Standing Committee on Public Accounts

Wednesday, October 18, 1978

Chairman: Mr. Taylor *10:00 a.m.*

MR. CHAIRMAN: Will the Public Accounts Committee come to order please.

The first item on our agenda this morning is the minutes of the meeting of May 3. I would like to bring to your attention two errors that occurred in the minutes. I have prepared a correction which, if you accept, can just simply be cut out and pasted over your minutes, and that will correct them. Could I get a couple of members to pass these out, one to each member, please. There are two separate amendments.

If you would refer to the minutes of the last meeting, the first correction is on the centre paragraph in which Dr. Horner made his opening statement. The first paragraph has been rewritten and it will now read, and I quote from the script I just sent you:

> Hon. Dr. Horner stated that the introduction of the Alberta Disaster Services Act in the early 1970's had effected a notable change in the concept of Alberta Disaster Services in that the emphasis on military preparedness had been replaced by a departmental style able to respond to civil disasters in a major way. He pointed out that in Canada standards regarding the kinds of equipment and the type and nature of regulations for the handling and transportation of hazardous materials is a federal responsibility. Hon. Dr. Horner mentioned the continuing need for his department to be aware of the imminent danger that exists for the City of Edmonton should a nuclear war break out, as the city is considered to be a highly vulnerable target. He went on to explain to the Committee the term, 'disaster area', and why there is a general reluctance to declare an area a "disaster area" unless it is essential.

That would replace the paragraph that I referred to in the centre of page two. The reason for the correction is that the minutes were written before the transcript came out and are not completely factual.

With your permission, I'd like to deal with both of these amendments at the same time. Are you all agreed?

Then we turn to page three of the minutes and the fifth paragraph down is in the same category. It will be replaced with this paragraph, and I quote:

> Hon. Dr. Horner stated that discussions have taken place in this regard with both railways. He reiterated that the General Manager of Alberta Disaster Services is co-ordinating a task force of a variety of departments that is working closely with the Federal Government in their Transportation of Hazardous Materials Act. He stated that generally it is felt that our rail beds are in better condition than those in the United States and that there is a stricter enforcement of regulations concerning reduction of speed by

rail cars and inspection of valves, etc., in this country. He added that the regulations will be even stricter under the new Act.

What is your pleasure in regard to those two amendments? If they are satisfactory, could we have a mover? Moved by Mr. Wolstenholme, seconded by Mr. Shaben, that those two paragraphs be amended as per the script you now have. Any discussion?

Motion carried

Now a motion to accept the minutes as amended would be in order. Moved by Mr. Doan that the minutes be received, seconded by Mr. Wolstenholme. Any discussion?

Motion carried

Now we need a motion to receive the minutes of May 10, if that is satisfactory. What are your wishes? They were distributed immediately after the meeting. Is there a mover? Moved by Mr. Wolstenholme, seconded by Mr. Shaben that the minutes of May 10 be received.

Motion carried

We will take about five or 10 minutes at the end of the meeting to decide what you want to do at the next meeting, because we are now on the last group the committee agreed to hear. We will not take the time of the hon. Mr. Getty and Mr. Millard at this time.

I would like to welcome our Minister of Energy and Natural Resources, the hon. Don Getty; and the new Chairman of the Energy Resources Conservation Board, Mr. Vern Millard.

Before asking Mr. Getty if he would like to make an opening statement, I would like to ask the Provincial Auditor to give you the references and any other comments he has at this time. Mr. Rogers, please.

MR. ROGERS: Thank you, Mr. Chairman. I'd like to pick up on volume one, page 176. Vote 4 simply shows energy resources conservation, an estimate of $5,375,000; and expended, $5,375,000. The later statements in this section show this is in the form of a grant to the Energy Resources Conservation Board. If we now go to volume two, that shows a grant paid from the general revenue fund. On volume two, page 196, the statements of the Energy Resources Conservation Board commence with the Auditor's report, balance sheet, and then three statements of revenue and expenditure, for oil and gas, coal, and hydro respectively. The $5,375,000 is made up of the $4,180,000 shown as the third item up on the oil and gas statement. On the coal statement, it is shown as $737,000 charged to the province of Alberta; and on the hydro statement, $458,000 charged to the province of Alberta. Those three items together, total $5,375,000, the total of the grants paid.

I think those are the appropriate references, Mr. Taylor.

MR. CHAIRMAN: Thank you, Mr. Rogers.

Are there any questions on the references? Mr. Thompson.

MR. THOMPSON: Thank you, Mr. Chairman. Could Mr. Rogers or the Energy Conservation Board explain this well abandonment program? I thought companies were supposed to clean up these well sites, or is this what this refers to, is abandoned well sites? That's on page 198, the second item from the bottom of the expenditures.

MR. ROGERS: Abandonment program. You will notice that's in brackets. That does not represent an expenditure, but rather money coming in.

MR. THOMPSON: I'm not so much interested in the actual figures as the fact: is it the responsibility of the government or the Conservation Board to clean up these abandoned well sites?

MR. ROGERS: I think perhaps that question should be addressed to the chairman of the Conservation Board.

MR. CHAIRMAN: I think possibly you'd hold your question, Mr. Thompson. We'll put you down immediately after we get started on the other.

Any questions on the references? If not, we'd like to welcome you, Mr. Getty and Mr. Millard, to the Public Accounts Committee. At this time, I'd like to ask the hon. Don Getty if he has an opening statement. You may remain seated if you wish.

MR. GETTY: Mr. Chairman, only to take an opportunity to confirm to the committee, because I'm not sure it's well known publicly, that Mr. Vern Millard, as of October 1, 1978, has been appointed as the new chairman of the Energy Resources Conservation Board. He is following Dr. Govier, who has decided to retire. We are sorry to see Dr. Govier leave; however, the government, and I personally, are very pleased to have a man of Mr. Millard's stature and ability to follow Dr. Govier.

The times, with the very tremendous activity in the oil and gas industry, both in conventional and unconventional development, in coal, and in hydro-electric energy potential for this province, all are straining the capacity of the board to meet this terrific activity. We are going to see more and more attention, and more and more stress placed on the board in coming up with recommendations to the Executive Council as a result of hearings on major projects. As you know, we have presently before the board the Imperial Cold Lake project; there is potential for another mining project in the oil sands, similar to Syncrude, that will be before the board soon; and possibly a heavy oil project.

But while these attract much of the attention, there is a tremendous amount of work the board does on a day-to-day basis with conventional oil and gas industry that members may find this an excellent opportunity to obtain information on.

By legislation, the Energy Resources Conservation Board reports to the Executive Council, and I think in the past has reported to the Premier. By policy of our government, we have had the board report to Executive Council through the Minister of Energy and Natural Resources and the Minister of Utilities and Telephones. We've found this works very well and have had an excellent relationship with the board. I am pleased that they are held in very high esteem and respect throughout -- I was going to say Canada -- I think North America and perhaps the world, as an outstanding regulatory body in energy development. Much of the present prosperity of Alberta has been the result of the foundations created by the Energy Resources Conservation Board.

So I am pleased there is a chance for members of the Public Accounts to meet with the new chairman of the board and learn about the operations of the board should that be their wish. We are prepared, Mr. Chairman, to answer any questions we can. Those we can't answer, we will get the information.

MR. CHAIRMAN: Thank you very much, Mr. Getty. We will now proceed with the questioning. Mr. Thompson.

MR. THOMPSON: Thank you, Mr. Chairman. I beieve my question, I've already stated it out of turn, but I believe Mr. Millard then could answer, unless you want clarification.

MR. CHAIRMAN: Did you hear the question, Mr. Millard?

MR. MILLARD: Yes, Sir. Mr. Chairman, with respect to well abandonments, as Mr. Thompson has indicated, the responsibility for well abandonment certainly is with the company, with the licensee that drills the well. The board has found that in a few instances the company that drills the well and has abandoned it, and at the time the abandonment was found to be satisfactory by the board on its inspection, in subsequent years becomes unsatisfactory; perhaps there is leaking gas or water. In a situation like that, the board always goes back to the original licensee. If, however, the licensee is no longer in existence, it's a defunct company, then the board undertakes to conduct the abandonment if there is a public hazard involved. We have a list of wells that have been abandoned, the licensee is no longer in existence, and there is some degree of unsatisfactory nature with respect to the abandonment, but in our view it isn't serious enough to warrant the expenditure of public funds to repair it. If the deterioration continues in terms of the well and it does become a public hazard, then we would undertake to proceed with the abandonment; but it is only where the company is no longer in existence.

MR. CHAIRMAN: Mr. Thompson, first supplementary.

MR. THOMPSON: No. That's fine.

MR. CHAIRMAN: Mr. Notley.

MR. NOTLEY: Mr. Chairman, Mr. Minister and Mr. Millard, I wonder perhaps if we could begin by first of all outlining to the Committee just where things now stand as far as the board is concerned, the most recent updated figures on natural gas reserves in the province. We have the report from 1977; but there has been, I am sure, some updating since that report.

Also, I'd like perhaps Mr. Millard or the Minister to outline for the committee the weight the board puts on demand projections in calculating the rolling 30-year supply.

MR. MILLARD: Mr. Chairman, with respect to the recoverable reserves of gas, the board makes its estimates once a year, at the end of each year. If we have received and are processing a gas removal application, then the board would update its reserves to some point during that year if this was thought to be desirable. The recoverable reserves, as at the end of 1977, were 55.1 trillion cubic feet.

Perhaps I should just comment, though, on the gas removal policy in a broad sense. Under the terms of The Gas Resources Preservation Act, the board is not permitted to issue a permit for the removal of gas from the province unless the gas is surplus to Alberta's present and future requirements. In determining whether the gas is surplus, recognition is specified under the act that recognition must be given to the prospects of future reserves. The process the board follows in considering applications for the removal of gas is really a two-stage process. First of all, we consider the reserves that are currently available, proven, and available for delivery. We take the proved reserves such as the 55.1 trillion I just mentioned, and we subtract

from that reserves that would not be available for some years, such as gas that is located in gas caps where the gas is not being produced because of the potential impact on oil conservation, or gas that is currently thought to be beyond economic reach. That net figure of gas that is available on a fully proved basis is matched against the permits for the removal of gas, and the figures that are used are the remaining volumes that may be removed under those permits, because they represent a commitment. Then the long-term requirements of the province for gas that is now known to be required -- and the way we calculate that is to take the greater of 30 times the current year's requirements, or the reserves the utility companies actually have under contract. Now it turns out that the 30 times the current year requirements has for some time been the larger number. Then we determine whether there is a surplus available after subtracting those two requirements from the available reserves. That's the first stage.

The next stage is to look at the future requirements. There we base our future requirements on energy requirement studies we make in our organization; and we actually hold hearings from time to time, roughly every three or four years, to look at the long-term, 30-year requirements of the province for gas. The difference between the total 30-year requirements and those we have considered as being current requirements -- the 30 times the first year -- that difference is then included as requirements that must be met out of future reserves that are going to be discovered. We also make allowance for the gas that has to be in the ground in the reservoir in order to provide deliverability for the peak day in the last year of the 30-year forecast.

Those two items represent the requirements in terms of future reserves; and those requirements are then matched against what we estimate, on an extremely conservative basis, will be discovered over the next 30 years. The procedure we have been following for many years is to relate the reserves that remain to be discovered, by a broad estimate of the ultimate reserves in the province, and the reserves that have been discovered over the last few years on an annual basis; and by a formula that was devised, we determined the number of years of future reserves we can confidently count on. Currently the formula indicates that something like three years at approximately 2.5 trillion cubic feet a year would be available by that method, in terms of future reserves. We are, I might say, completely confident that the actual reserves that are going to be available are substantially greater than that; but that is the process and policy that was adopted after hearings that were held, and the board's decision and consideration of the evidence, I would guess, maybe about 10 years ago, something of that order.

So we look at those future requirements, the gas -- what we call cushion gas -- and then we match that against the future reserves that will be discovered. If there is a surplus in current reserves, then we are prepared to issue a permit. Of course, we require an order in council before the permit can be issued. There has been the odd time when there has been a minor deficit in the future account -- if I can express it that way -- but having regard for the conservative nature of that forecast of future reserves, we have not really been terribly concerned about it. Now we currently are estimating our future reserve allowance on the basis of ultimate reserves in the province of 110 trillion cubic feet. We have done some work over the last year or so and we are becoming increasingly convinced that this again is probably an ultra-conservative number. Some work we did recently, and which was forwarded to the government and presented to the National Energy Board, provided some information on the assumption that 130 trillion cubic feet might be the ultimate reserves. We haven't reached any decision with respect to what the

ultimate reserves are for the province, and of course I must emphasize that it's a very broad estimate. But we have decided to call a hearing, which is scheduled for January of next year, at which time we will obtain the information and evidence from industry as to what they see as the ultimate reserves in the province. Based upon that and our own studies, we will then make a judgment as to what we believe to be the probable ultimate reserve.

MR. CHAIRMAN: Thank you, Mr. Millard.
Mr. Notley, first supplementary.

MR. NOTLEY: Mr. Chairman, to Mr. Millard, we then really have two phases: one phase you might call, very clearly, a precise phase, that is we know we have 55 trillion cubic feet of gas, less certain amounts that might not be economically recoverable at this stage, but we know we have that; we know that a certain amount of gas was consumed this last year and 30 times that leads us to our consumption. So we have that phase which is a fairly precise one. The next phase though is then, I take it, a very speculative one, speculative in the sense that first of all we have to interpret demand -- if we're out in our estimates of demand, then we could be using more gas -- and then speculative in the sense of the reserves. I appreciate your comment when you say you're very cautious, but there have been at least several years where our rate of bringing in new reserves -- that hasn't been the case in the last two or three years, but certainly over the last number of years there have been pauses, shall we say, in the bringing in of new reserves. As you mentioned, there have even been occasions when there has been a deficit in the future account.
My question to Mr. Millard is: what specific procedures does the board employ to evaluate the industry estimates of what the reserves are? I raise that because we've seen some incredible figures bounced about over this Elmworth discovery -- one gentleman was talking about 500 trillion cubic feet of natural gas, which is a delightful proposition should we be so lucky. But on the other hand, I think probably I've heard estimates more in the neighborhood of 5 trillion or 6 trillion cubic feet. Now, it strikes me that we should be able to find some better way of hitting what is there, between 5 trillion cubic feet on one hand and 500 trillion cubic feet on the other. I guess, really, the question to you, Mr. Millard, is: what independent procedures does the board have to evaluate the reserve picture?

MR. MILLARD: Mr. Chairman, with respect to the first phase, the precise calculation of reserves, as you refer to it, Mr. Notley, the board obtains from industry all of the information that industry recovers in the drilling of each well -- logs, core analysis, et cetera -- and we make our own separate evaluations of those reserves. We have a fairly substantial geological and, if we're thinking about gas, gas department, and they very carefully review all of the data that comes before the board. It's the same data, of course, that industry has to work with. By and large there really isn't much difference in view between industry and the board or, I guess, almost any body with respect to the reserves that have been proven. Where the real difficulty occurs is in terms of judgment as to what might occur. That's where I think, unfortunately, there has been a lot of confusion with respect to the terms of reserves and it's why one has to really be very careful in recognizing that the term we use for future reserves is what we call "ultimate reserves". It is really based upon the best judgment that can be brought to bear in terms of what will be discovered over the long term.

One of the things that have become evident -- particularly in Alberta, but it's generally true in the industry -- since the gas prices have increased, the effect of the increased gas price has really demonstrated very clearly that the supply curve for gas is a very elastic curve. Really what is happening to a large degree is that reserves that were known about before -- for instance, the shallow Milk River gas in south-eastern Alberta has been known about for decades, but has never been included in our reserve estimates because we always considered it to be uneconomic; but with the higher gas prices, it became economic. The same thing is happening throughout the province, and because gas is located broadly within the province, the higher prices and government policies have brought forth increased drilling activity and increased exploration, and new reserves are being discovered that probably 15 years ago, 10 years ago, would not have been considered economic and would not have been drilled for.

So really, when you look at the future, one has got to put some judgment as to what is going to happen with respect to the large volume of reserves in place that may become economic. Now I think this is a long-winded answer to your question, but going to the 500 trillion cubic feet -- I hadn't heard a number quite that large, I think I'd heard 400 trillion, but it doesn't really matter at that point -- but I think the people who subscribe to that particular number are really talking about the western Canadian basin, certainly all of Alberta in any event. I think they are really saying that if prices are favorable, there is a lot of gas that is going to be found. Much of it is going to be very marginal, and over the long pull, while we today in our organization would not subscribe to anything like 400 trillion or 500 trillion cubic feet, I think what the scope is, is really almost impossible to tell at this time. But as I mentioned before, we think that it's possible that 130 trillion cubic feet for Alberta might be in the cards. We noticed in some of the submissions to industry that other companies are tending to veer towards that number. There are a few companies that you have indicated have very large numbers. Thinking in terms of a particular basin, though, like Elmworth, we are careful to only attribute to the proven reserves, reserves that we know are there; and when we look at the future reserves for the province, we look at it on the broad basis as I mentioned before. One of the processes that we went through when we considered whether 110 trillion cubic feet was appropriate, was to ask our geological staff to consider what they thought were the future prospects in each of the major horizons in the province. They went through and looked at these and, with the degree of drilling that has taken place in Alberta, we're in a much better position to judge what the future is in terms of recoverable reserves today, than we would have been 20 or 25 years ago.

The real catch, though, is in terms of assessing what the economics are going to be.

MR. CHAIRMAN: Mr. Notley, second supplementary.

MR. NOTLEY: Mr. Millard, with respect to the 110 trillion cubic feet, which is probably a base figure in your mind at this stage: first of all, is all of that 110 trillion cubic feet available at today's prices, or are you anticipating an increase in price? And along with that question, Mr. Millard, when you look at the rolling 30-year supply -- taking into account the increase consumption, the needs of petrochemical industries, and what have you -- what would be the actual years' supply that we have now in Alberta, taking

into account the current price and the projected increase in consumption over the next few years? What are we looking at?

MR. MILLARD: Mr. Chairman, I'm not sure if I can answer that question quite directly, but perhaps this will help. First of all, with regard to whether the 110 is based upon current prices: it's a judgment number, you appreciate, but I would say the answer to that is broadly, yes. It assumes that the economic conditions are going to be favorable, which I believe they are today.

With respect to the relationship between currently available reserves and requirements: the reserves that are currently proven -- the 55 trillion that I mentioned previously -- relating that to the 1977 annual requirements of gas in the province, the reserves . . . Let me express it a little differently. There are sufficient reserves to produce, at the 1977 rate, for 26 years. Now I don't have the calculation that would be available in terms of what that number of years would be if you allowed for the full growth during the 30 year-period. It was obviously somewhat less than that. However, in the requirements analysis that we have recently completed, we see gas as representing a much smaller relative percentage role in the province's future energy requirements than it does today.

We see the gas requirements increasing over the 30-year period. But several factors are taking place; at least we anticipate that they will take place over the period. For example, in terms of the use of gas for electric energy generation, we see this as not increasing at all, and probably over the long term decreasing. We think that petrochemical requirements over the long term will tend to be fueled from coal and from oil, rather than from gas. The conservation effects of higher gas prices and policies mean that the growth that is expected to take place in domestic or residential and commercial requirements will not be nearly as large as what it has been in the past. Consequently, in total, we anticipate that gas requirements on an annual basis will increase over the 30-year period. The rate of growth is going to be much less than it has been. So the impact of that growth portion, from 1977 through for 30 years, would not have the significant effect that it would have had in previous years.

MR. CHAIRMAN: Mr. Notley, third supplementary.

MR. NOTLEY: Mr. Millard, when you look into the future -- and I realize it has to be speculative to a certain extent -- what emphasis do you place on the relative costs? Because I think Albertans are not going to be overly enthused, when we're sitting on 110 trillion cubic feet of natural gas, to be converting to coal unnecessarily, or some other kind of energy source that is very expensive.

So when you talk about the substitution, if you like, of one type of energy for another, how precise can you be in terms of looking at the economics of it -- quite apart from whether it's desirable to use coal or natural gas to fuel electrical generation -- to the Albertan, whose legacy this gas is? We have to ask ourselves: is it in our interest to move over to some other type of fuel, which may in fact be more expensive? So I'd like you to answer that.

The final part of this question is: with respect to the current gas bubble, where does the board see a system of pro-rationing fitting in for gas producers?

MR. MILLARD: Mr. Chairman, with respect to the board's estimates of future energy requirements, and the relative role that each energy source would play

in those requirements, our analysis has been made strictly on an economic basis. We have assumed that the price mechanism would determine what consumers -- and including industrial users -- would decide to do. And today there is no question that it is far cheaper to generate electric energy from coal than from gas. Really, that is why the substitution process is taking place. We expect that coal will continue to be the cheapest means of generating electric energy, probably throughout the 30-year period. We have not allowed for any other source, although we have allowed for some hydro developments. So our analysis is strictly on an economic basis, and doesn't really relate to any other, I suppose you might say pre-conceived ideas as to what should be done.

With respect to the second part of your question, regarding the so-called gas bubble and pro-rationing: currently, under The Oil and Gas Conservation Act, the board does not have any power to pro-rate gas demand among fields and pools in the province. This is different than in the case of oil. And before the board could undertake such an activity, of course, the legislation would have to be changed.

The only provision that exists in the act today relates to a single pool. If a company, for example, has drilled a well and it's found gas production, and it has not been able to find a market for that gas because all of the purchasers are completely adequately supplied -- in fact, perhaps over-supplied -- and so they won't sign a contract, then there is provision in the statute to declare that purchaser or purchasers that purchase gas from that pool to be a common purchaser. And then that market has to be shared with all the producers in the pool. But the powers of the board are restricted to that.

MR. CHAIRMAN: Mr. Shaben.

MR. SHABEN: Mr. Chairman, a number of the questions that I had have already been answered, and they relate to the reserves and the impression that Albertans and Canadians have of reserves. Mr. Notley asked a number of questions. But the National Energy Board, the industry and the ERCB, the citizens, are exposed to widely varying figures. Maybe this is not a fair question, but does the National Energy Board maintain close contact with the ERCB and utilize the figures and the research of the ERCB?

MR. MILLARD: Mr. Chairman, yes, there is quite close contact between the NEB and our organization. We, of course, in our organization, publish our reserve estimates on an annual basis. So the data, or the conclusions, that we have reached with respect to each pool in the province . . . I must say that pools of a certain size are grouped together where they're very small. But all of the major pools in the province are listed separately in this report, and the information made available to all parties. We have discussions from time to time with the National Energy Board. Their staff meet with our staff to review that kind of data. We have to be very careful, of course, that we don't disclose any confidential data that we have, because when I was mentioning before to Mr. Notley that the board obtains all of the industry data that they recover in terms of drilling a well, that data for a wildcat well or exploratory well is held confidential for one year. We have to be careful that that confidence is maintained.

But short of that there is a good co-ordination and reasonable contact between the National Energy Board and our board. That doesn't mean to say, of course, that we necessarily agree in terms of the estimates, because this is

where judgment takes place, and I think, if anything, the National Energy Board has perhaps been more conservative than we have been in terms of estimating the recoverable reserves.

MR. CHAIRMAN: Mr. Shaben, first supplementary.

MR. SHABEN: Mr. Chairman, I'd like to ask Mr. Getty a question, and it probably relates to policy, and that is the question of the hearings that Mr. Millard mentioned being held every three or four years, in order to sort of improve the government's picture of what's happening in the industry. I was wondering if Mr. Getty felt that three- or four-year intervals are sufficient to provide the kind of information the ERCB and the government require.

MR. CHAIRMAN: The hon. Mr. Getty.

MR. GETTY: Mr. Chairman, while the major hearing is held every three or four years -- and recognize the kind of effort that that is and the amount of time required to do that -- the board nevertheless updates annually. The two things put together would, in my opinion, provide the kind of information we need. To try and hold that major reserves hearing more often than that, I think, when you consider the variety of other hearings that are going on and the length that those hearings are starting to take -- I think that generally we have about the appropriate amount of information. It's something, though, that I'm sure we could review with the board from time to time to see if it can be improved on.

MR. CHAIRMAN: Hon. members, we have a member of the legislature present who is not a member of the committee. He wishes to ask a question. Do you want to extend him the same privileges as a member?

HON. MEMBERS: Agreed.

MR. CHAIRMAN: Mr. Gogo is next.

MR. GOGO: Thank you, Mr. Chairman, and I thank members of the committee for allowing me to enter this sanctum to ask a question.

First of all, Mr. Millard, I want to congratulate you on your appointment as chairman. You have a reputation that the ERCB can be proud of. I'd like to ask you a question with regard to Conservation in Alberta 1977, and it's to do with electrical energy, and it affects southern Alberta and the people I represent. That, of course, is Alberta's largest city outside of Calgary and Edmonton, and that's Lethbridge.

AN HON. MEMBER: Just the question.

MR. NOTLEY: It's getting close to the election.

MR. GOGO: Just a couple of years ago, Mr. Millard, the Calgary Power company purchased from Lethbridge the Lethbridge generating equipment, as you are well aware. At that time, in concert with the intentions of government to spend a lot of money in irrigation, which would demand substantial electrical energy, there was an application for a 240 kv line to go south, as you well know, and then there were public hearings and so on. That's almost two years. I understand it's hung up somewhere; that decision has not been made. Could you

indicate, Mr. Millard, in your judgment or the judgment of the ERCB, how vulnerable the Lethbridge area and the irrigation farmers in that area are at the inability of somebody to reach that decision, where Calgary Power can run that line?

MR. MILLARD: Mr. Chairman, the board is quite concerned about that feature. In our report, after we had heard the application, we indicated that in our view the transmission line really should have been in when we heard the application. Of course, as you have indicated, there has been nothing in the way of progress -- or very little progress -- since that time. We have had discussions with Calgary Power as to what they would do in the event of an outage on the system, and they have a contingency plan that would be invoked if there was an outage on the system.

But certainly, if there was a serious breakdown in the existing transmission system to southern Alberta, there would be problems. They can really only be solved by getting the 240 kv line from Calgary to Lethbridge installed. As you probably know, provision has been made to have the two small power plants at Lethbridge activated very quickly in the event of an emergency like that. But one can only do so much, and what is really needed is the additional transmission facilities with a supply of electric energy.

MR. CHAIRMAN: Mr. Gogo, first supplementary.

MR. GOGO: Is that matter now before the courts, Mr. Millard? Do you know?

MR. MILLARD: Yes, sir, that is correct. There have actually been three appeals to the courts. Both of the initial two were denied, but there is a third one that is now in process. It was heard the first part of June -- this was before the appeal court -- and we had hoped that we would get a decision early. In fact, we had urged that in our presentation to the court. But as of this date, there has not been a decision, and in the meantime, of course, not very much can go on.

MR. CHAIRMAN: Mr. Gogo, second supplementary.

MR. GOGO: Yes, Mr. Chairman. Mr. Millard, in conclusion, what recommendation would you make to some of those southern Alberta farmers. To pray, or wait and pray?

MR. MILLARD: Mr. Chairman, I really can't say very much. As I say, there is a contingency plan available. In terms of the farmers, they are probably not going to be as badly affected -- I wouldn't judge -- as other consumers and particular industries, because usually the time that there are failures in the transmission system is in the non-agricultural periods of the year; the winter period, heavy icing, that type of situation. But that's not very much condolence, I know.

MR. CHAIRMAN: Mr. Wolstenholme.

MR. WOLSTENHOLME: Thank you, Mr. Chairman. I would like either Mr. Millard or the hon. minister to explain to me the difference between -- or the part that the Surface Rights Board and the ERCB plays in a pipeline going through. I'm thinking particularly of the Dome pipeline that went through in the southwestern part there. When the application is made, just what are the two

terms? I'm interested in the people out there who, it seems, in some respects have had it rammed down their throats. I'd just like an explanation of the two, please.

MR. MILLARD: Mr. Chairman, the procedure that the board follows with respect to pipeline applications is: once we have received an application from a company to build a pipeline, we examine the application to see if it's complete. Then, once it is complete and we're satisfied with the technical aspects of the pipeline, we proceed to make sure that each landowner along the route of the pipeline has been advised that there is this application before the board.

We actually request or require the applicant to advise us that he has informed each of the landowners, and also to advise us whether or not he has reached agreement to acquire the necessary right of way to cross the landowner's property. If it turns out that all of the right of way has not been acquired by the pipeline company applicant, then the board would call a hearing. In some cases it might advertise for objections, but in any event it would send notice to every one of the landowners along that route.

Assuming that we followed the procedure of a public hearing, which is quite common for major pipelines, then each of the landowners, along with other interested parties, would have the opportunity to file objections with the board at that hearing. We would consider each of the objections quite carefully, and after the hearing, and carefully reviewing the evidence, decide whether or not we agreed with the objection. In many instances, we either agree in whole or in part, and it's not at all uncommon for us to require the company to make a modest amendment to their pipeline route.

Following that, we then issue a permit to the company, perhaps in an amended form over what they had originally requested. At that point, the company is able to go to the Surface Rights Board and ask for right of entry. That board will consider whether or not it will grant the right of entry. Its jurisdiction, though, is limited to just acquiring the right of way for the specific pipeline route that has been approved by our board.

There have been some allegations that I've heard, of landowners being almost attacked by the pipeline company, and not having had a chance to negotiate with the pipeline company, and having their lands invaded by the pipeline company. I just can't believe that those are really factual statements of what has occurred. As I have said and described, the policy that we follow really gives every landowner an ample opportunity.

You were mentioning the Dome pipeline, and we found in looking at this particular series of applications -- I think there were five applications altogether -- that there were something like 600-odd miles of pipeline that were constructed to complement the ethane and recovery facilities and the petrochemical industry in the province. Dome acquired, on a voluntary basis, dealing with the landowner directly, 90 per cent of the rights of way necessary. They required right of entry on the remaining 10 per cent. The 10 per cent, the required right of entry, still left the option, once that had been obtained, with the company to seek voluntary agreement with the landowner with respect to compensation. The last discussions that we have had with Dome were that they expected most of these to be accomplished on a voluntary basis -- the compensation phase.

MR. CHAIRMAN: Mr. Wolstenholme, first supplementary.

MR. WOLSTENHOLME: Thank you for your explanation. I don't intend to debate what happened, but I think that 10 per cent must have been all in my area.

Now, after the pipeline has gone in, whose responsibility is it to see that the company who puts it in -- quite often a contractor -- abide by the regulation? Whose responsibility is that? Is it the ERCB or the Surface Rights Board?

MR. MILLARD: Mr. Chairman, it isn't the Surface Rights Board. We have some responsibilities there, and in terms of reclamation of the right of way, that's the Surface Reclamation Council that is responsible there.

But when a pipeline is being constructed, we have a number of pipeline inspectors, and they inspect the pipeline construction operation from time to time during its construction phase. Where the area is particularly sensitive, their inspections are more numerous. Of course, once a pipeline is installed, then -- in terms of surface reclamation -- it's the council that looks after it.

We also have inspectors, though, that are responsible for licensing the pipeline, which really means satisfying the board that the pipeline is installed satisfactorily and will withstand the pressures that are going to be imposed on it. Then we also are responsible for inspecting the pipeline during the life of its operations. These inspections take place from time to time on a basis that we think is appropriate.

Again, our inspections vary with the nature of the pipeline. Where there is a minimum of hazard involved, such as crude oil pipeline, our inspections are probably relatively minimum. But where sour gas, for example, is being transported, our concern is much greater and our inspections are more intense. In the case of a sour gas pipeline, we require annual reports from the pipeline company with respect to its operations, various measures that they are required to take to check the corrosion of the pipeline, and its operating status.

MR. CHAIRMAN: Mr. Wolstenholme, second supplementary.

MR. WOLSTENHOLME: Thank you. This is just a little different area. Are there any studies or research being done on the plugs that are put in seismic holes? Possibly it is that they're not properly installed at the time, but the problem out in the western area is that if the holes are drilled during a dry period, or in frozen ground, and they put these plugs in, then when it thaws or the ground becomes particularly wet, an animal steps in it, and it's just like a little mud over top of it: they go right down in.

Now is this the problem, that they're not properly installed? Or do you think that there needs to be a better method of plugging these holes?

MR. MILLARD: Mr. Chairman, I'm not sure if I can really comment on that. Our field inspectors check on abandoned well sites on a regular basis, particularly after the wells have been initially abandoned. I know they encounter problems from time to time, and where they do, well then they require the company to correct them. But I really haven't heard about any specific problem in this area. But I'll check.

MR. WOLSTENSHOLME: This was seismic.

MR. MILLARD: Mr. Chairman, I can see the problem. The board doesn't have any responsibility in the seismic area.

MR. CHAIRMAN: Mr. Cookson.

MR. COOKSON: Mr. Chairman, Mr. Millard, and perhaps the minister. I wonder if you could comment on the responsibility and procedure of the ERCB when a company is having a problem recovering oil and has determined that probably a reclamation by means of water or some other source might be the best approach. What is the role of the ERCB in the case of an application by a company?

MR. MILLARD: Mr. Chairman, I assume the question relates to optimizing the recovery of oil from a reservoir. This is one of the charges that the board has under its act, and one that it takes quite seriously.

We have various powers that are made available to us through the legislation to ensure that recovery is optimized. We, of course, are charged under the act to ensure that economic conservation is achieved. And if our staff, upon its review of the performance of a particular oil pool, for example, believes that the recovery from that pool could be increased by enhanced recovery operations -- whether it be the injection of water or the injection of solvent or gas or whatever the mechanism might be -- then it immediately gets in touch with the operators of that pool and advises them of their conclusion. If the operators did not take any action, and in the discussions that they would have with our staff did not convince our staff that the answers that they had originally derived were incorrect, then we would follow a procedure of calling what we term a show-cause hearing, which in effect makes the company -- the operators in that particular pool -- responsible for showing why we should not, in effect, shut down the operations of that particular oil pool until the recovery process is satisfactory.

We have had a few such hearings over the years. Not very many. Of course the reason that there hasn't been a need is that by and large -- as long as we're talking about economic conservation -- it's in the interests of the oil company just as much as the public to ensure that all of the oil that is economically recoverable is recovered.

Where there is a difference of opinion is really related to the gray zone that would represent the shading between those reserves that are clearly economic and those that are clearly uneconomic. Because if the recovery of reserves that are clearly uneconomic is involved, well then we would not be advocating it either. But it's in this gray area where our analysis would indicate that the rate of return would be less than what a company would like to achieve.

We have held hearings from time to time, and have issued orders that have required enhanced recovery operations to be undertaken. I'm not sure if we've ever had a case where production has not been permitted because of not complying with an order, although I do believe there were short periods of time -- a month or two, or a few months -- where this was in effect.

So really, our powers are really quite broad, and I think appropriately so in terms of the public interest and ensuring that the resources are effectively recovered.

MR. CHAIRMAN: Mr. Cookson, first supplementary.

MR. COOKSON: Thank you very much. I have a better understanding, now, of the relationship between the ERCB and, for example, a company. My understanding now is that the board has the power -- and of course the company will have to in their wisdom determine the economic practicability of recovery. That's a kind of balance thing.

Now presuming that the company has decided, with concurrence of the board, to proceed, does the ERCB then have any jurisdiction over the method of recovery, or the source of materials used in the recovery of a maximum amount of the oil?

MR. MILLARD: Mr. Chairman, in a broad sense, yes, because before a company can undertake an enhanced recovery scheme, it must apply to our board and obtain an approval from the board. If, for example, a company applied for a water injection scheme, which they thought to be the best means of increasing recovery from a pool, and on hearing that application we believed -- and this has happened on the odd occasion -- that greater recovery could be obtained not by using water but by using solvent and adopting a different kind of enhanced recovery scheme, then our staff would present this as an alternative at the hearing, and the evidence would be presented with respect to both of these alternatives. The consideration would involve both of them, and if the sitting panel were to conclude that indeed the solvent scheme was better, did increase recovery, and was in this ballpark of being economic -- perhaps again it would be in that gray zone that I was referring to previously -- then we would require that the solvent scheme actually be initiated, and the process that I described previously would prevail.

Now in terms of sources, whether it be water or solvent or some other means, the applicant would have to disclose the sources that it planned to use in terms of operating its scheme. If it was water, other agencies within the government would have to sanction that particular use of water. I believe the Department of the Environment would be involved, and of course any approval that we issued for such an operation would require ministerial approval from the Department of the Environment. So that kind of concern would be handled through that means.

MR. CHAIRMAN: Mr. Cookson, a second supplementary.

MR. COOKSON: Thanks very much. Mr. Chairman, the reason I ask the question is because of a concern expressed by a fairly large number of landowners where a temporary approval was given to use the underground water source.

Could you tell me, Mr. Millard, are your hearings public hearings? If not, is it possible to have public hearings where these landowners can make their presentation and concern made to balance out the concern?

MR. MILLARD: Mr. Chairman, yes, sir, the hearings are public. They are advertised in the normal process. We recognize that this is not always a completely communicative kind of advertising where land interests are directly involved. That's why we always ensure that the landowner or people directly affected get direct notice rather than relying on the newspaper.

Another feature, though, is that such an application when we receive it would also be forwarded to the Department of the Environment, and they would be expected to look at matters such as water supply. Before proceeding to the hearing, before the hearing is actually convened, we check to make sure that they don't have concerns in this area or, if they do, that the applicant is examined in terms of those concerns. Now it could be that some of those hearings respecting enhanced recovery operations may not -- some landowners that might be affected by water supply may not have heard of them. I really couldn't speak to that. I do know that we have had hearings where landowners were present where they expressed that kind of concern, but on the other hand

I can recognize that there may well be other instances where they perhaps weren't aware of it at the time and became concerned subsequently.

But in a situation like this I would certainly urge that they advise us of their concerns, and we would certainly look into it and see what should be done with respect to the matter.

MR. CHAIRMAN: Mr. Cookson, third supplementary.

MR. COOKSON: Mr. Chairman, would the board give consideration to alternate sources of recovery, or give consideration to use of surface water, even though it means considerable piping, rather than underground aquifer in approving recovery? And do they co-ordinate their decision with the Department of the Environment and other departments in the province?

MR. MILLARD: Mr. Chairman, yes, there is co-ordination. I think it's fair to say that with respect to choosing alternate sources for water injection operations, it's really a question of looking at the relative advantages and disadvantages of different sources. But the board would always be prepared to consider that kind of question.

MR. CHAIRMAN: The hon. Mr. McCrae.

MR. McCRAE: Thank you, Mr. Chairman. Mr. Millard, you've given a very excellent presentation on the reserve picture relative to natural gas. I wonder if you'd do the same thing with respect to conventional oil supply in terms of what the present reserves are, how long they will last, and if you have any comments on projected or estimated future discoveries, having regard to any information that may not be confidential vis-a-vis, say, the West Pembina discovery or other discoveries with which I may not be familiar. If you could just give an overall picture as you did on natural gas it would be much appreciated.

MR. MILLARD: Mr. Chairman, I perhaps should say to begin with that the situation broadly with respect to conventional crude oil appears to be quite different than with respect to gas. I was referring previously to the wide incidence of gas in the province. This does not seem to be the case with respect to oil. Oil appears to be located in plays, and the plays are scattered throughout the province and, as you probably all know, the last major play has been the West Pembina play, but it has been a long time since the previous one. In fact it was northwestern Alberta.

The additions to crude oil reserves on an annual basis have really been quite disappointing for the last 10 or more years. The remaining recoverable reserves have been declining for the last several years. In other words, we have really been producing more than we have been adding to reserves. Of course to a large measure that relates to the fact that we simply haven't been discovering very much. I don't believe that this relates particularly to the incentives for the discovery of oil. The price is, in my judgment, favorable today. I think it really boils down simply to the fact that exploration has really not been successful. To some extent it perhaps reflects the incentive and the weight given to exploration for gas during the last many years; but with the relatively high oil allowables that have existed over the last half dozen years the opportunities for oil discovery, or the benefits from oil discovery, are pretty apparent.

Relating the current requirements and the remaining available reserves in a fashion similar to what I did with respect to gas presents quite a different picture. The current rate of production could continue for approximately 14 years with the proven reserves that exist to date. One of the interesting features, though, in comparing oil and gas reserves is the degree to which recoverable reserves are available. In terms of gas, of the reserves in place in the order of 80 per cent are recovered, but in the case of oil a substantial portion of the reserves is simply not recovered by primary or normal recovery mechanism. Something in the order of 20 per cent is available. By the institution of enhanced recovery schemes this is increased in the order of 33 or 34 per cent, but the remaining two-thirds is, under current recovery techniques, slated to remain in the reservoir.

We in our organization are concerned about that two-thirds, and follow research technology that is continuing in the United States and in Canada through such organizations as the petroleum research institute, for example, in Calgary, to see whether or not that two-thirds can be reduced. We believe that new production techniques are going to have an impact on that. This is, of course, where price becomes particularly important, because many of these new techniques are extremely expensive. Furthermore, many of them require the investment of large sums of money before the actual recovery is increased, and so there is a deterrent in the way of economics to really develop the new techniques that are probably on the horizon to increase the recovery of that two-thirds that is currently not going to be recovered.

We in our organization do not see a large volume of oil that will be recovered from new discoveries. There are varying views with respect to that, and as I mentioned previously, the future is subject to a lot of discretion and judgment. But our own view is that while there are more oil reserves to be discovered, they are probably relatively small reserves and in total are not going to represent a very substantial portion. Now I notice in the press recently that Chevron, which had discovered the West Pembina field, have indicated that they expect other similar discoveries in the province. If that takes place, well then of course that will influence that total. We tend to think that the real hope for the future in terms of oil recovery from the province really is in terms of making a better effort in terms of the two-thirds that is going to remain in the reservoir under current conditions.

MR. CHAIRMAN: The Hon. Mr. McCrae, first supplementary.

MR. McCRAE: Thank you very much, Mr. Millard.

Mr. Chairman, could I ask Mr. Millard to comment on the exotic recovery royalty relief scheme that the government introduced a couple of years back. We've embarked on a number of incentive programs under the stewardship of the gentleman sitting next to you, and I think it has all been very imaginative and very productive in terms of finding new reserves and encouraging larger production. One of the relief areas was the exotic recovery scheme. I wonder if you could define that for us and tell us to the extent that it has been picked up by industry and give us any projections you may have or evaluations of future programs that may be initiated by industry.

MR. CHAIRMAN: Before calling on Mr. Millard to answer, we have now five minutes left before the regular adjournment. There are three members who want to ask questions after Mr. McCrae completes his three supplementaries, and we must know by today who you want before the committee next week. We've completed the list that you've given and agreed to. Would you agree to

completing the questions and then remaining for five minutes or so in connection with the questions next week, or what is your pleasure?
The Hon. Mr. McCrae.

MR. McCRAE: I very much suspect the answers to the questions that I have to ask will be quite lengthy. They are involved questions, and it would be my suspicion it would take some considerable length of time to finish the questions we have right now. So I suggest, if agreeable to the minister and Mr. Millard and the committee, that we ask the gentlemen to come back on another occasion.

MR. CHAIRMAN: Would that be agreeable?
The Hon. Mr. Getty.

MR. GETTY: It would be, and we would certainly like to and enjoy it, but in slight anticipation of the possibility of this, I asked Mr. Millard about his schedule for next Wednesday. He will be in Los Angeles next Wednesday on a meeting that's been set up . . . [interjections] He misjudged the World Series. But in any event we would hope that we could come back, if it would be possible, the following Wednesday. But I guess it's up to the committee.

MR. CHAIRMAN: Two weeks from today.

MR. GETTY: Yes.

MR. CHAIRMAN: If that is the case, what are your wishes for the next meeting next Wednesday? Or do you want to adjourn until two weeks?

HON. MEMBERS: Agreed.

MR. CHAIRMAN: All agreed. We adjourn until two weeks from today.
I'm sorry for the interruption, Mr. Millard. Now would you like to answer the question, or do you still remember it?

MR. MILLARD: Yes, sir. Mr. Chairman, Mr. McCrae referred to the definition of exotic recovery schemes. The definition that we have used with respect to this is any recovery mechanism other than water flood mechanism. The reason for the royalty relief -- if I could comment on that, although it's really in Mr. Getty's area -- as I judge it, is that it relates to what I was saying previously, that the exotic recovery schemes have the character of requiring very large investments at the front end of their operation, and recovery of the incremental barrels of oil is spread over a period of 10, 20, or 30 years. It makes it very difficult for a company to undertake that kind of operation without some kind of special provision.
Some work that we had done in our organization, because of our concern about increasing the recovery of this two-thirds of the barrel that is not going to be recovered, suggested that there needed to be some kind of royalty and tax relief in order to make this possible. Of course the government did amend the regulations with respect to royalty, and I understand that the federal government also amended the regulations or the act with respect to income tax payments, both of which were key issues in terms of undertaking these activities.
Mr. McCrae, I can't speak specifically with respect to what has been accomplished under this provision. It has taken longer to implement than I

personally would have liked to see. On the other hand I think we have to recognize that these are very complex, technically difficult schemes to implement, and I think it's perhaps unfair to expect overnight changes. I think what is important is that the mechanism is there, the environment is right, and it provides the incentive to go forward and undertake activities that will increase the recovery over the current expected recovery.

MR. CHAIRMAN: Is the committee agreed to the third supplementary by Mr. McCrae? Or are you completed?

MR. McCRAE: Mr. Chairman, my third supplementary was in another direction. I wasn't clear whether the supplementary had to be on the same subject or whether I could depart to some other direction.

MR. CHAIRMAN: No. It has to be on the same subject. So we'll put your name down . . .

MR. McCRAE: I guess, then, Mr. Chairman, I'll go to the bottom of your list.

MR. CHAIRMAN: It is now adjournment time. Do you want to adjourn until two weeks from today, November 1?

Moved by Mr. Hyland, seconded by Mr. Notley.

Motion carried

MR. CHAIRMAN: I would like to thank the Hon. Mr. Getty and Mr. Millard for being with us, and we'll look forward to seeing you again two weeks from today.

The meeting stands adjourned.

The meeting adjourned at 11:30 a.m.