Legislative Assembly of Manitoba

STANDING COMMITTEE

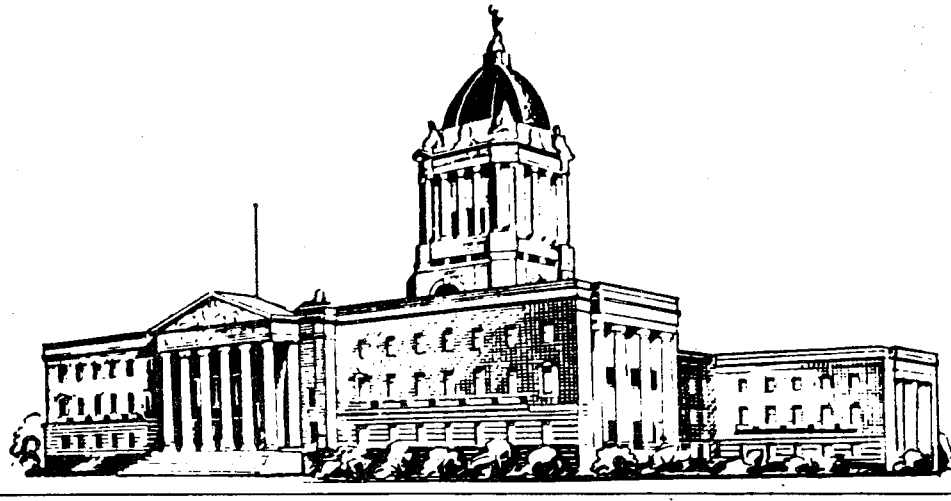
on

PUBLIC UTILITIES AND NATURAL RESOURCES

Chairman

Mr. Warren Steen

Constituency of Crescentwood



Tuesday, June 13, 1978 10:00 a.m.

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Hearing Of The Standing Committee
On
Public Utilities and Natural Resources

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:HAIRMAN, Mr. Warren Steen (Crescentwood).

IR. CHAIRMAN: Gentlemen, we have a quorum. The Public Utilities Committee, June 13th, the Manitoba Hydro. The Minister responsible for the Manitoba Hydro, the Minister of Finance.

IR. CRAIK: Well, Mr. Chairman, just by way of introduction, we will follow the same procedure s we have in the past with the chairman of Manitoba Hydro presenting the March 31, 1977 report nd then being available for questioning to the members of the Legislature.

Perhaps as a prefix, I should mention that in this particular year, we have a slight difference. n that there is a judicial inquiry proceeding on some aspects of Manitoba Hydro and there was ome question that the government considered as to whether or not it would be appropriate for he Public Utilities Committee to be examining the Hydro report running parallel to the Commission f Inquiry but it was decided that there are a whole host of items that are of importance to members f the Legislature that will be outside of the operation of the Inquiry Commission, therefore it would e appropriate to carry on as usual and have the report referred to the Public Utilities Committee f the Legislature. It is a question, I guess, of how far we go with regard to the examination of lydro activities in the Public Utilities Committee but certainly opportunity should be allowed for nembers of the Legislature to deal with those items that they think are critical as far as their . wn interests are concerned as members. Therefore, Mr. Chairman, I would like to call on Mr. Bateman to present the Annual Report of Manitoba Hydro and make himself available for questions hat members may have for him.

IR. CHAIRMAN: Mr. Bateman. Mr. Schreyer.

IR. SCHREYER: I'm not sure what the full implication of the Minister's statement is but certainly here is ample precedent to carry on normally with the Legislative Committee even in the context f a possible judicial inquiry or a Royal Commission. The Chair may recall that, just to take the ost recent precedent here, after all there was . . . in the point of the case of CFI but in the meantime, he Legislative Committee on Economic Development did have access to the officers of ManFor n order to deal with their annual reportand so on, so I don't think there's a problem.

IR. CHAIRMAN: Mr. Batema..

IR. LEONARD BATEMAN: Thank you, Mr. Chairman. Good morning, gentlemen. Before proceeding vith the Annual Report, I would like to draw attention to thefact that we have Mr. . . . or we had Mr. Arnold Brown here a few moments ago. He is a member of the Board of Manitoba Hydro and m also accompanied by senior management to assist me in answering the questions and also by egal counsel. Now the identity of the senior personnel you'll find in the report, their pictures are here and to save the time of introductions I'll just allow you to refer to those pictures. And, Mr. Chairman, as our Minister has indicated to you, that because Manitoba Hydro is under study by he Nelson-Churchill River Systems Hydro Inquiry lead by retired Chief Justice Tritschler and as vell as that we are before the Public Utilities Board, there may be questions today which I will not eel free to answer and I trust you will support me in this if it's necessary.

Now, I see that you have before you the annual report of Manitoba Hydro Board, the fiscal year nding March 31, 1977 and in addition to going through this report I will as is customary bring ou up-to-date as far as possible, although you must understand that the annual report for the fiscal ear ending March 31, 1978 is not yet available. The Manitoba Hydro Act, Section 45 requires that he annual report be made available to the Minister four months after year-end which of course s July 31, 1978.

As noted last year in my letter of transmittal with the annual report, the drought in the Nelso River drainage basin was the most serious one since records have been kept. The drought whic lasted from mid-1976 through until about August or September of 1977 has had a serious effe on our operating costs for the two fiscal years which I am describing today. Now to avoid confusic when I refer to one year and to the other year, I will refer to the last two years as fiscal '77 ar fiscal '78 just to keep the record straight.

Now as I indicated to you in my opening, Mr. Chairman, pages 2 and 3 of the Annual Repo indicate the organization as it was at that time. I would also like to record the fact, Mr. Chairma that members of the Board and the staff of Manitoba Hydro were saddened at the death of To Storey the Vice-Chairman on March 23, 1978 and of course this will be noted in our fiscal repo 1978.

On April 1, 1977 the Board approved some re-organization of our senior management functior which I believe has improved our management effectiveness and they will be duly recorded in o report to be tabled with the Minister by the end of July.

Now if we refer to the Statistical Summary on page 4, the residential and farm sales combine grew by about 9 percent in the 1977 year. This is the result of the 12.1 percent increase in residenti and 5.3 percent increase in farm load and this combined growth, however, was reduced to abo 3 percent in the 1978 year.

In power, general service and other category sales, we had a growth of 5 ½ percent in fisc '77 and 1 ½ percent in fiscal '78. As you see the extraprovincial sales had dropped by about 2 percent in '77 and there was a further 15 percent drop in the last fiscal year. These lower sale volumes for export were due to the drought conditions. Increasing values, however, in the expo market, particularly in sales to the American market, resulted in our revenue almost doubling despi the drop in the volume of sales, and even in the drought gross revenues were $17.3 million as you see in the report before you, but I can update you now by giving you the figures for the last ye — I think it would be appropriate to do that. And if we look at those two years and look at Ontari we sold 1.5 billion kilowatt hours in '77 and 774 billion in '78. We realized $6.5 million in '77 ar $3.8 million in '78. Saskatchewan we had 407, that's $.4 billion and we realized $3.9 million. Th year ending March 31st, it was 364 and $5.7 million. Now the U.S. it was 535 million kilowatt hour $6.9 million, and you can see that for a third of the amount of power, it was about the same revent between Ontario and the U.S. In the year just ending, it was 1.04 billion and $25.07 million. S we add these up for 2.5 million, the figure in your annual report is 17.3 million and the year ju ending 2.1 for 34.6, that's rather a ignificant increase in export revenue for less sales.

Now just by way of comparison for those who would like to ask the question about 1976, th total was 3.2 for $20.8 million, so the sales were higher, the revenue was slightly higher than '7 but considerably less than '78.

his I think gentlemen reflects the increased value of energy in these markets. It's like a commodity in the exchange market, commodities usually fetch a higher price when there is scarcity.

Now the total generating capacity if we look at page 5, on the Manitoba Hydro's portion of th integrated electrical system — and I think you realize that we refer to this integrated system including Winnipeg Hydro and I'll refer to that in more detail later — but our portion of the integrate system in '77 was 2,795,150 kilowatts and that's unchanged from the previous year and that includ 369,000 of thermal generation and 28,150 of combustion engines and diesel engines which a connected to the integrated system.

With the additions at the Long Spruce and Jenpeg Stations, this capacity had increased 3,012,150 kilowatts by Marchoof 1978 and additional units have been added in April '78 , one each of Jenpeg and Long Spruce, making the present capacity 3,131,150 kilowatts, and of cour the generation capacity of the City of Winnipeg Hydro Electric System remains unchanged at 190,0 kilowatts.

On page 6, I would draw your attention to the upper lefthand graph where the decrease in th hydraulic generation shown in blue illustrates the effect of the drought. In the year ended Mar 1978, hydro generation increased by only 2 percent even with the new generation added, but wi the return to more normal conditions we expect significantly more hydro-electric production in th current year with a corresponding reduction in the thermal generation and of course we also expe increased export sales. Now in both April and May of the fiscal year that we are in now, we h greater than 99 percent hydro in both of those two months.

Referring to this same graph, you will note that the thermal generation shown in red increas very significantly during the drought and of course in fiscal year '78 we have been able to redu this to approximately three-quarters of the 1976-77 figure because of the new hydro capacity th we brought into service at Jenpeg and Long Spruce, and the improving water conditions in t latter part of the year, due in part to the full utilization of the Churchill River Diversion water the Kettle Generating Station. A large part of the thermal generation was used for export at

mark-up over cost and you can see that in the right-hand side of the chart.

I would further draw your attention to the import shown in green which represents over 600 million kilowatt hours in 1977. In 1978, the figure was 760 million kilowatt-hours. There was less pressure for us toto purchase outside Manitoba in the past year and consequently the unit price dropped significantly. I might note that we have purchased nearly $20 million worth of energy during the ast two fiscal years. Some of this purchased energy is at very favourable rates during the night nours when there is a surplus on most systems. We are very fortunate with our hydraulic system, we can shut down our own hydro-electric generators and allow the water to build up behind our dams overnight and then, next day, either use the energy ourselves or sell this energy back to our neighbours at a substantially higher price. The price is higher, because, like any commodity exchange, the price fluctuates with demand. Daytime requirements are much greater than nighttime requirements and hence they command a higher price.

The charts at the bottom of Page 6 show the source of our energy and you will note that the Winnipeg River is 28 percent in 1975-76 and only 20 percent in 1977. In 1978 it was 22.3 percent, reflecting the modest increase in flows that occurred in that river. As a matter of fact, rather more than a modest, it was a significant increase in flows. But with the growth in the system, the Nelson River continues to play a predominant part and will continue to be the most important source of our electricity in the future.

Looking at Page 7, as noted on this page for the third consecutive year the increase in firm electric energy generated and purchased for use in Manitoba was below the average of the last ten years. The increase was 2.3 percent, compared with the 10-year average of 7.6 percent. The rate of increase has again dropped in fiscal 1978 and now stands at 1.4 percent for the 1978 fiscal year.

These figures for firm electric generation are measured at the point of generation and reflect the total requirements of the province. The growth so far this year, I am glad to report, is much better. However, it's too early to make any predictions about how the year will end up.

The use of electric heating has continued to increase. The number of all-electric customers was up 18.8 percent to 11,329 in 1977, with over 51 percent of all new homes being all-electric. The number of new residences connected in the year ending March, 1978 — almost 4,000 in number — represents 40 percent of the new construction in that year. And that's a 12.5 percent increase in the total number of homes that are all-electrically heated — a significant number.

I strongly believe this situation will likely continue. Electricity is the only assured supply of energy in the long-term. The effects of the severe drought, which I referred to earlier, were somewhat alleviated by the oartial commissioning of the Churchill River Diversion and by its increase to full diversion capacity flow of 30,000 cfs on August 19th, 1977. The regulation works for Lake Winnipeg performed well during the drought and we were able to hold back substantial quantities of water during the summer and to pass it down the Nelson River during the winter.

The level of Lake Winnipeg is now at about its mid-range and is expected to increase somewhat during the next few months.

Now in December 1977 south central Manitoba experienced the most severe icing conditions in the history of the corporation. All sub-transmission lines in the area were out of service at various times. Over 3,500 miles of conductor was rolled to remove ice, during and after the storm. About 1,500 poles and 600 crossarms were broken. The most severely affected small towns and villages were without power for periods of up to 49 hours and hundreds of farm customers were out, some for as long as six days. The cost of that ice storm, Mr. Chairman, to the Corporation was approximately $1.4 million.

In the year ending March 1977 revenues increased by 21.5 percent over the previous year to 192.8 million, while expenses increased by 32.2 percent to $196.9 million. The excess expense over revenue of $4.1 million decreased the total reserves of the Coporation to $53 million.

During this same period we had an increase in our peak consumption — the load that all Manitobans use coincidentally, the rate at which we're using power increased by 4.6 percent in the fiscal 1977 report that you have before you and it increased in the exact same amount of 4.6 percent in the fiscal year of 1978, to reach an all-time high of 2,476,000 kilowatts in December of last year

Now I think the photos on Page 8 are self-explanatory. The captions are shown on the lefthand page of Page 9, and we can move on to Page 9 then. The revenue increase was attributable to the general rate increases and from increased sales to consumers within Manitoba.

Now the most significant increase in expenses during this period was the purchase of fuel for thermal-electric generating stations and the purchase of power from our neighbouring utilities. These costs increased from $5.9 million in the previous year, when median water conditions were experienced, to $28.2 million in the year ended March 1977. The remainder of the increase in expenses comprised 17.6 percent increase in net interest, a 17.2 percent increase in depreciation and 18.7 percent increase in operating and administrative expenses.

Our capital expenditures during this period totalled $347.8 million — and I will describe th projects on which this money was spent later on in my remarks. For purposes of financing thes expenditures and a refunding maturing debt, Manitoba Hydro issued bonds to a total amount $253.9 million and received advances totalling $149.5 million from the Province of Manitoba.

Turning now to fiscal 1978, I have information which of course is prior to our final audit. Fo the second year in a row revenue was not sufficient after deducting expenses to provide for th planned increase in corporate reserves — and reserves are necessary, Mr. Chairman, to maintai confidence of investors and be available for non-recurring expenses that result from drought, fir or other disasters and to cover losses realized on foreign debt maturing as a result of change in the value of the Canadian dollar. The accumulated reserves of Manitoba Hydro at the end March 1978, were only about 2 percent of the total debt, therefore, in future years steps shoul be taken to improve this condition.

Last January, when Manitoba Hydro appeared before the Public Utilities Board in support a proposed rate increase, information was filed by it with that board which projected a deficit $7 million by March 31, 1978 unless the proposed rate increase was implemented as requested The financial statements for the year ended March 31st, 1978, which have not been released ye because the final audit isn't available, show an actual deficit of $1.3 million plus a transfer fro reserves for the ice-storm of an amount equal to $1.4 million, which makes a total deficit for th fiscal year ending March 1978, of $2.7 million. Now the rate increase that we proposed would hav virtually eliminated this deficit. Our present projection for the year ended March 31, 1979, indicate that the full amount of the rate increase which had been applied for will be required if the corporatio is to achieve the desired addition to reserves.

Now, continuing with the fiscal 1978. Revenue increased by approximately 26 percent this yea mainly as a result of the rate increases and the increased revenue from the sale of energy outsid the province. Total expense increased by about 24 percent compared to the year ending Marc 1977. Of that total increase, net interest increased by approximately $37 million as a result of th completion of plant — and I use plant in the most general sense here, referring to new generatio new transformation, new transmission lines, new distribution facilities and so on — and th completion of plant then costing approximately $350 million during the year and the decrease i the value of the Canadian dollar which increased our interest cost on the debt repayable in othe than Canadian funds. In addition, the cost of thermal-generation and purchases from outsid Manitoba amounted to about $23 million, a substantial amount for a hydro-electric utility even thoug less than the $28 million that we spent in the 1977 fiscal year.

Capital expenditures were $324 million in the fiscal year 1978 compared with the $348 in th 1977 year covered by the report in front of you. Capital expenditures will continue to decrease i future as a result of the completion of capital projects under construction and the deferrment other capital projects as the decreased load growth in Manitoba postpones the need for new facilitie Capital expenditures on the Lake Winnipeg regulation and control and generating stations were $4 million in 1977, $30.6 million in 1978 and there is approximately $25 million to complete that statio depending upon the rate of interest that is associated with the project from here on. The first un at Jenpeg was put into commercial operation on June 28th 1977 and the unit has operated ve satisfactorily at maximum output and up to 10 percent continuous overload. The second unit wa brought into commercial service on April 29th, this year, 1978. Capital expenditures on the Church River Diversion were $43 million in 1977 and $20.7 million in 1978. Construction on that proje is virtually complete and the diversion was brought to full capacity of 30,000 in August 1977.

Now we can look at Page 10, the table on that page, I think, is self-explanatory but if you hav any questions I'll try to answer them. I could draw your attention to the imports on that page. You notice that we purchased substantial amounts of energy, the big figure being the $528 millio compared to $27 million the previous year. The figures I had quoted or that I've referred to earli on my transparency here, reflect these same figures. Of course, the photo-captions are on th left-hand side of Page 11 but the right-hand side of Page 10 which describe the photos that a in that book. It might be interesting to draw your attention, Mr. Chairman, to the fact that th transmission line that has the crane behind it lifting the top of the tower, that's a job on the Kels to Thompson lines. I personally went to see that job. That entire job of raising the tower and relocatin it because of the increased levels of water on the Burntwood River was accomplished witho interruption to the lines. The lines were moved off to the right on these wood pole lines, still aliv and then when the tower was cleared, the relocation took place and the lines were put back c the tower without an interruption to service. A very commendable operation by our own staff.

Now if we look at Page 11, expenditures at the Long Spruce Station were $101.5 million in 197 and $94.5 million in the fiscal year ending 1978. The station is on schedule and it is presently with the estimate of the $501 million that we have for this station. Commissioning of the generating uni has been to the following schedule: The first unit went on line on October 15, 1977; Unit No.

on December 10th, 1977, and unit No. 3 on April 28th, 1978.

Expenditures at the Limestone G Senerating tation were $34.7 million in the 1977 year and $27.9 nillion in the 1978 year. The hreliminary work at the site will enable construction to move ahead apidly and smoothly when a need for the project is seen. In November, 1977, the schedule was evised delaying the in-service date from 1983 to 1984 because of slowed provincial load growth nd the situation, of course, relating to this slowed load growth or the use of Limestone is very lexible. If electricity demands were to increase and we needed additional power, we can proceed o construct Limestone with a minimum of start-up time. If out-of-province contracts can be arranged nder suitable terms we can also proceed and if these do not materialize we are not committed o further proceed with the project. Now for service in 1984, we have until the fall of 1979 to award he general contract and this has not changed. We have a contract presently to be completed this ummer for the cofferdam and that was part of a three-year program of cofferdam preparation and oundation examination which will make the design of the plant a sure-thing and you also will remove he doubts about foundation and it also gives the bidding contractors to those general contract locuments an opportunity to examine foundation conditions before they put their bid in which should, f course, mean that the prices can be firmer.

Now, during the 1978 fiscal year we made capital expenditures of $69.1 million on high voltage)C facilities — that was in 1977 — and just to make sure I've got those figures right, $69.1 million n the fiscal year 1977 which is covered by a report and $101.7 million in the year ending last March, 978. Elements were added in 1976 and 1977 to complete the first Bi-pole and this transmission ystem handles the entire output of the Kettle Station and part of the output of the Long Spruce Station. Bi-pole No. 1 had to have the fifth and sixth valve groups completed before the Long Spruce ower can be transmitted over that circuit. The balance of the Long Spruce power will be transmitted ver the Henday station.

Additional commissioning work is now in hand for the first stage of the second Bi-pole which s located at Henday and that, of course, will handle the remaining output from the Long Spruce enerating station. A further phase of this project will handle the Limestone station when it is needed. second 230 kV interconnection was completed in November, 1976 with the United States. This ne significantly increased our capability to buy and sell energy with American utilities and, of course, as most important during our drought period when we bought very extensively over that nterconnection.

In September, 1977, the National Energy Board approved our application to build a 500 kV ransmission line between Winnipeg and the United States and construction will begin next winter. he line is scheduled to be in service by April 30th, 1980. Now in looking at that interconnection ith the Americans where we broke some new ground as far as Manitoba Hydro is concerned, we ad a commendable comment from the National Energy Board. In their report they made mention f the fact — and I would like to quote that to you, Mr. Chairman.Because the Canadian utilities redominantly peak in the wintertime and the further south you go, the American utilities redominantly peak in the summertime and of course as our demand grows in the wintertime and e become more related to winter loads, there is an opportunity to share some of the capacity hat is not being used in the summertime and the Energy Board application to economically justify hat tie-line was predicated on that basis. I'll just quote, Mr. Chairman, from their report.

"Canadian power systems experience their annual peak loads in the winter and have unused urplus capacity in the summer. Most U.S. systems, because of heavy air conditioning loads, xperience their annual peaks in the summer and have surplus capacity in the winter. It is therefore nly logical for such systems to join together in seasonal diversity exchanges, with power flowing orthwards in the winter and southwards in the summer. A seasonal diversity exchange allows the articipating Canadian utility to reduce its heavy capital expenditures on generating capacity that ould be required to meet the peak demand of the winter period but not be required during the ummer. Similarly the exchange permits the U.S. utility to reduce its capital expenditures on capacity equired only to supply its summer load. By saving capital expenditures, a seasonal diversity exchange enefits both countries. As such I commend this type of exchange to the Board as firmly in the ublic interests of Canada and I would expect that it is in the public interest of the United States lso." Now that's from an excerpt from the National Energy Board Report of July 1977 which was resided over by Robert A. Steed and that's his report to his board.

So, the 500 kV line that we have committed to an in-service date of 1980 will provide Manitoba lydro with 300 megawatts of diversity on our winter peaks, which was one of the factors associated ith delaying the Limestone Plant an extra year.

Now, an agreement was signed with Saskatchewan Power Corporation for the construction of third 230 kVa interconnection between The Pas and the Squaw Rapids Generating Station in askatchewan. This line will give us an alternate feed to the The Pas which is operated on a single ircuit 230 kVa line since it was built and of course the diesel plant was put on peaking service nd it would not be capable of handling the total load in that area. Consequently the third

with Saskatchewan will be of advantage to Manitoba Hydro for the alternate supply to Th Pas.

Now turning to page 12, I believe that's self-explanatory, however, again if you have any question I will try and answer them. I think you should note that that chart is headed up "Integrated Systems which of course includes the Winnipeg Hydro generation figures in the totals. If we refer to pag 13, in the field of future system developments, negotiations continue with the Nebraska Public Powe District to construct an interconnection and for an exchange of summer and winter powe commencing in about 1985. Like the contract with Northern States Power, this would allo postponement of future generating facilities beyond Limestone. Other plants beyond Limestone wi require new DC transmission lines from the north. Now the Nebraska Public Power District hav an interesting peak-load summer operation where they have more irrigation pumping load in th summertime and that is related to their corn crop in the months of May, June and part of Jul before that corn crop is harvested, and that's more capacity in irrigation pumping than we hav installed on the Winnipeg River. So it's a very important utility to interconnect with as far as sharin seasonal diversity.

Now, a word or two about our nuclear studies. We did studies on site selection for a nuclea plant and they have been wound up following publication of our third report because it is now evider that our hydro potential will meet Manitoba's requirements rather longer than we had believed sever years ago. I might add, Mr. Chairman, that the studies which started us off on those nuclear studie were commissioned when the load growth was considerably higher and we were at that tim somewhat concerned about keeping ahead of the load growth.

I'm very pleased again, Mr. Chairman, to relort that Manitoba Hydro's safety and its accider record stands high among the major Canadian electric utilities. Of particular note, Manitoba Hydr was ranked by the Canadian Electrical Association as having the second best overall safety recor among the 14 larger utilities. For the past 14 consecutive years Manitoba Hydro has benn ranke among the top three electrical utilities for having a low injury frequency rate. It grieves me, howeve to report that as a result of accidental contact with energized equipment, there were again tw electrocutions to the public in the province last year. This is better however than the five in th previous year, but our safety efforts are continuing at education and we're actually increasing th use of films with increased emphasis on safety and also aiming these at the school children wher they have maximum effectiveness. We are also including messages on safety in our monthl publication, "Hydro Lines".

If we can turn to page 14 and 15, Mr. Chairman, this is the centrefold of our annual report an I would note that this useful map of the hydro electric potential in the province was prepared b a member of our staff, Dick Bernhard. It was prepared for a number of purposes including distributio to schools in Manitoba where I understand it has been most useful. However, we are not goin to have a centre-fold next year, the report is presently under preparation and of course this shoul remove any arguments about people's preference for centre-folds. In fact we are limiting our us of colour and also using other measures to reduce the cost of our publication.$

Now, turning to page 16, the photos there. I think one particularly interesting photo should b drawn to your attention and that's the one on the right-hand side of that page showing the thyristo quadrivalve which is under test in the Brown Boveri plant in Baden, Switzerland and has now bee delivered in pieces and assembled on site. It's a number of components which are connecte together, it has been undergoing tests, and very successfully I might add. I t has been up to i full rate of capacity and it represents some of the most advanced technology in the world and tha advanced technology is being unfolded right here in our Dorsey Converter Station just a half a hours drive from this building.

The bottom photo at Dorsey shows some degree of comparison of the old technology and th new technology. You'll notice the right-hand side of that picture has a building that has black-white-black-white-black which is a fairly long building, and left.hand side of that photo show a black-white-black building and that building will contain more power for transfer from the DC line to the AC lines for use in the southern Manitoba interconnected system. It's a very impressive piec of engineering.

Perhaps we could turn to page 17 and you can see the charts on the top of that page. It show where our dollar came from and where each dollar was used. During 1977-78, Manitoba Hydi successfully negotiated collective agreements with our three unions. The first agreement was signe in August, 1977 with the International Brotherhood of Electrical Workers, Local 2034, and that the picture on the bottom of page 18. The next was signed in February 1978 with the Canadia Union of Public Employees, Local 998 and the third agreement was signed in March 1978 with th Association of Manitoba Hydro Staff and Supervisory Employees. Now on June 7th, that's last wee a two year renewal agreement was signed by Manitoba Hydro and this same local 2034 of the IBV which represents about 2,500 of our employees. This agreement provides for a wage increase 6 percent in the first year, with a simple wage reopener for the second year.

We move on to the Auditor's letter. There's nothing extraordinary about that and as I mentioned to you, we anticipate the auditor's report for our fiscal year 1978 very soon.

Now , Mr. Chairman, that completes my review of our activities for the report before you and also an update of the information for the year ending March of 1978 and the next pages of the annual report deal with the detailed financial statements and I have staff on hand here to answer questions on these or any other further detail that I have not already covered.

MR. CHAIRMAN: Is it the wish of the committee that we start with questions? Mr. Bostrom has indicated that he would, followed by Mr. Schreyer.

MR. BOSTROM: Mr. Chairman, I have some questions with regard to the brief statement on page 13, "Redevelopment studies of the Winnipeg River neared completion by the end of the fiscal year", and apparently the Task Force was expected to complete a final report by mid 1977.

MR. CHAIRMAN: Can you get your microphone a little closer please.

MR. BOSTROM: With reference to the redevelopment studies of the Winnipeg River which according to the report were expected to be completed by mid 1977, would the Chairman report on that as to what exactly these Task Force reports recommend and what is expected to be the future redevelopment plans of the Winnipeg River generating stations?

MR. BATEMAN: Yes, Mr. Chairman, the study that you refer to was completed. It generally concluded that it would uneconomic to spend money on additional capacity on the Winnipeg River until such time as the economic sites on the Nelson were achieved. The Winnipeg River in the future when we have some baseload thermal, will become a useful peaking source and we will install additional capacity at that time. In the meantime, we are faced with some expenditures of significant nature at the Great Falls plant which require refurbishment of the main spillway section.

MR. BOSTROM: Further to that, Mr. Chairman, could the Chairman of Hydro give us some more specific answer as to when these improvements will take place. I understand from your initial comment that Great Falls is one of the ones that's on the drawing boards right now. Can the Chairman give us a more specific date as to when this kind of refurbishment will commence and what the costs will be?

MR. BATEMAN: Ys, the Board has approved the capital budget item for the Great Falls plant and the amount of money that would be spent in the 1978-79 fiscal year to complete the design and build the access road and other things that have to be done to start construction, close to $8 million, and the total cost of the job over and including 1982-83 is estimated at $78.3 million. That work I might say will be underway way this coming year.

MR. BOSTROM: Mr. Chairman, further to that, can the Chairman give us any indication what implications this work will have for the future in that area in terms of employment for Manitoba Hydro employees and/or other potential employment in the area? Will there be any disruptions in the near future, foreseeable future, in the employment of Manitoba Hydro employees presently in the employ of the company at Great Falls and at other locations along the Winnipeg River as a result of these redevelopment projects, and/or will there be any additional employment opportunities for people living in that area as a result of these redevelopment expenditures?

MR. BATEMAN: Well, Mr. Chairman, I would expect that our present staff will continue until they retire or leave for other reasons. There is no anticipated change in the employment level of our staff on the Winnipeg River. It is a key station relative to the control of the other stations on the Winnipeg River. We anticipate that to continue. The redevelopment work at Great Falls will provide additional employment opportunities for a large number of people in the immediate area for the next several years.

MR. BOSTROM: Yes, can the Chairman be more specific in terms of the employment opportunities which would be available as a result of the $78.3 million in total that will be expended by the corporation over the next five years? What proportion of that would be in the way of wage income? Can you give me a ballpark figure? And will the company follow any kind of preferential hiring in terms of offering employment to people in the local area, as a result of this redevelopment work?

MR. BATEMAN: Mr. Chairman, dealing with the latter part of that first, our preference is written

into our specification documents requiring employment for local people first and, as far as the tota labour content, I haven't a figure at the moment that I could give you that would be meaningfu but this work is largely labour intensive. Itrrelates to removing some additional concrete work an replacing it with new concrete work, which is a relatively labour intensive job. It will require carpenters form-fitters, iron workers, and so on. I haven't got any details at the moment. We could, perhaps get that for you.

MR. BOSTROM: The second question I had was with respect to the nuclear alternative. Given th Chairman's answer that this has been postponed even further, given the power demands expecte in Manitoba, can the Chairman indicate if Manitoba Hydro is investigating the possibility of usin other rivers in Manitoba — perhaps of a smaller generating capacity potential — as an alternativ to looking at nuclear energy and in fact postponing the introduction of nuclear energy even furthe into the future?

MR. BATEMAN: Mr. Chairman, the question infers that by developing small hydro we could defe nuclear. That may or may not be the case. Small hydro is being looked at intensely in remote area of the province, relating really to the loads adjacent to those hydro sites, which would help to reduc the amount of dependence on diesel generation.

In addition to that, of course, we are looking at other forms of energy generation. We have studie wind power. We have quite an amount of extensive data on that. We have now transferred the responsibilities of this small group that were related to nuclear. Some of them have been retaine with the purpose of looking at other forms of energy generation such as solar, wind, and nuclear and thermal.

MR. BOSTROM: Mr. Chairman, to be more specific, I'd like to ask the Chairman a direct questior regarding the rivers on the east side of Lake Winnipeg. The rumours that come up from time tc time cause some concern in some communities regarding the development of the hydro potentia of those rivers and whether or not that development will take place, and in what form it will take place if and when such development occurs.

I wonder if the Chairman of Hydro could put those rumours to rest in indicating what, if any plans the corporation has with respect to the rivers on the east side of Lake Winnipeg. He did mentior the corporation was looking at perhaps smaller-type generating units which would be designed tc produce power for the specific local communities and, in so doing, replace the necessity for the diesel units, which I understand are very expensive to operate. Could the Chairman be more specific in that particular geographic area of north-eastern Manitoba?

MR. BATEMAN: Mr. Chairman, I don't know what the rumours are. As far as our studies are concerned, there are some small sites on the east side of Lake Winnipeg which would provide an alternate source of power for communities in that area. There was, at one time, a Hydro site at Kanuchuan, which is now in a very sad state of disrepair. To re-equip that site with hydro turbines to produce electricity would be a very expensive proposition and, I might say, would be more expensive than the present alternative, as far as I understand the figures up to this time. But that doesn't mean to say that the price of oil is going to stay where it is today or be availab in the future.

So in order to maintain an option of power supply to those areas, we are looking at the cost of building remote hydro sites in these small areas where they can be accommodated and also the alternative of transmission lines into those areas.

Now, all of these factors, including woodburning diesels like gasifiers, plus solar energy, plus wind power, these will all play a part in providing an alternate energy to what we have now.

MR. BOSTROM: One final question, Mr. Chairman. Can the Chairman of Hydro give us any indication if there are actually any plans on the drawing board for any of these potential projects that he has just mentioned or if this is still in the dreaming stage yet?

MR. BATEMAN: Mr. Chairman, there are no detailed designs, if that's what you are referring to as the drawing board, but there are conceptual designs in place for some of these remote areas and this report should be out some time next year, I would anticipate, and I'm sure it could then be made available for review.

MR. CHAIRMAN: Mr. Schreyer.

MR. SCHREYER: Mr. Chairman, I have a number of questions but hopefully we can deal with them in half an hour. I begin by asking Mr. Bateman the all-important assumptions with respect to load

forecasts. As between the last two load forecasts carried out by the Systems Planning Division, are there are any significant changes in assumptions and therefore in projections?

MR. BATEMAN: Mr. Chairman, if I might, I would like to call on Art Derry of our System Planning Division, who is here this morning, if he could come forward and, with your permission, Mr. Chairman, occupy this microphone here, No. 13? Mr. Derry, Mr. Chairman, is the Manager of Generation Planning in Manitoba Hydro and is responsible for the load forecast.

MR. ART DERRY: Can I have that question again, Mr. Chairman?

MR. SCHREYER: Yes, I was asking whether, as between the last two, the load forecast studies made by the Systems Planning Division, there are any significant changes in basic assumptions in load growth?

MR. DERRY: Yes, within the last three that we have made, we have been bringing our load growth down. The trend has been shown coming down and we have been bringing our forecast down.

MR. SCHREYER: Mr. Chairman, from what rounded figure of percentage growth then in each of the last three studies?

MR. DERRY: We started out two years ago at a growth rate over the ten-year period of about 7.6 percent. That was dropped down to about 7; we are down to about 6 now, over the ten-year period.

MR. SCHREYER: Would it be fair to ask if even at 6 percent there is some difference of opinion among the technical experts as to whether the 6 percent is realistic?

MR. DERRY: That is correct. Some people figure 6 percent is even a little bit too high.

MR. SCHREYER: And insofar as neighbouring utilities are concerned, confining ourselves to immediate neighbouring utilities, is there any significant difference in their load growth projection?

MR. DERRY: Mr. Chairman, Ontario Hydro have dropped their load forecast down to something between four and five percent. The MAP area, which is just south of us, have also dropped their forecast. NSP I think are down around the five percent rate of growth. So it seems to be right across the board. Saskatchewan has brought theirs down as well.

MR. SCHREYER: From what to what?

MR. DERRY: They are down around four to five percent now.

MR. SCHREYER: Would it be fair to say that in each of the three cases you have given that a year or to ago they were also, like Manitoba Hydro, with load forecasts up around six to seven?

MR. DERRY: That's correct.

MR. SCHREYER: Thank you. The next question, Mr. Chairman, would be to ask Mr. Bateman what the actual cost to Manitoba Hydro was of the 11 or 12-month accumulative effect of that drought period running from mid-summer 1976 to May, 1977?

MR. CHAIRMAN: Mr. Bateman.

MR. BATEMAN: Mr. Chairman, I indicated that we had purchased energy in the order of $20 million and our thermal generation was in the order of $15 million, and we had lost the opportunity to make sales from surplus to the tune of about $8 million. So overall the effect of the drought in round numbers was in excess of $40-odd million — $43 million I think.

MR. SCHREYER: Mr. Chairman, I'd like to try and get just a little more refinement on that latter number. The value of sales foregone. Perhaps the best way would be to start by asking this question: What was the year of the largest amount of extra-provincial power sold? What year was that and what was the amount?

MR. BATEMAN: Well, Mr. Tishinski is our Director of System Operations now. We have move these fellows from the time they were shown in that Annual Report. The new report will show Mr Tishinski is now Director of System Operations and he probably has the records with him that woul indicate what the year of maximum sales were. If you could come forward, Mr. Tishinski.

MR. CHAIRMAN: Mr. Tishinski.

MR. TISHINSKI: Just, Mr. Chairman, for clarification. This question pertains to total sales outsid of the province to all neighbouring utilities?

MR. SCHREYER: Yes, total extra-provincial sales. Not as to value, but as to amount. In what yea was that achieved, and what was the total aggregate amount?

MR. TISHINSKI: Your number was that five that you put on earlier.

MR. BATEMAN: No, I think there was one year earlier when it was slightly larger.

MR. SCHREYER: Well, if it's helpful, 1976, Mr. Chairman, it was indicated 3.2 billion kWh. Wa that perchance the peak . . . ?

MR. BATEMAN: In 1976, Mr. Chairman, it was 2.132 billion kilowatt hours. Now I'm not sure whethe that was the peak; just asking to make sure that that figure is checked.

MR. TISHINSKY: I don't have the figures with me which would go back to fiscal year 1975, bu . . .

MR. BATEMAN: I have the annual reports there.

MR. CHAIRMAN: Just while the Hydro staff are getting that information, the girl on the recorde has asked me if I can ask each and every spokesman to stay within a few inches of the mike. I she turns up the volume, she gets feedback, and so if we can all stay within six inches of the mik and speak as clearly as possible.

MR. BATEMAN: Mr. Chairman, if I may just note in the annual report for 1975, the extra-provincia sales were 2.2 billion, 22209 billion kilowatt hours, and I think that's perhaps the peak.

MR. SCHREYER: Well, one of the reasons I'm asking, Mr. Chairman — let me just run these figure by Mr. Bateman once again. For the most recent full year, in 1978 you indicated 2.1 billion kWh approximately, I believe.

MR. BATEMAN: I will check my report, Mr. Chairman.

MR. SCHREYER: For a value of 34 million. Does that sound about correct?

MR. BATEMAN: Yes, that sounds like the figure I used, but to be . . .

MR. GOODWIN: Mr. Chairman, could I add a correction?

MR. CHAIRMAN: Mr. Goodwin.

MR. GOODWIN: Mr. Chairman, Mr. Schreyer, I am responsible for giving you some wrong figure there. I pointed up some figures in the annual report that referred to Canadian sales out-of-provinc but not U.S. sales, and so the total sales, the year maximum sales, was the year ending March 1975, and the figure is 3.55 billion kilowatt hours. The figure for 1976 is 3.22 billion, and in th last two fiscal years it's been somewhat smaller.

MR. SCHREYER: Okay, I think that gives us a sort of four year run at it, and it leads to this question if in 1975 it was possible to sell extra-provincially 3.55 billion kilowatt hours, and since 1975 ther has been some additional interconnection capacity, is it reasonable to assume that at the 1975 level so as not to exaggerate, just taking the 1975 level and translating it to 1978 values, that we woul be looking at something in the order of $50 million of potential extra-provincial revenue?

MR. BATEMAN: That's correct. That's correct for this year.

MR. SCHREYER: Yes. Since 1975 — perhaps I could put it this way — since 1975, what has been the increment in tie-line capacity, extra-provincial tie-line capacity in proportionate terms?

MR. BATEMAN: Mr. Chairman, in 1976 we added the second U.S. interconnection and we haven't added any since that time. We have plans to add a third line to Saskatchewan next year, and of course the 500 kV line comes in in 1980.

MR. SCHREYER: 1980. What significant tie-line increment or addition is to come in service before the 500 kV, if any?

MR. BATEMAN: Mr. Chairman, the line to Saskatchewan is the additional increment of interconnection capacity that will come into service, and that's scheduled for 1979.

MR. SCHREYER: Now, to try just another way, with the commissioning of the 230 kV line in the fall of 1976, approximately what percentage increase would that give to extra-provincial tie-line capacity? In percentage terms, approximate percentage terms.

MR. BATEMAN: Well, it would increase the present capacity. We have six interconnections at 230 kV now and this will be the seventh, so it would increase it roughly in that percentage. But you have to recall also that the market is not necessarily Saskatchewan.

MR. SCHREYER: No, I appreciate that. I was also thinking of the one commissioned in the fall of 1976, which is the one to the U.S. So that if 3.55 billion kilowatt hours moved through our existing tie-lines in the peak year of 1975, then with the commissioning of the southward 230 kV in the fall of 1976, then conceivably, or actually, there could be something like 10 to 15 percent additional capacity say, if the market's there, of course, in 1979, or 1978 or 1979 or 1980, by virtue of that extra capacity?

MR. BATEMAN: Well, of course, Mr. Chairman, we have a load dispatch office that's manned 24 hours a day that's in touch with all of these interconnected systems through telex and other means of communication, and every opportunity is made to maximize the sales from our utility when we have power to sell. So we have a budget for this coming year of something in the order of 50-odd million dollars, which they will be doing their best to achieve.

MR. SCHREYER: Well, I'm sure, Mr. Chairman, that load dispatch is watching for every opportunity. The question that I really would like to come to is in current circumstances, where we're not living with a one-in-40-year drought, or whatever, and given that last year the value of extra-provincial sales was $34 million for an amount of 2.1 billion kilowatt hours, what would be the limiting factors in moving that back up to three or four billion kilowatt hours? Would it be generation capacity or would it be market, or would it be tie-line capacity? In other words, have we ever bumped up against tie-line capacity limits in the past 12 months?

MR. BATEMAN: I'll ask Mr. Tishinski, Mr. Chairman, to answer that one.

MR. TISHINSKI: I would like to come in with a bit of preamble here, but when dealing with extra-provincial sales, there are really two key facets to remember. The first is to have a market availability, as you had indicated, and the second is price. Now, the most attractive price for sales is south to the Americans, and we are currently in the position where we have fully loaded our two tie-lines to the States and our lines east and west are not loaded, simply because of the attractions of the price; the price naturally is most attractive to the south.

MR. SCHREYER: Well, yes, that's clear enough. The southward tie-lines, including the one that was commissioned in late 1976, have been from time to time in the past several months, fully loaded.

MR. TISHINSKI: Yes, that's correct.

MR. SCHREYER: The east-west lines, both east and west; have they ever been, at any point in time, fully loaded?

MR. TISHINSKI: Not within recent months, addressing ourselves first of all to Ontario, because

of the good water conditions that we are experiencing on the Winnipeg River system, the northwestern part of Ontario is experiencing likewise good water conditions, and so they are in the position to supply hydraulic power to their own system. And this negates any attraction from purchasing from us under the current water conditions.

Westward to Saskatchewan, where Saskatchewan has recently installed a large 300 megawat thermal unit, we find that it is difficult to compete in the Saskatchewan market with their source of generation, any time this large unit is on-line. There are periods, of course, when the large uni is off-line that we can then enter into the Saskatchewan market.

MR. SCHREYER: What would Manitoba Hydro regard as the maximum practical annual volume of power moving south, given our existing interconnection capacity? For last year, as I understand it, it's 1.04 billion kilowatt hours, and you have already said that this is in the context of tie-lines fully loaded — well, fully loaded from time to time, I presume — but on an annualized basis, wha is your calculation of the maximum practical volume of power that can be moved south?

MR. TISHINSKI: Assuming that we would be exporting 12 months throughout the year at ful capacity, we feel that we could sell approximately 3.2 billion kilowatt hours to the States alone over the two tie-lines.

MR. SCHREYER: So that gives us an idea of transmission capacity. Now, in terms of market, car I assume that the 1.04 billion could have been somewhat larger had there been additional tie-line capacity, at least at the right season of the year?

MR. TISHINSKI: Given that stipulation, the answer is yes.

MR. SCHREYER: I mean the 1.04 billion was achieved presumably in what? Four to six months of the year?

MR. TISHINSKI: Yes. We were still in a drought position for the first four months of fiscal yea 1977-78, and as a crude approximation I would say that those sales were carried out in the latter eight month period of fiscal year 1978.m.

MR. SCHREYER: Could I ask if Hydro has any projection that it works with insofar as the assumed or estimated level or volume of sales southward for fiscal 1978-79? Are you making any assumption there, and if so, what is the assumption? Not as to value, but as to volume.

MR. BATEMAN: I think, Mr. Chairman, we are assuming that we can load those two ties to roughly their capacity, which is 3.2 — somewhere around that order of magnitude, I would think — give or take a couple of hundred million, on that total.

MR. SCHREYER: Mr. Chairman, that is very significant. I want to make sure I don't misunderstand but that in practical terms, Hydio is assuming moving something approaching 3 billion kWh over those tie-lines south in the next — ending March 31st?

MR. BATEMAN: That's correct, Mr. Chairman.

MR. SCHREYER: And even assuming a relatively constant value, that would seem to indicate something on the order of $70 million. Would that be correct?

MR. BATEMAN: I'll defer to Mr. Tishinski. I think our budget is not that high.

MR. SCHREYER: I would be surprised if it were, but anyway . . .

MR. CHAIRMAN: Mr. Tishinski.

MR. TISHINSKI: Well, we come into the realm of pricing now and the price of power varies quite dramatically from season to season and from daytime to nighttime; and we have for those projections assumed an average price of 12 mills per kilowatt hour to the Americans.

There will be times naturally when the price will be higher, but there are also times when prices will be lower. We are not to be misled by prices that we have experienced in the past year because when there is a dearth of electricity, then of course the price goes up; and also the law of supply and demand follows here. For instance, when the coal strike was in effect in the United States we in Manitoba had a real bonanza in selling power.

At the moment you might be interested to know that there are good water conditions on the Missouri River system and we are selling power to the Americans for 11 mills during the daytime and for five mills during the night. So we are in a valley period during the spring period as far as pricing is concerned. But we naturally expect the price to rise as the weather gets warmer in the mid part of the summer and the predominant air conditioning load comes into effect.

MR. SCHREYER: But even all of the contingencies you're taking into account, it would seem as though something in the range of $40 million or $50 million would attach to the estimated 3 billion kilowatt hours.

MR. TISHINSKI: I would estimate that figure to be high for the Americans alone. We also have contracts with Ontario Hydro and we anticipate to have casual sales to Saskatchewan as well, although from a dollar's point of view this would not be very significant. So I feel that a number of $50 million to the Americans is high. We're estimating — and I'm speaking a bit from memory here — but we would expect that we would get approximately — I think it's around $36 million from the Americans.

MR. SCHREYER: All right, then, for aggregate, Mr. Chairman, for total aggregate extra-provincial movement, is that a figure that is in the ballpark of what you're working with, $50 million?

MR. TISHINSKI: Yes, it is.

MR. SCHREYER: Right.

MR. BATEMAN: I think one point, Mr. Chairman, if I could make it relevant to the value that Mr. Tishinski quoted for energy at nighttime and so on, you must remember that even in the last winter with a heavy load period for the northern utilities in the U.S., we were able to buy night-time energy in the order of 7 mills to 9 mills — in that order if my memory is correct — so it just points up that at that time we were able to buy it at that figure and sell it during the daytime when energy is much more costly as any commodity is when it's in short supply, at a good substantial markup.

MR. SCHREYER: Well, another point related here, Mr. Chairman, I realize that in the very immediate past 12-month period is perhaps not valid for comparison because of the rather dramatic impact of the coal strike in the U.S. — but I'm thinking now of a longer term trend and that is — given that the U.S. utilities have slowed down for a few years now, their pace of development and construction, and as I understand it their addition to nuclear capacity has also slowed down. Are these two factors already beginning to reflect and are you making that assumption, insofar as export sales are concerned for the next four to five year period?

MR. CHAIRMAN: Mr. Bateman.

MR. BATEMAN: Yes, Mr. Chairman, it is true that there has been a slowdown but it's more related to the growth rates in those various utilities. The utilities immediately south of us in the MAP pool do have adequate reserve capacity at the present time and plan for it.

Now to the extent that the load suddenly increases at higher than the present projections, then conceivably they could be caught short in the mid-Eighties, and that's a condition that a lot of people are anticipating, that there could be a shortfall in ability to meet the electrical load in some of the American utilities in the early Eighties. I don't think that's new, that's a well stated fact by the Department of Energy in Washington.

MR. SCHREYER: Well, Mr. Chairman, there were a couple of questions that were deferred from the Legislature itself, to this committee with rather more detail and that is, to ask the Chairman of Manitoba Hydro whether in addition to the direct negotiations that have taken place and continue to take place between Manitoba Hydro NSP and related mid American Power pool utilities, whether anything is happening insofar as Canada-U.S. discussions are concerned, relating to electrical energy. To be more precise, given that in January 28 or 29 last, that Vice-President Mondale did ask the Government of Canada to agree to initiate more systematic discussions of the possibility of adding to interconnection and also the sale of electrical energy, I'd like to ask if Canada has asked Manitoba Hydro in turn for any concrete or tangible inputs, in terms of assessment of sort of intermediate term potential.

MR. BATEMAN: Well, Mr. Chairman, we have as a result of Vice-President Mondale's visit, the

Department of Energy in Ottawa have alerted the governments of the provinces to the interest b the Department of Energy in Washington, and they have also alerted the Canadian Utilities to attemp to deal directly with their counterparts in the United States. And, in addition to that, we had c course negotiations under way now for more than three years on this Mandan tie with Nebrask which is not consummated yet but which is getting closer. We also have had our staff down t a meeting in Minneapolis with the Department of Energy officials for that region, and there ar preliinary discussions going forward relative to sale of surplus or firm capacity. They are in the ver preliminary stages at this point though.

MR. SCHREYER: Mr. Chairman, Mr. Bateman indicated he is aware of any possibility by th Government of Canada commissioning a systematic study of the potential harness of all Hydr Electric sites, here and elsewhere in Canada that would relate to U.S. energy markets, electric energy markets, studies apart from whatever may have been going on in the past three or fou years.

MR. BATEMAN: Mr. Chairman, I'd like clarification of that question, if I may. Which was the part that you were referring to, Mr. Schreyer?

MR. SCHRYER: The Government of Canada.

MR. BATEMAN: The Government of Canada. No, I think the Government of Canada is not, a far as I am aware, is not entering this area with any detail at all. They are leaving it to the provincial since distribution of electricity and generation of electricity is a provincial matter, it is being lef to the Provincial Government and the utilities in the province to promote this.

MR. SCHREYER: Well, just a final question on this aspect of it. Did Mr. Bateman say whether i light of Vice-President Mondale's visit, there was anything significantly different happening in th Canadian energy scene, the Canadian electrical energy scene, different than what was ongoing u until that time? I refer again to late January of 1978.

MR. BATEMAN: No, Mr. Chairman, I can't say that I have noticed anything different, except a chang in some of the personnel in the Department of Energy, Mines and Resources. They now have new Deputy Minister, and some of the senior electrical advisory staff have retired, and we hav an ongoing discussion with those people, but at the moment there is no thrust from Ottawa a far as I am aware toward the development of these renewable resources that we have, much a we'd like to think there would be some support for that. There is nothing that we can observe a this point in time, but we have had discussions with them.

MR. SCHREYER: Mr. Chairman, I don't go so far as to read cause and effect into this, but yo did, Mr. Bateman, quote the National Energy Board in a very positive way during your presentation I'd just like to ask you for a dating of that rather positive observation by the NEB with respec to renewable electrical energy generation and sale.

MR. BATEMAN: Well that, Mr. Chairman, was from the . . . we got this report in September, bu the report from Mr. Steed to his National Energy Board is dated July, 1977, but it was not mad public until I think we received it officially, Mr. Funnell can advise us on that. —(Interjection)— Mr Funnell advises me that it was late August that we received the word from the National Energ Board.

MR. SCHREYER: Okay, thank you. Mr. Chairman, I'd like to get an updating with respect to Pag 13 of the Report, which is several months old now of course, and makes a projection as to th commissioning of additional capacity and I'd like to ask Mr. Bateman to update that as much a possible. In other words, how much is actually commissioned and in-service at Jenpeg and Lon Spruce?

MR. BATEMAN: Well, Mr. Chairman, the installed capacity at those stations, we have three unit on at Long Spruce, and two units on at Jenpeg.

MR. SCHREYER: In other words, approximately 30 megawatts.

MR. BATEMAN: No, the Jenpeg units are nameplated at 28 megawatts, I think nameplated ar conservative estimate of the worst conditions under winter operation, would produce 21 megawatt if we had maximum flows in the Nelson River, and so on.

MR. SCHREYER: That's the worst case to estimate.

MR. BATEMAN: Yes.

MR. SCHREYER: Twenty.

MR. BATEMAN: Twenty-one. Twenty-one each.

MR. SCHREYER: Yes, so that's 40, and . . .

MR. BATEMAN: And 300 roughly, that's 98 megawatts per unit at Long Spruce. I don't know what you're getting out of those units at Long Spruce, are we getting 300 megawatts roughly out of the three units, or . . . not quite.

MR. FENNELL: Two hundred and ninety-eight.

MR. BATEMAN: Well, that's close enough to it's nameplate rating, if the head's down modestly.

MR. SCHREYER: So that the projection as shown on Page 13 is not significantly at variance with actuality, I mean 40 to 56 megawatts at Jenpeg and in the order of 290 or so with Long Spruce, as of today.

MR. BATEMAN: Yes, that's right, Mr. Chairman.

MR. SCHREYER: And any revision to be made with respect to 1978-79?

MR. BATEMAN: Well the schedule, Mr. Chairman, for the Jenpeg plant is to have all units in service by July, all but 1979; and Long Spruce will be in . . . I think unit No. 10 is December, 1979.

MR. SCHREYER: Very well. Mr. Chairman, with respect to Churchill River Diversion, since the diversion was taken up to full design capacity in August or September of this year . . .

A MEMBER: August.

MR. SCHREYER: . . . and then taking it through the sort of worst condition tests of the winter months, is it correct that the diversion operated with water levels at 798? How does that compare with sort of the worst case provisions and assumptions that were made? Something considerably in excess of 798 as I recall. In other words, did the diversion perform during the winter months at about design expectation or were there were surprises, positive or negative, with respect to levels of ice cover and so on along the shore?

MR. CHAIRMAN: Mr. Bateman.

MR. BATEMAN: Well, Mr. Chairman, as far as I have been advised, the diversion operated very satisfactorily. I think the performance, we might say, was as good as expected or better. The area of concern around Nelson House that you have referred to in quoting elevation, I think that is about the elevation we achieved. The ice jams that could have worsened that situation did not occur in that reach of the river. We did have some severe ice jams down below First Rapids but they didn't affect anything of significance at all.

MR. SCHREYER: The 798 elevation at Nelson House during winter ice cover and at maximum diversion flow, 30,000 cfs, the 798 intrigues me because I recall assumptions made about 812 and even as much as 820. Now, it's in that context that I would like clarification, whether the 798 was in fact rather positive, if not surprise, at least positive performance.

MR. BATEMAN: Well, Mr. Chairman, I did indicate that the consulting engineering reports on the diversion route were concerned about ice jams below the outlet of Three Point Lake which could have created a back-water effect on Three Point Lake and backed water up into Footprint Lake which conceivably could have reached 812 under the assumed conditions. Now, even with a plant that would have been built at Wuskwatim which would have flooded back into those areas, whether it's 800 or 810, whichever the forebay was chosen , would have produced roughly the same hydraulic

gradient and backwater effect of about 812. So the severance line at the Nelson House Reser was assumed to be the 812, I believe it is, and that's what . . . We have a copy of the report her Could we dig that severance line area out as noted in the report? There's a copy in r briefcase.

MR. SCHREYER: We can come back to that, Mr. Chairman.

MR. BATEMAN: But I might add, Mr. Chairman, that it is important to remember that while v did have one winter of operation, I think I advised this committee on a number of occasions th really we can't be too sure of how this is going to operate until we have operated it for a few year I think it's very important that we have a few years of experience under our belts before we ca say how it's going to operate. Last year, we were very pleased, but last year was a relatively mi winter and I think we should remember mild in the sense of the northern temperatures. I think th record will show that the ice conditions last year in the north were . . . It was an early freezeu but it was comparatively a mild winter, and therefore we didn't get ice jams, we did not get back-u or back-water effects into Footprint and Three Point Lakes.

Now Mr. Funnell has given me the agreement here and Clause 363 says that the Nelson Hou Reserves "all reserve lands below 814 and contiguous to the Burntwood and Footprint and all lar below the protected severance line shown on . . ." and so-and-so. I think that's the easeme reserve, Mr. Chairman. The severance line at Nelson House, the agreement calls for us not to excee at Nelson House 800 above sea level. "At Nelson House 800 above sea level before constructio of any jam, the forebay of which includes Three Point Lake and 802 during and after suc construction." So this more or less recognizes that the limit of forebay elevation on a plant at th site would be 800 and the back-water . . .

MR. SCHREYER: And that is the commitment with respect to the construction of the ne downstream plant, the forebay of which would not exceed 802.

MR. BATEMAN: 800.

MR. SCHREYER: 800.

MR. BATEMAN: And then the normal hydraulic gradient, winter ice cover conditions, would giv about 802 on Footprint Lake.

MR. SCHREYER: But the easement is 814 you say, is it?

MR. BATEMAN: The easement is 814, yes.

MR. SCHREYER: The reasons for that easement, Mr. Chairman, being because of some unavoidabl degree of uncertainty as to performance under ice cover or ice jam conditions, is that th reason?

MR. BATEMAN: That's the reason.

MR. SCHREYER: Then having taken this through its first full winter of operation at 798, could ask what the technical view is as to levels under ice cover or is one year felt to be . . . you sa the winter was so relatively benign that Hydro does not want to make any assumptions, is tha correct?

MR. BATEMAN: Well, the consulting engineers' reports, Mr. Chairman, were available and the did indicate that we would have difficulty with that reach of the river under these conditions if ic jamming occurred. Fortunately, the winter went through without any problems and so far there ma be a technical explanation of that. It's like the Two-mile Channel at Lake Winnipeg. It operates ope all winter because it draws warmer water out of Lake Winnipeg but I think, Mr. Chairman, it's to early to predict how these things are going to operate with just one winter's operation. I think we in fairness to the consulting engineers' report, it had to take into account all of the conditions tha conceivably could occur. Whether they will occur is up to time alone to tell.

MR. SCHREYER: Two last questions, Mr. Chairman. With respect to the very current conditio and level of our principal reservoirs, and also flows, can Mr. Bateman indicate whether all majo reservoirs are at or near the long-term average or are some significantly deviating above or belo the long-term average?

MR. BATEMAN: Well, Mr. Chairman, I don't know whether we have a copy of the latest monthly tatistical information available but my recollection is that the lakes were all just getting above the en-year mean and Lake St. Joseph is right on the ten-year mean, Lac . . . is above it and Lac acroix is right on the ten-year mean, Namikan is just above it, Rainy is above it, Lake of the Woods s above the 10-year mean and we anticipate that Lake Winnipeg will be around 714.5 to 715 some me this summer depending upon the amount of rainfall that occurs. If we get medium conditions, think we get about 714.4 or thereabouts; if we get the upper 20 percent above median inflow, nen we'll come out just below the 715.

MR. SCHREYER: So they're all above.

MR. BATEMAN: So we're in good shape in general, Mr. Chairman.

MR. SCHREYER: That's really what I was getting at, whether in terms of storage and hydraulic ows, the system was in good shape. Now that we can look back in retrospect to the drought period f July, 1976 to May, 1977, has it been quantified as to the statistical variation, or in other words, ne in X years drought? Has that been quantified? Sort of after the fact.

MR. BATEMAN: Mr. Chairman, I haven't a figure like that in mind but I don't know whether Mr. ishinski has a figure that he could give us. I think the Winnipeg River is greater than the one in 00 of drought.

MR. CHAIRMAN: Mr. Tishinski.

MR. . TISHINSKI: It certainly was drier than anything we had ever on record before.

MR. SCHREYER: You're talking about the eastern part of the watershed only.

MR. TISHINSKI: That is correct. Winnipeg River only. That being significant because the Churchill River was not on any drought condition at all. Its flows were approximately median. Another point o remember is that when we speak of drought conditions, we have to recognize that there are different river systems which come into Manitoba, but certainly the Winnipeg River was the driest hat we had ever recorded before, drier than we had ever recorded before.

MR. SCHREYER: Okay, Mr. Chairman, I think that I've dealt with most of my points.

MR. CHAIRMAN: Mr. Orchard, would you get a microphone in front of you please.

MR. ORCHARD: Thank you, Mr. Chairman. I have about three questions and they vary quite a ittle bit. I had one question on Jenpeg. There are two units now in place or operative?

MR. BATEMAN: Yes, Mr. Chairman, two units are now operating.

MR. ORCHARD: It was my understanding that the original projections on Jenpeg were to have six units operative by December, 1977, is that correct?

MR. BATEMAN: I haven't got that figure, Mr. Chairman. The original contract called for all six units o be in operation by this time in 1977.

MR. ORCHARD: Now, Mr. Chairman, in the original contract, was there a performance clause tying he suppliers to having those six units in production in 1977? Was there a performance clause?

MR. BATEMAN: Well, Mr. Chairman, when you say a performance clause, I would like to refer o Mr. Funnell for his interpretation of what you mean by performance clause. Would you like to ake the microphone, Mr. Funnell?

MR. CHAIRMAN: Mr. Funnell, would you take microphone 13?

MR. FUNNELL: Mr. Chairman, from recollection I would say that the contract contained a provision equiring performance within certain times. Certain parts of the contract had to be performed within certain times.

MR. ORCHARD: Well, my question would be then: Is the supplier in violation of that performanc clause of the contract and is Manitoba Hydro in a position to collect any performance bonus any failure of performance from any of the suppliers involved in Jenpeg?

MR. CHAIRMAN: Mr. Bateman.

MR. BATEMAN: Well, Mr. Chairman, I'll ask Mr. Funnell to deal with that one also.

MR. CHAIRMAN: Mr. Funnell.

MR. FUNNELL: Normally, Mr. Chairman, we would wait until the contract was totally complete and then we would assess our position at that time to determine whether there'd been any catch-u because you can be behind and ahead at various times, and so on, and the corporation's complet position won't be known until the work is finalized.

MR. CHAIRMAN: Mr. Orchard.

MR. ORCHARD: So then I'd take it you would suggest that maybe in July of 1979 . . . is tha when they are to be operative now?

MR. BATEMAN: The schedule is calling for No. 6 to be in service by July of 1979, I believe.

MR. ORCHARD: So then I would take it that if we have an opportunity in July of 1979, you'd b able to assess better whether any of the contractors were subject to penalties under any performanc bonuses, and not until then?

MR. FUNNELL: I would expect that that would be done at that time, or in that vicinity.

MR. ORCHARD: Well, I'm not all that familiar with the contracts of that . nature, but were ther . . . Obviously there are problems in the installation — who's fault are they? Is it the corporation' fault or the contractor's fault? That's a considerable delay, roughly a three year delay.

MR. CHAIRMAN: Mr. Bateman.

MR. BATEMAN: Well, Mr. Chairman, I think that's a hypothetical question. I'm not making excuse for the contractor or the supplier, but we do know that he had a fire in his manufacturing plant which did cause a delay. NXOW HOW MUCH WE CAN ATTRIBUTE TO THAT AND HOW MUCH WE CAN ATTRIBUTE TO OTHER CAUSES, WE MAY HAVE TO DETERMINE AFTER THE CONTRAC IS COMPLETED.

MR. ORCHARD: Thank you, Mr. Chairman.

I'd like to sort of change the tone and inquire as to Manitoba Hydro's policy on installation o Hydro service in farmyards? And I guess specifically I'd like to find out if it's possible . . . For instance let's take a family farm unit where the son returns home to the operation and adds a residenc to the farmyard, and is it Hydro policy to install a separate meter and transformer for the secon residence in that yard?

MR. BATEMAN: As far as I am aware, it is proper. If the son returns home or if the father returns home in some cases and takes up a tract of land and the title is transferred to him, and he sets up a residence that qualifies under the regulations for residences, then that is, in all cases, a separate customer.

MR. ORCHARD: Now when you mention title transfer, is that a prerequisite to having a separate meter or transformer installation, or a requirement to have a separate . . . ?

MR. BATEMAN: I don't think the title transfer, Mr. Chairman, is essential to this, but I use that as an example because I am familiar with one case where the father returned home and bought five acres of his farm back in order to put up a residence, and of course he didn't have any doubts about being a separate customer.

MR. ORCHARD: What I'm getting at here in the line of questioning, is, very often in a family farm situation, a son or two sons may return and locate within the existing farmyard. There's no transfe

title as such, they are all living on a legal description of a quarter section. I know of several stances where, upon location of a new residence and you know, it can be for a son returning ome or it can be for the owner providing residence for a hired man in the same yard, where no ddditional meter and transformer were supplied to the second residence, or the third residence, e it the case. And by itself, that's no problem, except when we get into the situation of increasing e load in the farmer's yard to such a level that he goes into I believe a 55 kV transformer, and en this will often, if not always, trigger demand metering for that particular farm.

I would like to see in whatddirection Manitoba Hydro intends to go in situations like that, because emand metering, particularly if we're going to follow the concept of "use our own energy in terms heating," — in other words use electric heat rather than going to propane or diesel for home eating — the existing policy as it appears to stand, or as it's been enacted in a couple of cases my constituency, tends to encourage a son moving home to put in oil heat into his house because he puts in electric heat and his father or another resident in the area is on electric heat plus e rest of the demand on the farmyard, that generally puts that farmyard into the demand metering ategory and they tend to shy away from that.

R. BATEMAN: Well, Mr. Chairman, I think this example would have to be looked at on an individual asis. I would suggest, Mr. Chairman, that the competitive position in any farm area with electricity, I is not as competitive as electricity, and there would be advantages in that case, if they didn't ant demand metering, to have the son take out a separate residence metering arrangement, which e'd be treated the same as anyone else.

The bigger farms tend to take a power connotation. They do find that, you know, even with roper utilization you take and use the grain driers in the fall, and in summer when the crop comes ff, they themselves improve the load factor sufficiently that the energy component is less on demand illing than it would be if they were on a separate meter. So I say you'd have to look at these iings individually as to how you're using the product. As soon as you bunch-up the load on the inter feed thing, of course, the rates provide for you to pay your fair share of them.

R. ORCHARD: Well then, did I follow your comment correctly that probably in the case of stablishing a second residence, if it does happen to trigger demand metering, that the son or hoever the additional residence is for, should seriously consider looking at a separate metering rrangement?

R. BATEMAN: No, I didn't say quite that, Mr. Chairman, I said that you should examine the use ou're making of the product and if it turns out — our staff would be very happy to help you make iis analysis — it could turn out that you are better off on demand metering or it could turn out iat you are better off with the separate metering for the individual residences.

R. ORCHARD: And in the case, after examinination that separate metering would be the best oute to go, there's no reason why it couldn't be established then, I take it?

R. BATEMEN: No reason at all, as a matter of fact that, I think, is our normal practice.

R. ORCHARD: Following one step further, in my area there are quite a few intensive livestock perations which are coming into the farm sites, and these also put an additional load on the present ansformer systems, often triggering the level of consumption where the demand metering comes i, would it be fair to consider the policy of separate meters as applied to residences — would be fair to consider that might apply to intensive livestock operations as well? In other words, the — let's call it a broiler barn — increases the farmyard demand to trigger demand metering, ould the broiler barn by itself be put on separate meter if it proved to be the most economical oute to the consumer, to do that?

R. BATEMAN: No, that would be contrary to policy. The house and barn, or broiler operation i that case, are part of the same operation.

R. ORCHARD: Okay, so then in terms of a farm installation, a farm installation includes residence lus business then, if we wanted to make a broad categorization.

R. BATEMAN: I think, Mr. Chairman, that would be correct.

R. ORCHARD: I'll leave my other question for a little later on.

R. CHAIRMAN: Mr. Minaker.

MR. MINAKER: Thank you, Mr. Chairman. My questions to Mr. Bateman relate to the scheduti of Jenpeg Station. I think Mr. Bateman will recall that in our 1975 report from the Hydro it indicate as he has indicated earlier, that all six units at Jenpeg would be in operation by the 1977-78, a in that particular year-end report which I have before me it indicated that there was going to five of those units in operation by March 31, 1977. Then the following year we had an upgra in the 1976 year-end report that there would be 63 megawatts or three of the units in operati by March 31st of last year, and 63 additional, or the total plant would be in operation as of t date. Now in the report that we're looking at this year, there's another upgrade that indicates th bz March 31st of this date there would be three of the generators in operation. We've been advis today that there are two, and further to that that the additional three would be in operation July of next year, as Mr. Bateman indicated.

I want to know, Mr. Chairman, how realistic is this schedule after the continual up-dating of t actual completion or operation of the generators? How realistic, Mr. Bateman, do you feel that t July 1979 date is?

MR. BATEMAN: Well, Mr. Chairman, based on the advice I have from our staff, who are very close associated with this, I think they're convinced now that this is a realistic schedule for the Jenpe units. Mr. Chairman, with your permission, I'll ask Mr. Harris Wilson, the Director of our Generatic Projects Division, to come forward and verify that, if he would.

MR. MINAKER: Mr. Chairman, I'm not cross-examining Mr. Bateman, I take his word, I'm just tryir to get from him reassurance that in actual fact this date is a realistic one.

MR. CHAIRMAN: Mr. Wilson, do you care to comment on that?

MR. WILSON: Yes, our latest assessment of the progress of the work at Jenpeg is that these a realistic dates, and our erection schedules for the remaining units have been reviewed very recent with our own staff and with the Russian directors, and we feel that these dates are attainable

MR. MINAKER: Mr. Chairman, a question through you to Mr. Bateman. Are all the major hardwa items on the site at the present time, such as swithgear and generators.

MR. BATEMAN: Well, as far as I am aware, Mr. Chairman, all the components have been delivere again I'll ask Mr. Wilson to verify that?

MR. WILSON: All the components are on site now. The turbines and generator components hav been on site for some time, and the ancillary equipment is all available for installation in accordanc with our latest schedule.

MR. MINAKER: Mr. Bateman, when were all of the generators on the sites and all the switchgear What date was that?

MR. BATEMAN: Mr. Chairman, again I'll ask Mr. Wilson if he would indicate to the committe members when the equipment was delivered for the Jenpeg Station? The generators, I think, i Mr. Minaker's specific question.

MR. WILSON: From memory, I would say all components have been on site for at least a yea now.

MR. MINAKER: Mr. Chairman, are all the components assembled now, and in location at th site?

MR. WILSON: No, they're not all assembled. We're in a stage program. The components for Unit 2, 3 and 4 are substantially in place, but there's a lot of line-up of equipment, setting centre line of the equipment, and that's a complex piece of work. I think the last stayring for Unit No. 1 i presently being prepared to be embedded.

MR. BATEMAN: Mr. Chairman, if I could just add a point to this. This station, you know, is rathe an historic one, even though we have had more than our share of difficulties during the erectio process, and delays of one form and another, but I would suggest through you, Mr. Chairman, tha you issue an invitation to your committee members or to your Legislature to visit the Jenpeg sit and see it. It's a very timely operation right now — it's the first bulb-type installation in North America

s not the last. There are others under construction now, and I think it's large enough and complex ıough and interesting enough that it commends an invitation to you, Mr. Chairman.

R. CHAIRMAN: To you, Mr. Bateman, I was mentioning to the Minister of Finance a few moments go, that I believe there are 17 members of the Legislature who were not present two years ago, hen you were good enough to take the members up north and show them the Hydro sites at that ne, so I was hoping that the Minister of Finance might initiate such a trip.

R. MINAKER: Mr. Chairman, through you to Mr. Bateman. Is all the structural and forebay and am work completed at the site?

R. BATEMAN: Everything's complete, Mr. Chairman, in those areas.

R. MINAKER: When was that work completed?

R. BATEMAN: We put the Lake Winnipeg regulation works into operation, I think, two years ago, as it not.

R. WILSON: Well, the first unit at Jenpeg went into commercial operation on July 1, 1977, so ıe basic project was complete, saving only the installation of the units, and the secondary concrete ıat's necessary to embed the components of the turbines.

R. MINAKER: So all the major hardware and switchgear and everything were complete at that oint, other than the auxilliary that would go in with each generator?

R. WILSON: The ancillary equipment is normally installed on a program co satible with the inervice ates for the main equipment.

R. BATEMAN: But I think, Mr. Chairman, if I understand your question, Mr. Minaker, is really elating to the dam and the control works of Lake Winnipeg as distinct from the generation, is that ?

R. MINAKER: No, I was also tying in, Mr. Chairman, the actual structural facilities and related quipment tied in around the turbines.

R. BATEMAN: Well, of course, Mr. Chairman, I think Mr. Wilson indicated that the dam was omplete before the first unit could go into operation, because we had to raise the headwaters, o that meant thatthe entire head block for all six units had to be complete, and I guess the temporary oncrete stop-logs in place in four of those units, before we could raise the water, and the two ets of steel stop-logs in the other two.

R. MINAKER: Mr. Chairman, Mr. Wilson said that the first generator was installed as of July 1st, o the work would have been done by then. Was the work completed prior to the first generator eing installed, as far as the dam work and the structural forebay, and so forth? How long before ıe first generator was installed?

R. WILSON: I don't have the date in front of me when we capitalized the control works. I don't now whether anyone can help me, but I don't have the date.

R. BATEMAN: Mr. Fraser's got that information.

R. WILSON: Referring to Page 9 of the Annual Report, it gives a description of the status of ake Winnipeg regulation. It was August 1976, when the two-mile channel — and that was the last omponent of regulation that was in place. So in answer to the question relative to the control of ake Winnipeg, August 1976 would be the date when the main dam and all the dikes and the channels ere completed.

As far as the civil work in the power house, we would proceed in a schedule compatible with ıe progress of the equipment installation. We normally wouldn't proceed too far in advance, because e would be spending money ahead of when it was required, so we would schedule our civil work o be compatible with the equipment installation.

R. MINAKER: Mr. Chairman, through you to Mr. Wilson. With the new generator being in operation or approximately a year, would you say that its operation has been very efficient and up to all

expectations?

MR. WILSON: Yes, the unit has operated very well. We've had very little downtime on it, and reports say that it's a very smooth running unit, and we don't anticipate any problems with t units.

MR. MINAKER: So there were no start-up problems, everything seemed to go fine?

MR. WILSON: They went very well. There was problems with erection, but as far as the machin that are running, they're running very efficiently.

MR. MINAKER: Mr. Chairman, the other question I have relates to a different subject. Throu to Mr. Bateman. When was the contract signed with MDS for the computor work at Manito Hydro?

MR. BATEMAN: Well, I think that's a matter of record, Mr. Chairman. I remember signing th in 1977, if I'm not mistaken. Mr. Fraser, can you remember? We can get that information for yc Mr. Minaker, but I don't recall the exact date just offhand.

MR. MINAKER: I was just wondering, Mr. Chairman, because I raised the question in the Telepho System report presentation, and the chairman of that committee advised me that it occurred 1977, sometime in October, but he himself couldn't give me the date, and I was just wonderi whether Mr. Bateman would have that information on what actual date the signing took place' don't know whether it's public information or not, I'm trying to find out the answer to the questic Mr. Chairman.

MR. BATEMAN: Mr. Chairman, I'll undertake to look at the agreement I signed and get the da from it. I think it was sometime in August or October of 1977, when that was done.

MR. MINAKER: Mr. Chairman, I wonder if Mr. Bateman can comment. Did Hydro take the initiati of wanting to join up with the MDS or who took the initiative in encouraging this contract to l signed?

MR. BATEMAN: Well I think, Mr. Chairman, there's a first step to that. The government took tl initiative to have the problem studied, and there was a committee established to review — tl computer applications review board, or whatever it was called — and all of the agencies of tl government participated in that review report we, of course, made a very thorough appraisal the pros and cons of participating with the Manitoba Data Services Corporation.

Now initially, I must admit that our review was filled with scepticism and we asked a lot questions, but if you can believe the numbers, I think it's in the interest of the province to do thi and so far we are relying upon that service. We have contracted with the corporation to perfor our Data Services work. We also have a member of our staff, Mr. Murray Fraser, on the boa of the Manitoba Data Services Corporation to protect Hydro interests. We also are counting c them to provide our increased services as they are needed. We have sold our computrs to tl corporation, and consequently e/ we are now dependent upon that body for service, and we a assured that we are going to get equivalent service at reasonable rates.

MR. MINAKER: Mr. Chairman, Mr. Bateman said that he thought it was a good thing and in tl interest of the province. Does he believe that it is a good deal for the Manitoba Hydro?

MR. BATEMAN: Mr. Chairman, I did, as I indicated to Mr. Minaker, have some concerns abo it but so far I am assured by the people that operate this part of our business and we are depende upon it for our business applications as well as a large number of our system operations, and have no reason to doubt but what the advice I'm given that they're getting satisfactory service good advice.

I would also ask, Mr. Chairman, if Mr. Fraser, who is our member on that board would ca to make any comment, feel free to do so. Mr. Fraser indicates that he has no comment make.

MR. MINAKER: Mr. Chairman, through you to Mr. Bateman. Do you believe that it will be mo economical for the Hydro to operate under the MDS central system than operating his own syste within the confines of the Manitoba Hydro?

R. BATEMAN: I'll ask Mr. Fraser to comment on that one. I understand that it will be more :onomical.

R. FRASER: Yes, Mr. Chairman, the question was, do we feel it will be more economic for Hydro operate with MDS than to provide the service in house. Yes, I think very definitely the requirements an organization like ours is very diverse. We have both the business applications and very cyclical periodic and heavy scientific work, and it's very very difficult to provide that in our own building. 'e would certainly have to go outside for some help, so MDS in effect provides that outside ;sistance.

R. MINAKER: Mr. Chairman, did the Hydro go outside for any prices for competitive quotes on ıe services?

R. FRASER: The specific work that is being done at Manitoba Data Services at the present time, do not think was quoted competitively. Perhaps I should explain this . . . there is a computer the Manitoba Hydro head office building which was there previously, and which ownership of has assed to MDS, so that same computer is continuing to provide service that it's capable of providing. ad MDS not been formed, if we did not have access to it, then we would have had to either increase ıe capacity of that machine or go elsewhere for the types of services that that machine is not apable of providing.

IR. MINAKER: Mr. Chairman, was the machine sold to MDS?

IR. FRASER: Yes it was.

IR. MINAKER: Is the Chairman at liberty to say how much it was sold for?

IR. BATEMAN: Well, Mr. Chairman, I haven't got the figure available immediately but it was a ompetitive price. I'd be quite happy to provide you the figure if you wish to have it.

IR. MINAKER: Well, Mr. Chairman, if Mr. Bateman says it was sold at a fair price, I accept that nswer.

IR. BATEMAN: As a matter of fact, Mr. Chairman, I think we were quite satisfied with the rrangement.

IR. MINAKER: Is it the intention of the Manitoba Hydro just to automatically issue a signed contract ɔ MDS every year, or will they from time to time be checking on possible rates if there are other acilities available to provide the same service as MDS?

IR. BATEMAN: Well, Mr. Chairman, in all areas of our business we like to think that we are doing hings in the most economical manner possible and if we feel, or if our staff feel that we're not ıetting adequate service at competitive prices from MDS, then we will be making that known or ɔoking elsewhere.

IR. MINAKER: That's all. Thank you very much.

IR. CHAIRMAN: Mr. Orchard, would you . . .? And I might ask for some direction from the nembers of the Committee; it being 12:30 now, are there other members of the Committee that vish to carry on, and if so, can you give me some indication as to how long, or should we establish ınother meeting?

IR. SCHREYER: I just have a couple of questions which instead of convening another meeting ɔrobably could be dealt with today.

IR. CHAIRMAN: All right. Mr. Orchard, did you have a couple of questions that you . . . ?

IR. ORCHARD: Well, yes. It will only take a . . .

IR. CHAIRMAN: All right. Is it the will of the Committee to continue on for a few moments? Agreed)

IR. CHAIRMAN: Mr. Orchard, would you carry on, please?

MR. ORCHARD: Thank you, Mr. Chairman. Mr. Bateman, like my questions regarding the farm s power installation, they stem from what seems to be developing as maybe an anomaly, maybe y can even call it some form of discrimination to farm Hydro customers.

My point being, and I realize we have established, probably years ago, that a farm pow installation involves supplying electricity to the home plus to the ancillary uses, the outbuildings the farmyard. Now, in a lot of farmyards today, and this is a trend that has started and is continui to develop, intensive livestock operations are coming in, and these intensive livestock operatio are really, in terms of the farm site, a business within themselves. And in the town, for instanc if a man has a residence on a residential street in town he has a meter in his house, and if runs a plumbing shop, say downtown, he has a meter in that plumbing shop. Now, with farmi becoming livestock operations and the demand for Hydro from these livestock operations becomi higher and higher, and with demand metering entering the picture at 55 kV, I am wondering if we' not establishing an anomaly, or a discrimination against farm-oriented businesses, namely intensi livestock operations in which we require an all-electric house to be coupled with, say a broiler ba or something which has high electric demand.

I would ask the corporation at this time — and I don't want a statemen or anything — b I would ask them to consider the possibility of allowing the farm customer who has an intensi livestock operation the option of going for a separate meter at his hog barn or his broiler ba if it can avoid him from going to demand metering because he has an all-electric house and, similar where we have the family farm operation with the son moving home, or two sons or whatever livi in separate residences in the farm site, I would encourage, at this time, Manitoba Hydro to mal available separate meters for separate residences in the same farmyard rather than putting the through all one meter and triggering demand metering because, once again, I can refer to the tov situation. A father and son in business in town living side-by-side on the same street have tv separate meters, but living side-by-side on a farm in business they often don't have that opportuni now. I would encourage the Manitoba Hydro to take a look at that situation and using a judgme factor to determine at what point in time does an intensive livestokk operation deserve separa meter and transformer installation.

MR. CHAIRMAN: Mr. Bateman, do you wish to comment?

MR. BATEMAN: Well, Mr. Chairman, we'll take that under advisement and und consideration.

MR. CHAIRMAN: Mr. Schreyer.

MR. SCHREYER: Okay, Mr. Chairman, just three questions. With respect to not the civil worl but the mechanical works at Jenpeg, I think at previous meetings of this committee it was pret well acknowledged that the suppliers of the mechanical equipment, generating equipment, were, t put it bluntly, slow as molasses. But on the other side of the coin, can Mr. Bateman indicate, ju with some elaboration perhaps, with respect to the performance of the units installed, unit six an five, I guess, whether they are operating at or above nameplate capacity and whether there ha been any extraordinary down-time or extraordinary absence of down-time in the first year commission?

MR. BATEMAN: Well, Mr. Chairman, I understand these units are operating at 10 percent abov nameplate and there has not been any inordinate or excessive down-time. I think our operatin staff are very pleased with the performance and they are turning out kilowatt hours.

MR. SCHREYER: Is it in any way significant that these units are operating at 10 percent or s above nameplate capacity? Does this translate into sort of extra value proportionate to the unit value of some million dollars or so in extra value received?

MR. BATEMAN: Well, Mr. Chairman, it could but at the present time we're not acknowledging tha it does. It could become part of the argument, if you like, later on. In the meantime, of cours we are arguing or asking for even a greater increase in nameplate rating. We think the unit is capabl of producing even more than its 10 percent.

MR. SCHREYER: Well, I'm not suggesting that it would be paid for because of the delay i installation obviously but what is the determining factor in finally determining what its productio capacity will be? Does it really involve further engineering or does it involve sort of administrativ judgment as to whether it should be boosted up a bit higher?

R. BATEMAN: Mr. Chairman, it relates entirely to the engineering factors and an assessment the stresses and so on in the original design.

R. SCHREYER: The units having been bought for, as I recall, in the order of $15 million or $16 illion, is that correct?

R. BATEMAN: $16-odd million.

R. SCHREYER: Yes. . . . that if there is an actual capacity in excess of nameplate, that in the ng-run and over the lifetime of these units, this is of some significance, is it not?

R. BATEMAN: The energy output, if it was consistently above its nameplate, yes, you could assign value to it.

R. SCHREYER: My next question, Mr. Chairman, is to ask Mr. Bateman whether, in speaking contingency and stabilization reserves and acknowledging that they were depleted in the period drought conditions, that given that there is acknowledgement that in the eastern part of the atershed it was an unprecedented period of low flows and precipitation since records began, and iat even in the western prairie watershed it was a one-in-40 years or since the 1930's period of w flows, is it normal to attempt to keep reserves constant or even increased in the face of an nprecedented or once-in-40-years type of abnormality? To put it more simply, is that kind of ondition not precisely what reserves are all about and therefore no effort should be made to build iem up all in one year or even two or three?

IR. BATEMAN: Well, Mr. Chairman, the reserves are established by a formula of the board to o a number of things: give Manitobans some ownership in the business and also to justify investor onfidence but there were two types of reserves that we had. One was a rate stabilization reserve nd the other was the contingency or general reserve and we have denuded the rate stabilization eserve. As a matter of fact, we are into a negative position in that reserve based on the last two ears of operation. So while I agree that it's not proper perhaps to re-establish all of the reserves one year, nevertheless, the corporation should be aiming at establishing adequate reserves which re deemed adequate by the financial people who loan the corporation money.

IR. SCHREYER: Well, I suppose my next question would be unavoidably argumentative. It has o do with perception in the investor's mind as between the importance of being in good shape terms of water levels and reservoir levels and the like as opposed to the condition of the rate tabilizations.

However, Mr. Chairman, my last question really is a supplementary to Mr. Minaker's. With respect o the MDS, I would like to ask Mr. Bateman if it is correct that since the inception of the MTS rrangement the prior arrangement of going to either Calgary and/or Toronto for non-commercial omputer scientific type calculations has been discontinued? You may recall that other than routine ommercial computer work which was done in-house by Hydro, that scientific number crunching, alculations, etc., before MDS were, that the Hydro did have arrangements either in Calgary or oronto. Is this still found necessary or does the MDS capacity take care of it?

IR. BATEMAN: I'll ask Mr. Fraser, Mr. Chairman, to answer that question.

IR. CHAIRMAN: Mr. Fraser.

IR. FRASER: To the extent possible, it has ceased. There are certain applications which are priority rograms in effect run by the owner of the program and those are still done outside the rovince.

IR. SCHREYER: I haven't any more s questions.

IR. CHAIRMAN: Mr. McKenzie. (Pass) Anyone else? Can I have the adoption of the report? (Agreed) greed. Committee rise.

IR. CRAIK: I wanted to mention earlier . . . Mr. Bateman, in his introductory remarks paid some ribute to a former member of the Hydro board and a long-standing member of the utility community f Winnipeg, Mr. Tom Storey, and I would like to put on the record as well the appreciation on ehalf of my former acquaintanceship with Tom Storey, which wasn't necessarily through Hydro but

going back to student days and so on, and I know that he was such a highly regarded person the Winnipeg Hydro and through his period as well at Manitoba Hydro, that it should be especi noted and I'd like to take the opportunity to do that.

MR. CHAIRMAN: Mr. Schreyer.

MR. SCHREYER: If I did not join in those remarks, having been Minister responsible reporting Hydro for several years, that indeed it can and must be said that Mr. Storey, having spent inde a lifetime, a working lifetime in hydro-electric engineering both with Winnipeg Hydro and Manito Hydro, that he brought to the board of directors because of that kind of background a very invalua perspective and judgment and service to the public. I feel confident that many of the major decisic in which he joined will be of enduring value to successive generations of Manitobans. So I certai concur.

MR. CHAIRMAN: Committee rise.