.

MR. ORCHARD: When the President indicated the selling price of U.S., Saskatchewan, Ontario power, was that an average price over the year?

MR. BLACHFORD: The mill price cited was averaged for the year, yes.

MR. ORCHARD: Do you have the — I know at least with the United States, there is buy back, we buy it back — do you have average prices of the purchases of power from those three jurisdictions if any?

MR. BLACHFORD: We don't have them with us currently, Sir, but we can get them for you.

MR. ORCHARD: Fine. My colleague, Mr. Ransom, brought up an interesting series of questions on the power into remote communities particularly, where they're on diesel generation right now. I believe they're all diesel generation in the remote Native communities in east of Lake Winnipeg and in Northern Manitoba.

MR. BLACHFORD: Yes, they are.

MR. ORCHARD: Now, we spend a fair bit of money on diesel fuel because the landed cost up there of diesel fuel is quite high because of winter road, etc., etc., and I ran into an article in the January 1982 Energy Magazine which really fascinated me. There is an inventor by the name of Davis, I guess it is, who has been prototyping a watermill similar to these vertical axis windmills only for water generation for small point generation considerations. He's talking in the neighbourhood of five kilowatt and a prototype of even a ten megawatt type generator, and the Federal Government, I might add, is interested in this concept and are putting in National Research Council funding to test the feasibility of it.

Has the system any information as to whether these are a feasible thing now, particularly for a remote communities, because running lines to those communities has to be terribly expensive to a lot of them. Most of them if you follow the map, are located on

rivers which flow rather significant amounts of water and I am wondering if that might be an alternate to consider vis-a-vis the installation of fairly expensive transmission lines to set them up on local generation with water power using some of the technology this fellow has, and I suppose equally attractive using some of the National Research Council money that they seem to have lots of if you're in the right area.

Has Hydro given any consideration to these?

MR. BLACHFORD: We follow closely the developments in the hydro-electric development. I am not aware of the one that you are citing, Mr. Orchard, but I'll find out. Regarding the communities in general in the east side of Lake Winnipeg over in God's Lake and Island Lake area, we have made quite an extensive study of this area and we've studied the supplying and building of water power sources as known now, as compared with supplying these areas with transmission and it is still cheaper to install the transmission to supply these areas than it is to build a water power.

MR. ORCHARD: Right, I would assume that the water power that has been studied to install would be the conventional dam generator system and not — this prototype that this chap has is a freestanding unit that doesn't require dams or anything, it basically sits in free-moving water and generates electricity. This inventor has suggested it is an excellent alternative in the Bay of Fundy to harness the tides for instance, without having to go to the retention system. From that standpoint, in reading the article, the installed cost is very attractive compared to the conventional damming and conventional turbine technology.

MR. BLACHFORD: We will look into this. It was standard installation that we were looking at. I should point out that when Hydro undertakes to supply a community, it is firm power. I don't think that just throwing a unit into a stream is going to necessarily supply firm power, but it depends on the circumstances. It's just one of the things you have to look at.

MR. ORCHARD: Certainly, I appreciate that the Hydro's commitment is to firm power, but in all of these areas the system does have diesel generation capacity which I suppose could back up this kind of a water system if it was economic to allow Hydro to maintain that firm power commitment.

MR. BLACHFORD: That's a possibility.

MR. CHAIRMAN: Mr. Minister.

MR. PARASIUK: Maybe I could just add on what the member has said. I've been interested in this area myself. Some of the people that I've talked to have indicated some of this type of technology, a new type of technology has generally been applied in warm climates and they haven't had the problem of icing. That's the one thing that they've raised with me and I know that Hydro has been looking at what's called a low head or no head type of generation, but the icing seems to be a problem.

MR. CHAIRMAN: Mr. Lyon.

HON. STERLING LYON (Charleswood): Mr. Chairman, to the president, we've been led to believe that in recent weeks or months that there has been allegedly added emphasis put upon the negotiations that Manitoba Hydro has been carrying on for some time now for power sales in the United States. First of all, Mr. Chairman, could the President tell me who from Manitoba Hydro is heading up those negotiations. Are they being conducted on a utility-to-utility basis? Is there government participation in them and if so, who are the governmental people?

MR. BLACHFORD: In the case of Wisconsin and the Western Area Power Administration, these are being spearheaded by Hydro with the approval of the Electric Energy Marketing Committee and the General Manager of Corporate Planning is heading these up, Mr. Jarvis.

MR. LYON: The Energy Planning Committee consists of whom?

MR. BLACHFORD: Mr. Ellison, Mr. Cherniack, myself, Mr. Patey; that's all, I think that's the number.

MR. CHAIRMAN: Mr. Lyon, they've asked me to have you move a little closer to the mike, their having difficulty picking you up for Hansard.
Mr. Lyon.

MR. LYON: What seemed to be the main impediments with respect to the Mandan negotiations, anything that is new in the last six months that we haven't heard of, other than the court action, I suppose?

MR. BLACHFORD: Not in general terms, Mr. Lyon. The NPPD people are still wrangling with South Dakota. As I said earlier this morning, they expect in the next few weeks to put in their submission for a corridor — that's wrong — the route for the transmission line in North Dakota.

MR. LYON: So then we're still faced as we have been for some years with the transmission right-of-way problem which is, of course, beyond our jurisdiction or persuasive powers within the United States. Does there appear to be any hope in the estimation of the President, Mr. Chairman, of a reasonably early resolution of this problem in the United States?

MR. BLACHFORD: I really have no basis for knowing, except that I can point this out, that the Nebraska Public Power District has indicated in their Annual Report that they are looking at Mandan as being their next source of substitute for generation. They are also spending relatively large sums of money on their activities in all three states in order to further this objective, so I have some confidence that they fully expect that they are going to get their line routing and permission to build that line.

MR. LYON: So in effect, there's been no change in that situation in the last six months from what it was previous?

MR. BLACHFORD: Not basically, Sir, no.

MR. LYON: What about the Wisconsin area group that you've been negotiating with for some time? Has there been any significant change in that negotiation?

MR. BLACHFORD: No significant change. We have furthered the process. Along about February, we got a signed Letter of Intent from, I believe it's six or nine utilities that are in on this study for Wisconsin and currently, we are just setting up the basis for this study to see what, in fact, will be studied to arrive at a good conclusion.

MR. LYON: Mr. Chairman, did this Letter of Intent represent a culmination of the previous negotiations that have been going on now, well to my knowledge, for at least three or four years?

MR. BLACHFORD: Yes, that's correct. It was a letter that was basically agreed to last fall. It seemed to take about two or three months to get all of the signatures in Wisconsin for this.

MR. LYON: Mr. Chairman, are there any other initiatives being pursued in the United States with respect to the export of Manitoba power to any other jurisdictions?

MR. BLACHFORD: Yes, we are looking again at the idea of selling power to the Western Area Power Administration. It's being conducted on more or less the same basis as the Wisconsin area. There are also some other prospects down the road in Nebraska as a result of the Mandan Line and also we can start to look at the circumstances after 1992 when our current commitments with Northern States Power on this 500 kV line have been fulfilled.

MR. LYON: Could you give us some additional information on the Western Area Power route that he just mentioned?

MR. BLACHFORD: I believe, Mr. Chairman, this probably should come from the province. They are conducting the negotiation. Are you speaking about WAPA or the Western Inter-Tie.

MR. LYON: The western states.

MR. BLACHFORD: The western states. As I say, this is approximately the same basis as Wisconsin. Initially, we haven't looked at any fixed quantity of power to sell to them. General thoughts have been 1,000 megawatts, but this can vary. We haven't really got into it, Mr. Chairman.

MR. LYON: So, really the state of negotiations with respect to the export of power to the United States is in very much the same situation with some incremental improvements that one would expect now as they were, say, six months or even a year ago?

MR. BLACHFORD: Yes, that's a fair statement.

MR. LYON: I don't think I have anything more at the moment, Mr. Chairman.

MR. CHAIRMAN: Mr. Minister.

MR. PARASIUK: Yes, I would like to ask the Chairman if, in fact, it was not the request of the Provincial Government that the negotiations with WAPA be carried out and is it not true that there has been a meeting in Denver at the urging of the Minister to proceed on this basis and that there are the possibilities of 1,000 megawatts going into Bismarck?

MR. CHAIRMAN: Mr. Cherniack.

MR. CHERNIACK: Yes, Mr. Chairman, the WAPA negotiations were brought to a stop sometime ago; I can't put a date on it at the moment, because of the Inter-Tie negotiations. It having been felt, and I am just reporting what I was told, that there was no use looking into the WAPA whilst the Inter-Tie was a first objective. We were asked to reopen discussions with WAPA and we did. There is a meeting in Denver and there has been subsequent discussions reopening, not negotiations yet, but the indication of the desirability of studying the advantages on both sides and as a result of that meeting in Denver which took place, I think, in March, thereabouts, there was a renewed agreement being discussed. I think the deadline was May 15th and there were also discussions for the studies to go forward.

MR. CHAIRMAN: If there are no further questions, I believe we will call it 12:30.
Mr. Orchard.

MR. ORCHARD: Just one other question, if I might. Are there any ongoing economic studies or feasibility studies, cost benefit studies by Manitoba Hydro in terms of delivering hydro-electric power to Churchill rather than leave them on diesel generation?

MR. CHAIRMAN: Mr. Blachford.

MR. BLACHFORD: Yes, we have a study looking at this. The study has been completed and it is now in the hands of the provincial people to see what funding might be organized in order to make this economic as far as Hydro is concerned.

MR. ORCHARD: I assume from the President's remark that if there is, say, no assistance from Ottawa in the off-oil program or something similar that the economics of construction of the line and delivery of the power for the demand is not economic from Hydro's standpoint at this present time?

MR. BLACHFORD: That is correct. It is not economic for Hydro to assume the whole cost of the line for Churchill.

MR. ORCHARD: Is there a great deal of difference in Capital cost, in Capital contribution from other than Hydro, to make that delivery of power to Churchill economic?

MR. BLACHFORD: Yes, it is a considerable contribution and in fact, we have requested that the contribution be almost the total cost. The reason for this is that

there doesn't seem to be any firm belief that Churchill will remain a viable thing for Hydro to supply after spending \$25 to \$30 million to build a line up there and that is why we have asked for the total cost.

MR. ORCHARD: The President, I assume, is indicating that there is always the constant cloud of doubt over the future viability of Churchill as a grain port which I assume is the major reason for being. Is that the kind of question mark that is on the horizon for future . . . ?

MR. BLACHFORD: Yes, that is one of them and I believe, since the study was started the Forces' base either cut down their activities or ceased them altogether. I am not sure where that stands.

MR. ORCHARD: Yes, they were eliminated as was the majority of the function at the rocket range and a number of other areas. If a commitment from the Federal Ports Authority was forthcoming that Churchill was going to be a grain terminal, a grain export port, for the next 30 or 40 years, would that change the economics of providing a Hydro line and the Capital costs of a Hydro line into Churchill?

MR. BLACHFORD: I think we would go back and have a look at it and see if we could scale down our requirements. Mr. Chairman, if I may, to Mr. Orchard's question regarding the cost of energy purchased from the U.S., in the fiscal year just ended, it appears that the total purchases averaged 10.2 mills per kilowatt hour plus exchange. This is in U.S. dollars, so it is more than that. To go with that, we should say that any time these purchases are made in a year such as we have just passed through, when these purchases were not required to supply the Manitoba load, we always made about 4 mills per kilowatt hour by purchasing and then selling them back. That has been the name of the game. The purchases were not to supply the Manitoba load; the purchases were to make money.

MR. ORCHARD: There were no purchases from either Saskatchewan or Ontario of significance then?

MR. BLACHFORD: Yes, there were some from Saskatchewan and they cost 7.4 mills. It was not very much energy.

MR. ORCHARD: None from Ontario?

MR. BLACHFORD: None from Ontario, no.

MR. ORCHARD: Thank you.

MR. CHAIRMAN: The hour is 12:30. Committee will rise. We will meet again on Tuesday, May 18 at 10:00 a.m.

Committee rise