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LEGISLATIVE ASSEMBLY OF THE NORTHWEST TERRITORIES

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WEDNESDAY, FEBRUARY 27, 1985

MEMBERS PRESENT

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ITEM 1: PRAYER

---Prayer

DEPUTY SPEAKER (Mr. Wah-Shee): Ms Cournoyea.

HON. NELLIE COURNOYEA: Mr. Speaker, the Nunavut caucus has been asked to deal with an issue and it has been presented to us a few minutes before 1:00 p.m. and we would ask that we have a 15 minute break so that we can deal with that issue.

MR. DEPUTY SPEAKER: Does the House agree?

SOME HON. MEMBERS: Agreed.

---Agreed

MR. DEPUTY SPEAKER: We will take a 15 minute break.

---SHORT RECESS

The House will come to order. Orders of the day.

Item 2, Members' replies. Item 3, Ministers' statements. Mr. Patterson.

ITEM 3: MINISTERS' STATEMENTS

Minister's Statement On Living Allowances For Students With Dependants

HON. DENNIS PATTERSON: Yes, thank you, Mr. Speaker. The honourable Arnold McCallum raised a general question yesterday relating to the Education budget regarding the report of the Auditor General on the activities of the department for the year ended March 31, 1984. The Auditor General highlighted the fact that the Department of Education increased the rates of living allowances for students with dependants without obtaining the necessary approvals. The auditor's report also required a clarification on whether the allowance was paid for a five or seven day week.

Approval was obtained from the Financial Management Board today to retroactively increase the affected rates and to clarify the method of payment. The student financial assistance regulation will be amended as part of an overall review of the regulations scheduled for the summer of 1985. It is important to note that students have not been denied assistance as a result of this oversight. The higher rates have been paid to students with dependants for some time now and the approval from the Financial Management Board rectified an administrative oversight. Thank you.

MR. DEPUTY SPEAKER: Thank you, Mr. Minister. Item 3, Ministers' statements. Item 4, oral questions. Mr. Richard.

ITEM 4: ORAL QUESTIONS

Question 120-85(1): Overcrowding In Yellowknife Schools

MR. RICHARD: Thank you, Mr. Speaker. My question is for the Minister of Education. Mr. Speaker, yesterday in response to a question in committee of the whole the Minister indicated that he would be in a better position today to respond to my question regarding the problem of overcrowding in the schools in the city of Yellowknife. Can the Minister provide some response to that question today?

MR. DEPUTY SPEAKER: Mr. Patterson.

Return To Question 120-85(1): Overcrowding In Yellowknife Schools

HON. DENNIS PATTERSON: Yes, thank you, Mr. Speaker. I am able to provide a response. I am very pleased to announce that Yellowknife Education Districts No. 1 and No. 2 will receive $1.35 million from the territorial government for three projects for classroom expansion in 1985-86.

---Applause

HON. GORDON WRAY: See how nice we are.

HON. DENNIS PATTERSON: Thank you. Mr. Speaker, the funds are required because of unexpected increases in enrolment. Six new classrooms will be added to St. Joseph's School this summer, two years earlier than originally planned. In addition, a four classroom unit will be built at St. Patrick's High School, to replace two portable classrooms presently in use there. The portables will be moved to Mildred Hall and/or Sissons Schools and refurbished to accommodate anticipated high enrolments next year in grade one. These increases are primarily due to a significant gain in the numbers of kindergarten students which next year will be full-time students. The schools will not be able to accommodate them all without additional facilities. The portables at Sissons and Mildred Hall are intended as an interim measure. The opening of a new elementary school in Frame Lake South which is currently scheduled for 1988-89 but may also be moved ahead should take the pressure off the public school system. I think these new additions to St. Pat's and St. Joseph's should accommodate students in Education District No. 2 for the next four or five years. Thank you, Mr. Speaker.

---Applause

MR. DEPUTY SPEAKER: Thank you, Mr. Minister. Item 4, oral questions. Mr. Gargan.

Question 121-85(1): Land Use Planning

MR. GARGAN: Thank you, Mr. Speaker. My question is directed to the Minister of Renewable Resources and it is with regard to the land use planning commission. I believe there was an agreement signed and I would like to ask the Minister whether the land use planning commission is in place now? Who are the people that are on this commission?

MR. DEPUTY SPEAKER: Ms Cournoyea.

Return To Question 121-85(1): Land Use Planning

HON. NELLIE COURNOYEA: Mr. Speaker, the question of land use planning was brought up before and I gave a brief answer. But in response to that question regarding the status of the federal/territorial northern land use planning program, I would like to offer the following brief update: Indeed the new federal government supports a need for implementing a joint land use planning program in the North. As I previously noted Mr. Crombie has verbally supported the agreement signed last summer between Canada and the GNWT. This agreement defines the principle, structure and process upon which a northern land use planning program must be based.

The Dene/Metis, ITC, COPE organizations support this agreement. Further on the subject my deputy minister has informed me that late last week the new deputy minister of the Department of Indian Affairs and Northern Development has initiated efforts to implement the northern land use planning program. A Treasury Board submission is being prepared to release funds for April 1, 1985. Resources to the GNWT have been assured. The appointment of the land use planning commission will commence early in the new fiscal year. The GNWT has an equal role in identifying commission members with final concurrence by the Minister of Indian and Northern Affairs. Similarly each native organization will identify commission member candidates.

As mentioned earlier, the northern land use planning program is a co-operative process and will have a strong community base. The question earlier last week also queried the relationship of the land use planning commission and its handling of compensation to trappers affected by development. In response to that I would point out that the land use planning commission does not handle compensation matters. However, the Department of Renewable Resources has just recently developed and implemented a renewable resource harvesters compensation program and this is to protect hunters and trappers. This policy protects persons dependent upon or who gain livelihood from the renewable resource base. The resource developer is responsible for payment of costs associated with those impacts which result from development activity. If payment is disputed the case will be referred to a compensation review board and the board will be established in the very near future as the program is now in its final implementation stage. Thank you.

MR. DEPUTY SPEAKER: Thank you. Item 4, oral questions. Mr. Arlooktoo.

Question 122-85(1): Status Of Local Education Authorities

MR. ARLOOKTOO: (Translation) Thank you, Mr. Speaker. My question is directed to the Minister of Education. In the communities they have local education authorities which have no authorities or rights or powers. So, because of this, even though local education authorities are in the smaller communities, I was wondering if it is possible for them to become local education societies. I am just asking if they could become a local education society instead of a local education committee. Thank you.

MR. DEPUTY SPEAKER: Mr. Minister.

Return To Question 122-85(1): Status Of Local Education Authorities

HON. DENNIS PATTERSON: Thank you, Mr. Speaker. It is possible for any local education committee to become a local education society. However, there is a further option that is now being very actively explored in the Baffin Region and has been supported by the local education authorities of all Baffin Region communities and that is working together at the regional level to form a divisional board of education which would have even more powers on a regional level over education than a society might have at the community level. This is the option that we are now actively pursuing for the Baffin Region and it has been supported by every local education authority through petitions to myself. Thank you, Mr. Speaker.

MR. DEPUTY SPEAKER: Thank you, Mr. Minister. Oral questions. Mr. Arlooktoo.

Supplementary To Question 122-85(1): Status Of Local Education Authorities

MR. ARLOOKTOO: (Translation) Thank you, Mr. Speaker. I understand, but I would like some more clarification. Some of the communities have about 70 students in each community. Even though they only have 70 students, is it going to be possible for the education committee to become an education society? Thank you.

MR. DEPUTY SPEAKER: Mr. Minister.

Further Return To Question 122-85(1): Status Of Local Education Authorities

HON. DENNIS PATTERSON: Yes, that is possible, Mr. Speaker, regardless of the size of the school or the community. Thank you.

MR. DEPUTY SPEAKER: Oral questions. Mr. Paniloo.

Question 123-85(1): Search And Rescue Policy, Pangnirtung

MR. PANILOO: (Translation) Thank you, Mr. Speaker. I will be directing my question to the Government Leader. I tabled Tabled Document 16-85(1), regarding a concern of the search and rescue committee in Pangnirtung. A search and rescue policy was written December 6, 1983, by the Department of Executive to all communities in the Baffin Region, file number 11-003-340/1. My question is whether or not Pangnirtung will be able to get their own policy. Thank you.

MR. DEPUTY SPEAKER: Mr. Nerysoo.

Return To Question 123-85(1): Search And Rescue Policy, Pangnirtung

HON. RICHARD NERYSOO: Thank you, Mr. Speaker. Just to indicate to the Member that the responsibility with regard to emergency search and rescue is covered by two types of policies and two departments and if the honourable Member could allow me and the Minister of Renewable Resources just to sit down and review this tabled document we might be able to come up with a suggestion for a solution to his request.

MR. DEPUTY SPEAKER: Thank you, Mr. Minister. Oral questions. Mr. Erkloo.

Question 124-85(1): Funding To Inuit Broadcasting Corporation For Children's Program

MR. ERKLOO: (Translation) Thank you, Mr. Speaker. My question is directed to the Minister of Education. I received a telex and I am sure he has a copy of the telex I have here. The Inuit Broadcasting Corporation have been asking for some funding, the funding amounts to about $200,000. They want to do a children's TV program in Inuktitut. They said the film might last maybe up to 10 hours. I wonder if the Minister could inform me if he would be able to help me out with this request.

MR. DEPUTY SPEAKER: Mr. Patterson.

Return To Question 124-85(1): Funding To Inuit Broadcasting Corporation For Children's Program

HON. DENNIS PATTERSON: Yes, thank you, Mr. Speaker. I believe the Member is referring to the Inuit Broadcasting Corporation proposal to develop a children's television program. I have received the proposal which is a well-written proposal and so have my colleagues on the Executive Council, and we will, shortly, be considering a response and announcing the result to the Inuit Broadcasting Corporation and probably to this Assembly. Thank you, Mr. Speaker.

MR. DEPUTY SPEAKER: Thank you, Mr. Minister. Oral questions. Mr. Ballantyne.

Question 125-85(1): Public Housing For Victims Of Family Abuse

MR. BALLANTYNE: Thank you, Mr. Speaker. I have a question of Mr. Wray, the Minister responsible for the Housing Corporation. The last couple of days we have had a fair amount of discussion about spousal assault and we are all waiting eagerly for Mr. Bayly's report from the task force on spousal assault so we can deal with the problem in an organized and long-term fashion. My colleague, Mr. Richard, last week tabled a report from the Society Against Family Abuse and they had a number of recommendations. One of the recommendations was that priority access to existing low rental housing should be given to victims of family abuse. Information and education programs would help to build community support for this concept. I think that though we have to wait for Mr. Bayly's report for long-term solutions, this is to me an obvious solution that could be of immediate help. I wonder if Mr. Wray would undertake to look at the possibility of developing some policies in the Housing Corporation, whereby victims of family abuse would be given priority for public housing.

MR. DEPUTY SPEAKER: Mr. Wray.

Return To Question 125-85(1): Public Housing For Victims Of Family Abuse

HON. GORDON WRAY: Thank you, Mr. Speaker. Certainly, I can take a look at it. It is something that has not been brought up before but it is a fairly good suggestion. Obviously, if we are dealing with Yellowknife, it would have to be in conjunction with discussions with the Yellowknife

Housing Authority as we would in other communities. But, I will take the Member's advice into consideration and perhaps be able to report back to him at some point in time if, in fact, we can move in that area. Thank you.

MR. DEPUTY SPEAKER: Thank you, Mr. Minister. Oral questions. Mr. T'Seleie.

Question 126-85(1): Reply Re Taxation Of Hunters And Trappers

MR. T'SELEIE: Thank you, Mr. Speaker. My question is for the Minister of Finance. On February 14, I posed a written Question 84-85(1), concerning the taxation of hunters and trappers in the NWT. I do not notice any reply in the book here. I wonder when I could expect an answer from the Minister on that?

MR. DEPUTY SPEAKER: Mr. Butters.

Return To Questions 84-85(1) And 126-85(1): Reply Re Taxation Of Hunters And Trappers

HON. TOM BUTTERS: Yes, thank you, Mr. Speaker. I was hoping that I would give that reply when the department's estimate goes into the House so there is some chance for discussion back and forth. The answer is yes. Trappers who are eligible do pay tax to the Government of Canada and taxes are collected by the Government of Canada for this government. But I would like to make the return when Finance is before the House and discuss it further.

MR. DEPUTY SPEAKER: Oral questions. That appears to conclude oral questions for the day. Item 5, written questions. Mrs. Lawrence.

ITEM 5: WRITTEN QUESTIONS

Question 127-85(1): Full-Time Adult Educator For Snowdrift

MRS. LAWRENCE: Thank you, Mr. Speaker. I have a written question for the Minister responsible for Education. There are roughly 28 adults in Snowdrift who wish to upgrade their education. Manpower is presently providing assistance for eight individuals to attend day classes five days a week, and there are night classes available twice a week. However, there is only one instructor working on a contract basis in the community. Considering the number of people in the community that require upgrading, could the Minister arrange to have a full-time adult educator stationed in Snowdrift? Mahsi cho.

MR. DEPUTY SPEAKER: Item 5, written questions. Item 6, returns. Mr. Nerysoo.

ITEM 6: RETURNS

Return To Question 21-85(1): GNWT Matching Donations

HON. RICHARD NERYSOO: Thank you, Mr. Speaker. This is a return to oral Question 21-85(1), asked by Mr. Ballantyne on February 8, 1985, with regard to GNWT matching donations, pertaining to famine relief for Ethiopia.

The government decided in January of this year to match the grants to be made for famine relief to Ethiopia. In order to match grants made to relief agencies, individuals and/or organizations are required to submit donation receipts to their settlement, hamlet, town or city council before April 1, 1985. In communities where there are no settlement or hamlet councils, receipts can be submitted to the band councils. Once community governments have collected all receipts, they have to be sent to the regional director with a covering letter. The regional director will, in turn, submit the matching funding request to the Executive Council.

The matching grants will be approved for community donations made to a recognized relief agency such as Oxfam, UNICEF, Red Cross or even local church relief programs during the 1984-85 fiscal year. Under the plan, matching grants of up to one dollar for every person in the community will be sent by the territorial government to applicable relief agencies. Thank you, Mr. Speaker.

MR. DEPUTY SPEAKER: Item 6, returns. Ms Cournoyea.

Return To Question 96-85(1): Wildlife Officer For Hall Beach

HON. NELLIE COURNOYEA: Mr. Speaker, I have a return to oral Question 96-85(1) which was asked by Mr. Erkloo on February 18th, regarding a renewable resources officer for Hall Beach. Each year the Department of Renewable Resources receives requests from communities for additional renewable resources officer positions. It is not possible to honour all of the requests. I regret that a full-time position cannot be provided at the present time. However, it is possible to appoint a wildlife guardian if desired by the hunters and trappers of Hall Beach. The renewable resources officers at Igloolik visit Hall Beach on a regular basis to deliver departmental programs. Thank you.

MR. DEPUTY SPEAKER: Thank you. Returns.

Item 7, petitions.

Item 8, reports of standing and special committees. Item 9, tabling of documents. Mr. Pudluk.

ITEM 9: TABLING OF DOCUMENTS

MR. PUDLUK: Thank you, Mr. Speaker. I would like to table Tabled Document 29-85(1), Resolution from the Inuit Circumpolar Conference, July 1983, Frobisher Bay. The resolution is calling for a nuclear freeze in the Arctic. Thank you.

MR. DEPUTY SPEAKER: Thank you. Item 9, tabling of documents. Mr. T'Seleie.

MR. T'SELEIE: Thank you, Mr. Speaker. I would like to table Tabled Document 30-85(1), Re: Nuclear Power Plants in Denendeh. This is a resolution that was passed at the leadership meeting that was held in Fort Franklin in June 1984. This motion was passed unanimously on the 20th day of June, 1984, and it concerns the opposition of the Dene to the nuclear power plants in Denendeh.

AN HON. MEMBER: Where's that?

HON. TAGAK CURLEY: Is that your homeland?

MR. DEPUTY SPEAKER: Order, please. Item 9, tabling of documents. Ms Cournoyea.

HON. NELLIE COURNOYEA: Mr. Speaker, I wish to table Tabled Document 31-85(1), Report of the Task Force on Northern Conservation, December 1984, including a press release on the report and the document has been translated.

MR. DEPUTY SPEAKER: Thank you. Item 9, tabling of documents. Ms Cournoyea.

HON. NELLIE COURNOYEA: Mr. Speaker, I wish to table Tabled Document 32-85(1), resolutions from the Holman hamlet council, the Committee for Original Peoples Entitlement, the Tuktoyaktuk hamlet council, Paulatuk settlement council and the Sachs Harbour settlement council. It is in regard to their position on the recent issue of the constitutional talks as it relates to the Beaufort communities and the Inuvialuit.

MR. DEPUTY SPEAKER: Thank you. Tabling of documents.

Item 10, notices of motion.

Item 11, notices of motion for first reading of bills.

Item 12, motions. Item 13, first reading of bills. Mr. Butters.

ITEM 13: FIRST READING OF BILLS

First Reading Of Bill 10-85(1): Supplementary Appropriation Act, No. 3, 1984-85

HON. TOM BUTTERS: Mr. Speaker, I move, seconded by the honourable Member for Nunakput, that Bill 10-85(1), An Act Respecting Additional Expenditures for the Public Service for the 1984-85 Financial Year, be read for the first time.

MR. DEPUTY SPEAKER: All those in favour of first reading of Bill 10-85(1)? Opposed, if any? Bill 10-85(1) has had first reading.

---Carried

First reading of bills. Item 14, second reading of bills. Mr. Butters.

ITEM 14: SECOND READING OF BILLS

Second Reading Of Bill 9-85(1): Loan Authorization Act, No. 1, 1985-86

HON. TOM BUTTERS: Mr. Speaker, I move, seconded by the honourable Member for Mackenzie Delta, that Bill 9-85(1), An Act to Authorize the Commissioner to Borrow Funds and Make Loans to Municipalities in the Northwest Territories During the Financial Year 1985-86, be read for the second time. The purpose of this bill, Mr. Speaker, is to authorize the Commissioner to borrow funds for the purpose of making loans to municipalities.

MR. DEPUTY SPEAKER: To the principle of the bill?

AN HON. MEMBER: Question.

MR. DEPUTY SPEAKER: Question has been called. All those in favour? Opposed, if any? Bill 9-85(1) has had second reading.

---Carried

Second reading of bills. Item 15, consideration in committee of the whole of bills and other matters. Appearance of Atomic Energy of Canada Witnesses; Bill 7-85(1), Appropriation Act, 1985-86; Bill 3-85(1), Workers' Compensation Act, with Mr. Erkloo in the chair.

ITEM 15: CONSIDERATION IN COMMITTEE OF THE WHOLE OF BILLS AND OTHER MATTERS

PROCEEDINGS IN COMMITTEE OF THE WHOLE TO CONSIDER APPEARANCE OF ATOMIC ENERGY OF CANADA WITNESSES

CHAIRMAN (Mr. Erkloo): The committee will come to order. We are dealing with the Atomic Energy of Canada witnesses. Mr. Curley, do you want to make a statement?

HON. TAGAK CURLEY: Thank you, Mr. Chairman. I would like to thank the Assembly for making this valuable time when I know that Members are pretty anxious to deal with a whole lot of business before the Assembly -- to take time to discuss the energy from uranium. I know there is a lot of concern about this matter, it is an issue that people have very strong feelings about. We have all received a letter from the Dene Nation stating their deep concerns and, of course, there have been letters in the local papers about the issue. I must tell you that as Minister of Energy, Mines and Resources, I am responsible to all of you and to the people for finding other energy sources for the future that are safe, reliable and affordable. As a result, we have supported research and studies on energy from wind, wood, water, coal, natural gas and others. Energy from uranium is another possible source which is being proposed to us. It is an idea that we must consider.

I can tell Members that I have not made a judgment on this matter yet. The company's work is at an early stage, they have not done enough to believe that they have something which might benefit the NWT, but all of the facts are not known. Therefore, there is no proposal to install a reactor in the Northwest Territories community.

HON. DENNIS PATTERSON: Hear, hear!

HON. TAGAK CURLEY: There is only a desire to investigate the possibility. This presentation was recommended to provide Members with information at the earliest possible moment before any plans are laid on, or decisions made. The presentation was recommended to allow you to ask any questions, to express any concerns, and to guide the company in ways you might feel are appropriate. Mr. Chairman, if I may go further, we approached our caucus, the NWT Legislature caucus, for advice on the matter and they felt that it was important that any presentation made on this issue be made public through this House. Therefore this is the reason I am presenting to you today two officials from Atomic Energy of Canada Limited, research company. We have, Mr. Chairman,

Mr. Metro Dmytriw, assistant to the director of the program and David McDougall, an economist. I would like to ask your permission that they be invited as witnesses to make their presentation. Qujannamiik.

CHAIRMAN (Mr. Erkloo): Do you wish to bring in the witnesses? Agreed?

SOME HON. MEMBERS: Agreed.

---Agreed

CHAIRMAN (Mr. Erkloo): Mr. Minister, could you introduce your witnesses? Which one is going to make the presentation?

HON. TAGAK CURLEY: Yes, Mr. Chairman. To the right, looking at you is Mr. Metro Dmytriw, assistant to the director of the program, and David McDougall, on his left, an economist. Thank you.

CHAIRMAN (Mr. Erkloo): Would you like to start your presentation? Mr. Nerysoo.

HON. RICHARD NERYSOO: Thank you, Mr. Chairman. Just prior to the introductory remarks by the gentleman, the witness, I would indicate to the committee that the Members of the Executive Council will be asking questions and making comments as ordinary Members of the Legislature afterwards. So just to indicate that to other Members.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Patterson.

HON. DENNIS PATTERSON: Yes, Mr. Chairman. I wonder if I might request, before the presentation, a little more detail on who these gentlemen work for and, perhaps, what their qualifications are? Thank you.

CHAIRMAN (Mr. Erkloo): Could you give us your background and introduce yourselves? Thank you.

Background Of Witnesses

MR. DMYTRIW: Yes, Mr. Chairman, my background is as a graduate from the University of Manitoba with majors in chemistry, in English, with other studies in physics. I have worked in the energy industries for 22 years, lately at the Whiteshell nuclear research establishment which is about 70 miles northeast of Winnipeg where I have worked in various information programs and I am now working in the small reactor program with the rest of the crew. Thank you.

AN HON. MEMBER: Where?

MR. DMYTRIW: At the Whiteshell nuclear research establishment which is near a town called Pinawa, Manitoba, which in turn is about 70 miles northeast of Winnipeg.

AN HON. MEMBER: Who promotes it?

MR. DMYTRIW: I am sorry. The research establishment is part of the research company of Atomic Energy of Canada Limited. Atomic Energy of Canada Limited is a federal crown corporation, whose responsibility it is to develop peaceful uses of nuclear energy in Canada. And those uses include the generation of electricity from uranium, as well as the use of materials that are produced in reactors for medicine, in industry and in various applications in agriculture. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. My qualifications include a master's degree in economics from the University of Western Ontario. I have worked for General Motors. I have worked for Canada Wire and Cable and I am now employed by Atomic Energy of Canada Limited in Ottawa. Thank you.

CHAIRMAN (Mr. Erkloo): Could you go ahead with your presentation?

MR. MacQUARRIE: I have a follow-up, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Mr. MacQuarrie.

MR. MacQUARRIE: Yes, if Mr. Dmytriw could just expand a little bit. Does he consider himself to be a nuclear physicist? What knowledge or experience or training does he have in the area of nuclear physics and the hazards of radiation and that sort of thing?

CHAIRMAN (Mr. Erkloo): Mr. Dmytriw.

MR. DMYTRIW: I cannot claim to have any training as such in those areas. My understanding of them comes from understanding the basic chemical processes that take place, Mr. Chairman. Also the technical background that I have developed allows me to understand the technical papers that are produced by other people. I do not do the research to produce those papers myself.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Patterson.

HON. DENNIS PATTERSON: Thank you, Mr. Chairman. Mr. Dmytriw said he was a graduate of the University of Manitoba. May I ask with what degree did he graduate? Thank you.

CHAIRMAN (Mr. Erkloo): Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. The degree itself is called a Bachelor of Arts degree but the majors in it are in chemistry and in English and a lesser major in physics.

CHAIRMAN (Mr. Erkloo): Thank you. Before you answer questions would you recognize the Chair? Thank you.

MR. DMYTRIW: Yes, my apology, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): You can proceed with your presentation.

Presentation Of Atomic Energy Of Canada Limited Witness

MR. DMYTRIW: We appreciate the time that you are taking to meet with us today and we hope that what we have to tell you will be interesting. If you have some questions that you would like to ask later, we will be happy to stay here as long as you like to discuss them. We may not have all the answers but we will do our best.

We want to tell you today about some developments in the use of uranium for heating and for generating electricity that could be of some benefit to communities in the North. The developments have not been fully tested. It will take us a few years to do that but we have already started to do that at our research site in Pinawa, Manitoba. However, we wanted to meet with you early because this information is likely to find its way into the news. We wanted to tell you ourselves about what we are doing so that there are no misunderstandings.

You know that people in Canada today use many different energy resources. This is because the cost of fuel varies throughout the country and because natural resources are not distributed evenly. Alberta and British Columbia have a lot of coal for example, but the cost of shipping it to Ontario is high, so that it is cheaper for Ontario to buy that coal from the United States.

Here in the North, there are similar problems. Over the years, the kinds of materials that have been used to provide heat and light have changed. Today in many northern communities, electricity is produced from diesel fuel that is brought in from far away. Many homes are heated with fuel oil, also brought in. For conditions which exist now this appears to be acceptable. However, those who study the problem of providing the energy that people will need in the future agree that the cost of oil will keep rising. As that happens, electricity here in the North and heat for homes will become more expensive. In the South costs will also go up because oil is important to so many activities. But, of course, all over Canada people are looking for ways to lower their dependence on oil and to keep the effect of these future increases as small as possible.

Our company, Atomic Energy of Canada Limited, is owned by the federal government. Our responsibility is to develop uranium as an alternative energy resource and find economical applications for it. Today, uranium is used to produce electricity in Ontario, in Quebec and in New Brunswick. In fact, Ontario produces more electricity using uranium than it does using oil or

water or coal Uranium is not used very much for providing heat directly but at our research site in Manitoba, it is used for heating buildings in which about 1100 people work. In the world, about 25 countries use uranium to produce electricity and heat. All of them do so in large stations. As you can see, stations like that can only be built economically where there are large numbers of people or where industries need large amounts of electricity. However, smaller communities are being hurt by the increasing costs of energy as well. We think we can provide energy economically using uranium for residential communities and for activities such as mining or other developments which take place far away from power lines or oil and gas supplies.

Set-Up And Process Of Heat Producing

If uranium was used to produce electricity and heat in a northern community, what would people living there see? Well, as you can see in the drawings that are attached, from the outside they would see an ordinary metal building. And there would be a number of things that they would not see; the oil barrels, the storage tanks, and the smoke. Nor would there be any noise. Inside the building, in a hole in the ground, would be found this uranium heater. It is a very simple machine. The uranium which produces the heat sits in a pool of water about 12 feet in diameter and about 30 feet deep. Hanging in the pool is a steel tube about four feet in diameter and about 10 feet long. The uranium is at the bottom of the tube -- about 200 pounds of it, a little larger than a five gallon can. It will stay there for about two years and during that time it will produce as much heat as you would get by burning 20,000 barrels of fuel oil.

Uranium produces heat in a very special way. Instead of burning to produce smoke and gases that have to be released, it simply breaks up. What is produced, stays in the uranium and in the metal tubes that contain the uranium. When the uranium breaks down it becomes hot. Water passing over the metal tubes becomes heated and is pumped through pipes to heat buildings or it is piped to small generators to produce electricity. When the uranium is no longer usable, it is taken away to the South for storage and is replaced with fresh uranium. That exchange takes a few days.

Once this heating process starts there is little else to do. Nothing needs to be added or changed. Nothing needs to be watched. The system cannot get too hot to damage itself. If you stop removing the heat so that the water in the pool begins to get hotter, the breakdown of the uranium becomes slower so less heat is produced. As the heat is removed and the water cools the uranium starts breaking down a little faster and begins to produce more heat. The temperature level is self-controlling and no operator is needed.

Possible Cost Benefits

Now, we know that these systems work this way because we have smaller versions in use now at six Canadian universities for teaching and for other purposes. For heat and electricity the units would be a little bigger. Now, even though we have not studied any particular community to see how such a system could be installed we have used information from the Northern Canada Power Commission and from the Department of Energy, Mines and Resources to do a general study before we decided to test it in Manitoba. We wanted to know whether communities in the North with populations larger than 500 people could benefit from this new development, compared to the service that they are now getting from oil heat and from diesel electricity. Of the 23 communities that we included, heat could cost less in 11 of them by more than 30 per cent; in eight other communities, it would be between 10 and 30 per cent cheaper; in four communities, we could not provide heat more cheaply than they are now getting.

Electricity could also be cheaper but not by as much as the heat. However, we would need to build ducts or utilidors as they are known here in the North to carry the hot water between buildings. The utilidors could also be used to bring running water to homes and to take sewage away. Water brought to the home for heating could be used to heat this running water so that homes would have hot water all the time. We do not know what the cost would be. It would vary between communities. We have not done those studies but we expect to discuss them with your officials.

Uranium-Fuelled Power For Radar Stations

I expect that you heard news reports late in January about the possible use of uranium-fuelled power sources for electricity at new radar stations that might be built. Whether or not they will be is speculation, because design work is not finished. We are doing that at Whiteshell. We believe that such units could be used in such an application. We have discussed a number of possible uses with several potential customers and since this is a business as much as research, we would not like to say where the units might be used or for what purpose until commitments have been made. To date, none have been made.

We expect to continue the design work and to keep talking with potential buyers. We hope to have a demonstration unit at Whiteshell within about five years. Such units would be quite different from what we have been talking about until now. This one is smaller, it has almost no moving parts and is practical only for producing electricity. Because of this, we call it a "fission battery". "Fission" refers to the process by which the uranium breaks down to produce heat. Units like these could be left to operate unattended for much longer periods than the first one we described. Since they would produce less energy, the fuel would last about 20 years without changing. We expect our demonstration unit at Pinawa to produce about 20 kilowatts of electricity. That is not much electricity for heat or for light, but it is a lot for communications systems. My house in Pinawa which has electric heat needs about 20 kilowatts on cold winter days.

Like the first system that I described, this one is very reliable and safe. The worst malfunction that can be imagined would not cause the system to damage itself. If things do not work as they should, the system just slowly, over a long time, produces less and less power until it runs out of fuel. When its useful time is finished, the fuel in the unit would be taken out for storage and for disposal in the South with the rest of Canada's used fuel.

Well, that is a brief description of the new technology that is being developed. I have presented it in a very general way but will be happy to talk more specifically about aspects of it that interest you. We will be glad to meet with you again whenever you wish to give you additional information. We will certainly be glad to give your officials whatever information they need at any time and we will keep MLAs informed if we do studies in the communities. Thank you for your attention. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Dmytriw. Before we proceed with the questions, we will take a 15 minute coffee break.

---SHORT RECESS

The committee will now come back to order. Mr. Ballantyne.

MR. BALLANTYNE: Thank you, Mr. Chairman. I would like to thank Mr. Curley for giving us this opportunity to listen to these representatives from Atomic Energy of Canada. I think it is a very important question that we are going to have to deal with and I do not think we are, as Mr. Curley said, making a decision here and now, but this is merely to try to get some information. I would like to comment on the report. I was not a Member the last time your organization appeared in front of this House. I understood that there was some criticism last time that the report was too complex. I might say that they have more than made up for it this time. This report is extremely simple. In fact, I think a six year old probably could read it.

AN HON. MEMBER: But not you.

MR. BALLANTYNE: I just wonder if it alludes to some lack of intelligence on behalf of MLAs. None the less this report does not really answer any questions, and I have some very major concerns.

Viable Project For Atomic Energy Of Canada

I think in the report the concept that the Atomic Energy of Canada Limited is a business is a very important element to myself because as everyone knows, really the raison d'etre and one of the driving forces behind this organization has been the CANDU program which I think in many ways has been an unmitigated disaster, financially and otherwise. I have been reading in the paper of late that Atomic Energy of Canada is laying off hundreds of people. My concern is that being a business, because there is now a need within the organization to produce some work, something could happen up here in order to accomplish that business end. Even though it says in the report that right now that we are, in fact, a number of years away from developing a SLOWPOKE reactor that could be relevant here in the North, the reality is there, the potential that Atomic Energy of Canada, the Government of Canada and the Government of the United States may decide to accelerate that program and it would be possible to do so if large sums of money were committed to the program. So, though, on one hand we can say we might have five years to understand and to make decisions, the political and economic reality is that a decision might be forced on us much sooner than that. I wonder if either witness could tell me at this point in time, do they see that the CANDU reactor program is for all intents and purposes, dead right now? Do they see a need within Atomic Energy of Canada to find some other viable project to keep people employed and to try to get some cash flow?

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Ballantyne. Would the Members please direct your questions to the witness by name for the record? Thank you.

MR. DMYTRIW: Thank you, Mr. Chairman. I would like to say first of all that we do not consider what we presented today to be any kind of a technical report. It was merely a status summary as to where this program is and we have a great volume of technical reports that are available to anybody who wants to read the technical data. The financial solidity of the company, it must be remembered, is supported by an industry which produces about 12 per cent of Canada's electricity today. Whether or not future reactors are sold at the same rate that they have been sold up until now does not reflect on whether or not the industry will continue.

There is much more to the company than simply selling CANDU reactors. We have, for example, in the past few years, produced medical equipment that is used for the treatment of cancer. Canada was the first country in the world to produce this medical equipment and it is now available in 80 countries as a result of Canada's research in atomic energy.

The comment, Mr. Chairman, as to whether or not the CANDU reactor is dead or not is a matter of opinion. We see the industry as still a very healthy one. The difficulty that it is in is essentially the same one that faces many other industries, not only in Canada, but internationally. Industrial activity has decreased and with it the demand for industrial products and materials has also decreased. There is no question that energy with growing world populations is still going to be needed and there will always be a place for nuclear energy in providing the energy that the world requires. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Dymtriw. Mr. Ballantyne.

MR. BALLANTYNE: Thank you, Mr. Chairman. Obviously, Atomic Energy of Canada is a diversified institution. My comment was that the CANDU program was a major component of that particular institution. I think the whole question of the use of nuclear power is now under some considerable scrutiny around the world. In fact, the building and completion of nuclear power plants in the United States has essentially ground to a halt at this point in time. My concern is that because of a number of factors and I think the witness has alluded to them, because of a lesser demand for fuel right now in the world, because of some of the questions as to the safety of nuclear power that there is less demand.

The fact is the organization obviously wants to continue, obviously is looking for other ways to diversify their products. My concern is that if you are dealing with a relatively undeveloped area of Canada, and of the world, with a small population, there might -- and I emphasize, I am just raising a little caution here -- there might be a tendency to try experimental projects in this area rather than in a more heavily settled area. There might be a tendency of the federal government, which is trying to co-operate with the American government right now to agree that the northern DEWline sites to start off with, might be a viable place to actually accelerate this particular program. It might be a place where experimental technology could be used which would not be used in a more heavily populated area. I am not saying that is the case, but I am saying that before I, for one, could ever agree to having this sort of technology in the North, I would have to have those questions answered.

But on to a more specific point in your brief, on page four you mention that when uranium is no longer usable, it is taken away to the South for storage and replaced with fresh uranium. Now, has that been thought through? At this point in time, is there a safe method for transporting and disposing of uranium material after it has been used?

CHAIRMAN (Mr. Pudluk): Thank you, Mr. Ballantyne. Mr. Dmytriw.

Status Of Nuclear Industry Internationally

MR. DMYTRIW: Thank you, Mr. Chairman. Just to comment on the health of or the status of the nuclear industry internationally. It produces now 12 per cent of the world's electricity. In France, about 65 per cent of the country's electricity comes from nuclear energy. In Sweden, this is up in the high 20s. In Japan, it is about 20 as well. The Member is quite correct in saying that in the United States the program has suffered a very severe decline; that has happened for a number of reasons. But internationally it is still seen as being a very major component of meeting international energy requirements.

As to the question of this being an experimental technology, I mentioned in the briefing that these systems already exist in six Canadian universities and that the first scaled-up version will be built at the research centre in Pinawa. There it will be tested and there its operation will have to be observed and licensed by the Atomic Energy Control Board which is another federal organization. All these processes have to be completed satisfactorily before we could even think of proposing them in other locations. There is no involvement with the United States in developing this technology, for in Canada it has to be done under Canadian regulations, according to Canadian rules, supervised by Canadian regulatory agencies. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Pudluk): Thank you. Mr. Ballantyne.

MR. BALLANTYNE: I will just make one point. I know other Members have questions they want to ask. The witness has said that in fact the nuclear industry is still healthy in parts of the world, in Europe and in Japan. He also agreed with my comment that in the United States it is not healthy. But I guess a question has to be asked in the Northwest Territories, in an area that has other sources of energy, where we have large reserves of gas and oil, where we have the possibility of wind technology. That makes us I think a little bit different than France or Japan, who do not have those alternate sources of readily accessible energy. I guess the question that has to be asked here is if we do have tried technology, tried forms of energy, hydro, oil, gas, solar and wind, why should we introduce nuclear technology? I think that is a fundamental question that has to be answered.

CHAIRMAN (Mr. Pudluk): Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. I am in complete agreement with that statement. If there are sources of energy that can be used which are more economical, which are more desirable for the situation in which they are needed, then certainly those sources should be used. I do not for one minute suggest that nuclear energy is the answer to everybody's energy problems. I am simply saying that we have in this Canadian development, a technology which is applicable, which can be used, in certain situations. If one of those situations or a number of those situations occur in this area, we are prepared to make that available. If it is not applicable, obviously nobody wants to use it and we would not recommend that it be used in those situations. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Butters.

HON. TOM BUTTERS: Thank you, Mr. Chairman. I too, would like to thank Mr. Curley for ensuring these witnesses are available for debate. As he points out his department is seeking alternate sources of energy which would be more economical and more practical. And I for one, with regard to nuclear energy would love to believe you. I would love to believe the words in this paper but I guess I am disturbed by the fact that you tell me in the paper that the developments have not been fully tested, and then you describe this wonderful piece of equipment that goes working through the Arctic night with nobody attending it for months or years or whatever. Then you show diagrams of a system which has pumps and various other things that have to go around or move backwards and forwards and I cannot accept the two statements.

Application To Inuvik

I will just get my other question off at the same time. As I say, I would like to believe you because next week Mr. Curley will be presenting this government's position to the National Energy Board raising a concern at the proposed increases that could occur in many communities in which diesel generated power is provided to residences and businesses. In my constituency, Inuvik, we are looking at an increase of between 60 and 70 per cent if the National Energy Board's recommendations are to be accepted. Obviously it makes living almost uneconomic, at least any type of independence almost uneconomic if that situation continues to occur. So I just wonder whether one of the communities considered in the paper -- I think some 30 or so were considered where there would be a saving of 30 per cent, whether Inuvik was one of those communities. Maybe I could have a few comments from the witnesses as to how it might be implemented in Inuvik.

CHAIRMAN (Mr. Erkloo): Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. I will ask Mr. McDougall to comment on the economics. Before I do that, if I may Mr. Chairman, comment on the wonderful machine as Mr. Butters kindly described it.

The fact that there are pumps there -- well, let me start with something else. The system is indeed designed to operate unattended as he described. The uranium fuel, down at the bottom of the pool, heats the water. The hot water will rise, of course, and so by doing that, you have a circulation that is established in the pool of water. Warm water is being brought up to the top of the pool and is being drawn off for use.

You will also notice in the diagram that this is at temperatures which are below the boiling point of water and because water is not boiling, these are systems that are the same as those that are found in normal hot water heating systems that exist in homes now. It is comparable to the hot water tank that there is in your house as far as the system pressure goes. The water is a little bit hotter but because it is below boiling, it does not have any high pressure systems that could rupture and cause any more damage than the hot water system in the house. So, the concept between this and the large reactors that produce electricity, that I talked about earlier, is very, very much different. There is no comparison between the two, other than the basic science that makes each of them work is about the same. But the system itself is very much different. Mr. Chairman, if I may, I would like Mr. McDougall to answer the question about economics.

CHAIRMAN (Mr. Erkloo): Mr. McDougall.

Competitive With Fuel Oil

MR. McDOUGALL: Thank you, Mr. Chairman. Regarding the savings rates that are quoted in the presentation, we collected data from the NCPC. We did not deal with specific communities because of the difficulty of assessing the cost of distribution of the heat within a community. The numbers were derived by making a general assumption about distribution costs and comparing those to the range of the cost of fuel across the Northwest Territories. We concluded at that time that we cannot be competitive in the presence of natural gas. We cannot be competitive in the presence of good electricity. But we felt that there were numerous locations where we could be competitive with fuel oil. The assumptions used on fuel oil did not include any inflation factor that might come about over the next 10 or 20 years. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. McDougall. Mr. Ballantyne.

Transportation And Disposal Of Nuclear Wastes

MR. BALLANTYNE: I am just asking a question that was not answered before and this is my last one. I had asked Mr. Dmytriw if they have developed procedures for safe transportation and disposal of nuclear fissionable material and I was not given an answer. That is why I am asking it.

CHAIRMAN (Mr. Erkloo): Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. My apologies to the Member. I did forget to answer that question. Fuel that comes out of reactors all over the world is at present shipped across oceans, across countries. There is a great deal of shipment of this material. It is accomplished by putting the fuel in a very strong container which has to pass international design requirements. These containers receive very severe testing. For an example, both the United States and Britain have tested containers by loading them with fuel, putting them on the back of a truck, parking the truck across a railway and then running into the container with a locomotive at 80 and 82 miles an hour. The integrity -- the container was not damaged to the extent that it would release materials within it. Other tests have been done which included dropping the containers from helicopters onto hard desert surfaces, running trucks which contain the containers, obviously without a driver but using rocket power, into huge blocks of concrete. They are also immersed in a bath of jet fuel and the fuel is then ignited and allowed to burn for half an hour, after which time the container is then dunked into a pool of water. In all these tests, it must be shown that there is no leakage of the material that is within the container. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Dmytriw. Mr. Ballantyne.

MR. BALLANTYNE: Just a supplementary to that. Obviously conditions in the North are very different from other areas of the country and of the world. We are talking about isolated communities where the only option of transportation would be by plane, barge or train through very difficult conditions. Have the procedures for transporting material been tested under northern conditions, the sort of conditions one is likely to find in the North if the technology is introduced?

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Ballantyne. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. I am not aware of the tests that were done under northern conditions. I am only aware of tests that were done to simulate the kind of situations in which an accident might occur. I guess the thinking in doing that was that it really does not matter in which part of the country the accident occurs but, no, I am not aware that any tests were done specifically under northern conditions. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Dmytriw. Mr. Gargan.

MR. GARGAN: Thank you, Mr. Chairman. You mentioned, Mr. Dmytriw, that there are now 80 countries using radiation to address cancer. I guess what you didn't mention is that, also the production of the raw material also does produce cancer.

Problems With Permafrost

I just wanted to mention, with the diagram you have here, that in the North we do have permafrost. Even with the containers being in cement or steel or concrete walls they will still heat up those materials. That would cause shifting of the concrete blocks or whatever. Although there are no movable parts, it still could actually cause punctured pipes, could it not?

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Gargan. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. Yes, that is quite correct. If heat from the hot water passes through the walls of the container and begins to melt the permafrost then the Member is quite correct, there would be some movement. One of the things that we intend to do in the demonstration unit at Pinawa is to put temperature sensors around the outside of both the inner container and the outer container to assure ourselves that the kind of insulation that we will be using will prevent heat from moving out and affecting the permafrost. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Gargan.

MR. GARGAN: I just wanted to refer to a concern that was expressed, I believe it was last year, in regard to Rayrock mine. There was quite a bit of concern by the community of Fort Rae with the possibility that the rock has been causing some health hazards. The community itself had requested an independent body to do some studies into that area. This has been denied, I believe, by the federal government and I am just wondering if you were aware of that situation that occurred at Rayrock mine.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Gargan. Mr. Dmytriw.

MR. DMYTRIW: Yes, thank you, Mr. Chairman. I am aware, because people have mentioned the study and have mentioned the Rayrock mine. I am aware of the situation but I regret that I am not capable to discuss that area. Our company does not do work in that area and I regret but I can't give the Member very much detail on that. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Gargan.

MR. GARGAN: Could it be possible, then, that the reason why this independent study couldn't be done is that it might jeopardize the promotion of this SLOWPOKE?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. I am sorry, I just don't know. I have no knowledge of how the study is progressing or whether it has been retarded, and if it has, by whom. I am sorry, I cannot give the Member an answer to that question. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Dmytriw. Mr. Patterson.

HON. DENNIS PATTERSON: Yes, thank you, Mr. Chairman. I would just like to make some general comments if I may. Firstly, I would like to thank as well, the Minister of Economic Development and the witnesses for allowing us to discuss this very important topic. I think it is fortunate that we have, obviously, quite a bit of time to consider how we deal with this vital issue. Mr.

Chairman, I was a bit surprised to hear the witness say that the nuclear industry is alive and well. As I understand it just last week over 500 of the CANDU design engineers of Atomic Energy of Canada were fired and the reason that they were fired is that no one has bought a CANDU reactor since 1978. I think the reason for this is that people do not want to buy nuclear reactors.

Earlier Assertions Are Difficult To Believe

Many years ago we were told that nuclear power was safe, clean, cheap and necessary. I think many people believed those assertions but since then we have discovered that it is not necessarily safe but, in fact, Three Mile Island showed it is inherently dangerous, that it is not clean, it produces the most toxic wastes known to man and that it is not necessarily cheap but rather incredibly expensive, particularly if you look at the cost of decommissioning and storage and transportation of waste. And I would really wonder if that has been factored into the economic analysis that has been discussed here.

In other words, Mr. Chairman, I believe that some people now know that these assertions are difficult to believe and I must say, with all due respect to the witnesses, that having dealt extensively with Atomic Energy of Canada during the debate on possible hazards of uranium exploration and mining in the Northwest Territories, they have not, in my view, established a very high degree of credibility at all. I cite, for example, the recent example of the Pickering reactor, just outside of Toronto. AECL was involved in the basic safety analysis for the plant, although I know it was built by Ontario Hydro. Back in 1980 we were told a pressure tube would not break, it would give at least some warning by first leaking, but then the impossible happened in 1983. The pressure tube ruptured without leaking and there was a very expensive shut-down of both reactors for four years, cost of repairs $700 million.

The examples abound, really, of very serious accidents, including the first two sizable reactors at Chalk River in 1952 and 1958; the Douglas Point plant which has now been totally shut down and mothballed after radio-active contamination safety problems; Gentilly I reactor in Quebec had only operated 180 days and was mothballed; just last November, a CANDU reactor in Korea had a large radio-active leak and has been shut down for months; there was a pipe break at a CANDU reactor in India which resulted in a three year shut down, etc. I think we have to listen very carefully to representations from AECL about safety.

SLOWPOKE-3 Compared With Tiny Reactors

Secondly, Mr. Chairman, I am concerned about the assertion that the SLOWPOKE-3 which is proposed is merely an extension of the tiny research reactors that are on university campuses in Canada. Those are the SLOWPOKE-1 and SLOWPOKE-2, I understand, and they have been used simply to generate neutrons for scientific experimentation, not production of electricity and heat. I understand that this SLOWPOKE-3 is about 100 times the power of those tiny reactors at universities, and I really question whether something 100 times as powerful, whether it is possible to say that the experience from the very tiny ones can be used to predict what something 100 times that size will do.

Also, there is no circulation of fluid in the ones on universities, as I understand, but this reactor involves the circulation of fluid and it makes the entire machinery, I believe, much more complicated. You have all of the problems that plague large nuclear reactors, that is, leaky pipes, corrosion, pumps failing, sticky valves, radio-active leaks, etc., problems which I acknowledge we do not have in the small university reactors. Secondly, the core in the SLOWPOKE-3, I understand, is very much larger. The possibility of overheating under accident conditions is much greater and in a situation, for example, where the water might leak from the core and this, of course, causes large releases of radio-activity.

Disposal Of Wastes

Finally, Mr. Chairman, just generally, I am very concerned about spent fuel that must be removed and buried because we know that the radio-active waste is very radio-active and cannot be handled except with remote control equipment. It must be packaged in a very heavy and elaborate shipping container. I wonder if the folks down south are really willing to accept this radio-active waste from the North. I wonder if we have adequate or if we even have standards for transportation of nuclear wastes in the Northwest Territories and in Canada. If we are not going to send the stuff down south, how much is it going to cost to build a radio-active disposal site in the NWT and can it be even done, given permafrost and the heat that is given off by spent fuel for centuries? The same questions can be asked about decommissioning the reactor.

Use Of Enriched Uranium

Just one final general comment, Mr. Chairman, I understand that this reactor unlike the CANDU which uses raw, natural, unenriched uranium, this reactor, the SLOWPOKE-3 uses enriched uranium as a fuel. I understand it is about five per cent enriched. This fuel supply must come from the US because Canada does not have an enrichment plant. I am raising a moral question, Mr. Chairman, because I understand the primary purpose for these enrichment plants is the nuclear weapons program. It is no accident that the only countries in the world that provide uranium enrichment are the big nuclear weapon countries: the USSR, USA, France and Britain. They need these enrichment plants for their military programs and they have them running to produce warheads for their nuclear arsenals. So, it is suggested why not make some money on the side by enriching uranium for civilian uses. I believe that the only reason there is enriched uranium which can be used in these SLOWPOKE-3 reactors is because there is a nuclear weapons program. We are being asked to support a device which uses enriched uranium and, in effect, to piggyback on the bomb program and I have some concerns about the moral implications of that. Those are my general comments, Mr. Chairman. I do have a few specific questions but I will let other Members comment. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Patterson. Mr. Dmytriw, do you want to make a comment?

MR. DMYTRIW: Thank you, Mr. Chairman. I wish I had about two hours to deal with those comments alone. They deserve very thorough consideration and they deserve good answers. In the short time that we have it is going to be difficult to do that but may I start by commenting on safe, clean and necessary. There is a perception internationally that nuclear energy is very hazardous. When the record is considered, when you look at the actual number of people who have been injured, when you compare those numbers to the level of hazard that is faced by the oil industry, by people in the oil industry, by coal miners, you find 70 some people have died as a result of the Ocean Ranger disaster; you find 200 people killed in a gas explosion in Mexico; you find hundreds of miners each year being trapped underground in mines in Japan, in India, in Canada. When you look at the consequences of Three Mile Island, despite the fact that it captured headlines all over the world and still does, there is not one injury, let alone death, not one injury that can be attributed to Three Mile Island and that is the record internationally. Studies of health of people who live around these sites by competent health authorities show the same results. There are no attributable health consequences. Members need not take my word for it. There are many, many impartial studies.

Statistics On Costs From Ontario Hydro

Reference to costs, the only numbers that I can offer are those that come to us from utilities, from people who operate these stations. Ontario Hydro tells us that the electricity cost from their generating stations, from their nuclear generating stations is 1.8 cents per kilowatt hour. From their generating station at Niagara Falls it is 0.6 cents per kilowatt hour, one third of the cost of the nuclear stations. From their coal fired plants the cost of electricity is 3.5 cents per kilowatt hour which is nearly twice the cost of the electricity that comes from nuclear stations, and that 3.5 cents per kilowatt hour includes moneys that are being set aside to take apart the plants when their lifetime is over and to dispose of the used fuel that comes out of those reactors. Those are numbers from Ontario Hydro.

As to the question of Pickering, the safety analysis, the research company of Atomic Energy of Canada Limited, was aware that those pressure tubes would have to be replaced. Ontario Hydro knew that those pressure tubes would have to be replaced. What happened was that they are being replaced sooner than they ordinarily would have been or that we expected they would have to be replaced. They are being replaced with a different material which was used in all of the rest of the reactors built after the first two. We expect that they will perform much better than the material that was used in those two reactors.

There are many other points, Mr. Chairman, the question of the enriched fuel I guess seemed to be fairly important. CANDU reactors do not use enriched fuel. But perhaps rather than talking about CANDU, I recall now some points that should be addressed on the question of the SLOWPOKE reactors and perhaps I should deal with those first.

The Member is quite correct in saying that the heating reactor as proposed would be larger and would produce more energy than those at universities now. Those reactors at the universities do produce some heat and the circulation of water in those reactors is identical to what would happen

in the SLOWPOKE reactor. The only difference is that in the case of the system in which both heat and electricity are produced, there would be added some pumps at the bottom of the pool to aid the natural circulation. But there is the same natural circulation of water in the pool of the research reactors as there would be in the heating reactors.

One final point if I may, Mr. Chairman, there is absolutely no intention and we would not offer this service if we had to do this, but there is no intention to find disposal or storage sites for this fuel at the reactor location, that is at the location of the SLOWPOKE or the heating and electricity reactors, small reactors. As we are designing that reactor, we are also designing the transportation systems that would take the used fuel out of the reactor and bring them for storage to locations that already have fuel stored in them, such as our research site or some other location. So I can assure everybody here that we would not be looking for storage or disposal sites at these reactor locations. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Dmytriw. Mr. Wray.

Nuclear Technology In Northern Areas

HON. GORDON WRAY: Thank you, Mr. Chairman. You mentioned that you do all your research at Pinawa. However, northern building construction conditions are much different from that of anywhere else in the country. Even to date we still have not been able to resolve many of the problems surrounding permafrost and the shifting of buildings. In fact I think it is safe to say that this government, which probably owns the most buildings in the North, does not have one that has not shifted significantly even though we are putting those buildings on piles down to bedrock. There is much more than just heat coming out of the buildings that is a problem, it is just that the ground itself is continually moving. I am just wondering if you are aware of any other countries with a northern climate similar to ours, such as the Soviet Union, Sweden, Finland, any of those countries, if they have developed any nuclear technology in their northern areas or whether they are even doing any research in the northern areas. I have supplementaries, but that is my first question.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Wray. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. Yes, there are reactors that are used in northern type countries. Whether those conditions are identical to ours, I do not know. I have not seen engineering studies on that. Certainly, Sweden has had reactors which were used to heat some apartment blocks. That is not any longer in operation. Finland has also done the same. There is quite a large program in the Soviet Union to provide district heating using reactors. I am afraid I have not looked at that information in some time and I cannot recall what type of reactors those are and whether or not they are built in permafrost conditions. But certainly countries have used this idea in conditions that I assume would be similar in northern Canada, but I am not certain of that. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Dmytriw. Mr. Wray.

HON. GORDON WRAY: Thank you, Mr. Chairman. I guess I just want to express my concern because one of the problems that we have encountered as a government and as a people in the North is that research done in the South, and I can name several examples of simple research which you would think would not cause problems like highway surfacing, the building of roofs, etc., which are, by and large, technology that has been with us for decades in the South, has simply not worked in the North. Our environmental, our geographic and our climatic conditions are so vastly different to anything which the South experiences, we would really not take into account research that may be done in the South.

My concern is that the only way we are ever going to find out if in fact there would ever be problems with something like a SLOWPOKE in the North, would be to actually build one. And I for one do not particularly want to see the North used as a guinea pig because we have enough problems up here. That is why I was very concerned if in fact any research has been done in technology in other countries because I would much prefer research to be done there than here.

---Laughter

AN HON. MEMBER: Hear, hear!

MR. MacQUARRIE: Reap the benefits after the fact.

HON. GORDON WRAY: Exactly. One question to the representative from AECL and it is a purely constituent question. I represent the community of Baker Lake which probably has one of the richest deposits of uranium known to exist in the North. Now I am aware that AECL was working with the Daiwoo Power Corporation of South Korea, who are involved with Urangesellschaft in an attempt to sell them CANDU reactors, and I am wondering if in fact you can advise me on the status of those negotiations or if in fact they are going to go ahead and is a precondition of that sale a guaranteed source of uranium for the South Koreans?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. No, I do not know about those negotiations in respect to uranium supply. I am sorry, I do not know whether the question of uranium supply is included in the negotiations for sale. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mrs. Lawrence.

MRS. LAWRENCE: (Translation) Thank you, Mr. Chairman. The paper that we have in front of us, I would like to question you about that. We have a lot of visitors from the South and I would like to thank these two witnesses for coming and presenting the paper to us. I am from here, I was raised here but a lot of people have come from the South, they always come and bring the papers and say we are going to see how it is going. I know they think they are doing a good job the proper way it should be done. Sometimes we believe them but it is not right and we suffer from that. Some of the other Members have already questioned them but I would also like to ask a few questions. I missed some of the comments. It seems too good to be true. Where do you get your uranium from?

CHAIRMAN (Mr. Erkloo): Mr. Dmytriw.

MR. DMYTRIW: Whether our fuel comes from Saskatchewan or from Ontario, I do not know. We buy it already made up as fuel that goes into the reactor and I do not know where the uranium itself comes from. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Dmytriw. Before we carry on with more questions, I would like to remind the Members that there will be a full caucus meeting at 4:00. We will have a 15 minute coffee break.

---SHORT RECESS

The committee will come back to order now. Mr. Gargan.

Nuclear Waste Sites

MR. GARGAN: Thank you, Mr. Chairman. I would just like to ask Mr. Dmytriw if there are any permanent nuclear waste sites now presently in Canada?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. There are storage sites for the waste but there are no disposal sites. The difference between the two, at least the way we use the words, is that when we store waste, we expect to be able to move it from one location to the next. When we dispose of it, it will be emplaced in such a way that you would not normally expect to move it and in Canada now there is research that is under way to design or to find ways of disposing of the waste but there is not a disposal site in Canada and there are none anywhere in the world. There are only storage sites. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Gargan.

MR. GARGAN: In other words, there are no permanent nuclear waste sites in Canada or around the world. My other question is that I know that in your statement too you said that you would probably look at whether communities in the North with populations larger than 500 people could benefit from this new energy. It is not the government's policy but it is certainly a practice

right now not to have water and sewage systems implemented in communities where there is a population of less than 1000 because it is uneconomical. With your SLOWPOKE reactors, using the reactor for electricity and heat for heating homes, there would be a tremendous amount of capital costs just to implement it. So, when the reactor is producing cheaper electricity as opposed to the tremendous amount that it is going to cost in capital expenditures just to implement it, do you think it is feasible even to consider having that type of energy implemented up here?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. May I ask Mr. McDougall to answer that question?

CHAIRMAN (Mr. Erkloo): Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. The number of 500 is an arbitrary number set because we think it unlikely that we could provide fuel at a competitive price with communities smaller than 500, precisely due to the points that you have just raised. The reactor has a high capital cost and we need considerable amount of electricity and heat produced in order to get the costs down to a competitive level. Now, the reason that I say 500 is a guess, is we have not specifically examined any community and until we do specifically examine a community and its particular mix of electricity and heat, we cannot tell. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. McDougall. Mr. Patterson.

Testing Experimental Model In NWT Communities

HON. DENNIS PATTERSON: Thank you, Mr. Chairman. I asserted in my general comments that we are talking about the SLOWPOKE-3. The statement does not clarify that and I would like some confirmation that indeed this is what is being discussed because I have some questions about the more technical aspects of the SLOWPOKE-3 if that is what we are talking about. I understand that these reactors are only on the drawing board and that not one has actually been built. I would like that confirmed as I think we are talking really about an idea rather than an existing machine and I do feel that really what we are proposing is that the testing and the experimentation be done for the first time in the NWT communities. If something does go wrong then our experience will be chalked up by the engineers and they will try to design the next one better. I have to ask, what happens if something goes wrong and these reactors are unmanned? When we look at the experience with design failures in Pickering and other AECL reactors, I wonder whether it is an advantage to have them unmanned and I also wonder whether in small, isolated communities whether you have ever considered the possibility of the human resources that might be available on short notice to deal with a possible disaster? Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. Patterson. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. Yes, I think the Member is correct in saying that we are talking about an idea rather than a developed machine. To clarify the matter of the terminology, SLOWPOKE-3 refers to a heating only unit. SLOWPOKE-4 would refer to a heating and electricity unit. Anything below number three refers to research units. The unit that we are building at Pinawa is a SLOWPOKE-4 and, again, I would like to emphasize that we are not -- that this unit is being built in Pinawa. Before we would even think of building it anywhere else, we would need to understand, we would need to be assured and so would the regulatory agency that the safety characteristics that the designer tells us will exist in the system will actually be in the system when it is operating. There is no need to use other locations for testing, if you like. That can all be done at the site in Pinawa.

I would also like to say, Mr. Chairman, that the comparison between Pickering and SLOWPOKE is completely inaccurate. The only thing that the two have in common is that they use uranium fuel. The SLOWPOKE system does not have a pressure system, it is not pressurized like Pickering is, and the kind of problems that Pickering had with the breakage of the pressure tube which we discussed in an earlier question cannot happen in a SLOWPOKE, simply because there are no such things in a SLOWPOKE. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Patterson.

HON. DENNIS PATTERSON: Thank you, Mr. Chairman. I do acknowledge that they are quite different reactors in scale, but the one thing that I believe they have in common that is significant is that it is the same company, and their design and safety record is quite flawed in my view.

Safety Analysis And Issue Of Licences

Mr. Chairman, I would like to ask specifically how big the core of this SLOWPOKE-4 reactor is? I believe it is SLOWPOKE-4 that we are considering for the North if it is the electrical model, and whether or not detailed design specifications and detailed safety analysis are complete and whether they could be made available to this Legislative Assembly or perhaps our Science Institute? I guess I have one other sort of technical question I may just put in there. Has the Atomic Energy Control Board approved the safety mechanisms of the SLOWPOKE-3 and has the Atomic Energy Control Board given a licence for the sale of SLOWPOKE-3 or SLOWPOKE-4, and if not, why not? Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. I think it might be worth while observing that it is true that the same company that designed Pickering is also designing SLOWPOKE. It is also I think relevant to point out that that same company has designed cancer therapy units which have added 13 million person years of life. I think it is also relevant to say that that same company produces radio-active materials which are used in diagnosing illness to the extent of 10 to 12 million times a year in Canada and to the extent of 300 million times a year in the world. So there are many aspects of this company's activities.

The detailed safety design of the SLOWPOKE system is not available because that is done in the design of the unit and the Atomic Energy Control Board licenses various steps of the process. They first of all issue a construction licence, then they issue a licence to begin the systems and finally they issue a licence which says that you can go into operation and they also license that operation at various stages, that is, at various power levels. We will have to go through that approvals process as the design and the construction of the system continues. But obviously we have not started the construction yet. We have drilled some holes for foundations but we will not have the operating licence until some years down the road when the system is ready to operate and the control board is satisfied that it will operate safely. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Patterson.

HON. DENNIS PATTERSON: Just a supplementary, Mr. Chairman. I wonder if Atomic Energy Canada would be willing to make a commitment to provide the detailed design specifications and detailed safety analysis to our government or our Science Institute when that work is done. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. All that information does have to be provided to the Atomic Energy Control Board, and the Atomic Energy Control Board does make that documentation public. So that documentation will be available to the public. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Richard.

Reactors As Source Of Economical Energy

MR. RICHARD: Thank you, Mr. Chairman. Mr. Chairman, I with my colleagues here share some of the scepticism about the safety features and also I am perhaps more concerned about the representations as to the economic aspects. Perhaps I could ask the witnesses if they could explain for me why you were able today to say that the heat or electricity that might be provided by these reactors in our northern communities would be cheaper. I quite frankly am sceptical of that, as to what calculation you have done at this stage. You, I believe, are telling us that there are still some design features to be done, various licences to get at the construction, at the safety phases. If that is not done, how can you ball park what the cost is going to be? Being naive in matters of nuclear technology and also naive in matters of economics, it does, however, occur to me that if your company were to produce 10 of these reactors instead of 10,000 of them, the cost is going to be different on the per unit basis for a given community. I take it that you do not know how many of these you are going to produce and therefore what the economy of scale might be. So that is a second unknown that I would think you do not have in order to do these calculations.

Thirdly, if my recollection serves me right, as reported in the media over the years, AECL has received hundreds of millions of dollars of Canadian taxpayers' money developing this technology. Presumably those hundreds of millions of dollars have been written off. But were they taken into

consideration when you calculate the cost of providing a reactor to a northern community? Because if not, I think it is misleading to just forget about those many, many dollars that were written off -- public moneys. So, Mr. Chairman, I wonder if the witnesses might respond to those comments.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. I too find technology quite understandable but I am afraid that when it comes to economics, I am at a loss so if you do not mind I would, again, like Mr. McDougall to deal with the economics question. Perhaps I might say in the question of the contribution of the federal government toward the development of this technology, the numbers that I have say that the government has spent three billion dollars over the past 35 years, or whatever it has been since AECL was formed, in developing the technology in Canada and the economists also tell me that in that same period the nuclear industry -- this is broader than AECL, this includes the mining people, the people who manufacture the fuel and so on -- that they in turn have contributed $30 billion to the economy of Canada. If Mr. McDougall might now deal with the specific economics, Mr. Chairman, I would appreciate it.

CHAIRMAN (Mr. Erkloo): Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. The Member has raised some very good questions. The economics involves a lot of forecasting. Forecasts are very often wrong but if you are going to make any progress you must, at some point, narrow down your assumptions, narrow down your estimates, and then determine whether it is feasible or not to go on to the next step.

In the question of the cost of the reactor, the design, the installation, the transportation of fuel, the decommissioning, our design engineers have done estimates and have got the cost such that we can be positive, and this is engineering terms, that we are plus or minus 30 per cent on the cost of the reactor. The economy of scale then raises a very, very significant issue and we have to determine, realistically, whether the sale of a very small number would make the demonstration program very feasible. The demonstration program is not inexpensive so that is a major decision for the company to take.

To get on to the third point, the Member is again quite correct. It is not appropriate, in my opinion, to pretend that the research and development costs have not taken place. Those are real costs that have to be fact again. It is with these three parts of the cost, summed and then compared to the cost of fuel in any location that is remote -- it does not have to be north, just remote from a grid or natural gas -- that AECL determines that further development through the demonstration program made sense. Again I agree it would be misleading to state that at any specific point on the earth we can be competitive without investigating that specific site and without having the reactor built. All I can say is that at this point in time we believe that we can be competitive. We believe it is worth investigating. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. McDougall. Ms Cournoyea.

Problems Of Northern Construction

HON. NELLIE COURNOYEA: Thank you, Mr. Chairman. I just want to say something about a statement that the conditions that such a facility would be built would be probably not necessary for testing except in Pinawa. With the unit going in place there that would take into consideration whether it works or whether it does not. I do not really have a question but I would like to say a couple of things.

First of all, with the way the unit is constructed there would be major problems in terms of dealing with permafrost heaving. I do not believe that with all the studies that have been going on in the Northwest Territories and other places with a heavy permafrost content in their soils that they have even overcome the problem of simple housing units put on pilings receiving to some degree or another permafrost heavage. I would like to make it clear that if the structure is sound in Pinawa it does not necessarily mean that it will be sound in the permafrost areas.

The second point is that in terms of the delivery, using the unit for heating mainly, you have a utility line or a utilidor line. Certainly with the cost estimates that have been brought forward for mainly water, utilidors are very expensive and there are very few communities in the Northwest Territories that have running water and sewage. Most of the communities in the Northwest

Territories are still on the pump-out system and the water delivery system. The cost estimates to provide utilidor service to many of the communities have been deemed prohibitive by this government and by the federal government. Therefore, I believe that if you are doing cost estimates that you may be able to put up a unit if you could overcome the permafrost problem, you would as well have to overcome the high cost of providing a utilidor or conduit to the communities. I believe that in terms of the water and sewage problems in most arctic communities the cost of even providing that utilidor now is probably a lot less than it would cost to bring in the expensive generator.

So, I think in regard to the presumptions in the paper that it is similar to a unit that would go into Pinawa, I think there are a lot of areas that we would have to consider, even very basic ones, in providing simple conventional services to communities. We have not overcome these problems ourselves and I feel that it is very premature to say that it is similar to a southern community. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw, did you want to respond?

MR. DMYTRIW: Thank you, Mr. Chairman. Well, I cannot help but agree with the Member. There certainly are those engineering problems that have to be looked at and have to be resolved. If they cannot be, then obviously the units would not be used where there are conditions of permafrost. Well, I think the Member has made very good observations and I cannot disagree with what she has said. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Patterson.

Budgeting Of Costs

HON. DENNIS PATTERSON: Mr. Chairman, again with the greatest respect to the witnesses, I would like to challenge them on the record of Atomic Energy Canada in building reactors within budgets. I would like to specifically ask about whether there were cost overruns on the Lepreau, New Brunswick reactor; whether it is not true that the Gentilly II reactor was estimated by AECL at $400 million and cost $1400 million -- now the most expensive source of energy in Quebec by the way. I have to really ask these questions in light of the assertion that the error rate was going to be plus or minus 30 per cent.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. The Member raises an issue that, if we are fortunate enough to reach a point where we would be dealing directly with you on a specific site, we would have to negotiate an arrangement that was satisfactory to both parties and I believe that any concerns over cost overruns, total cost of the system, etc., would be dealt with at that time and hopefully to the mutual satisfaction of both parties. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Patterson.

HON. DENNIS PATTERSON: Mr. Chairman, I would like my question answered. Has the AECL not had a very poor record to date at least in the examples I cited in predicting costs and meeting those predictions? Thank you.

CHAIRMAN (Mr. Erkloo): Mr. McDougall.

MR. McDOUGALL: I am sorry, Mr. Chairman, thank you. I cannot comment on the performance of Gentilly or the Lepreau II. I presume that the Member has information that is correct. The Ontario Hydro which works closely with AECL on the development of the reactors at Bruce, Pickering, Darlington, etc., has put these reactors into place at a cost and with benefits that they are quite satisfied with. Again, to get back to my previous answer, I believe that the most appropriate approach in this case would be to deal with the concerns, provide guidelines or provide guarantees, I guess, that would satisfy the Member's concerns. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Patterson.

Decommissioning Of SLOWPOKE

HON. DENNIS PATTERSON: If I may, Mr. Chairman, just one other question on cost. I know these SLOWPOKE reactors do not last forever and I would like to ask, what is the lifespan of a SLOWPOKE? How does one decommission a SLOWPOKE and have these costs of decommissioning been calculated and have they been entered into the cost-benefit analysis that has been undertaken? Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. The costs have been included in the calculation. As the Member points out, it is very important to make some assumption regarding the lifetime of the reactor in order to come up with a cost that can be compared to oil. We have also included in our cost, our best estimate of the cost of decommissioning and the transportation of the decommissioned fuel back to a southern Ontario location, or at least a southern Canada location. The time period that we are using in these calculations is 20 years. Our experience with reactors to date would indicate that that is probably quite conservative and a number up to 50 per cent larger is not out of reach. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Patterson.

HON. DENNIS PATTERSON: I certainly do not want to dominate the questions, Mr. Chairman, but I did ask a question about how one decommissions a SLOWPOKE reactor. I also asked an earlier question about how big the core of this reactor is compared to the research SLOWPOKES. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. The amount of fuel is 200 pounds as is indicated in the document that you have before you. In terms of decommissioning, the approach that would be taken is that we would remove the fuel -- once the reactor ceases operation, all the fuel and any material that is considered waste and potentially harmful would be collected and would be put into flasks as have been described earlier by Mr. Dmytriw. The flasks are designed to ensure that no harm would come to anybody who is adjacent to the flask. The AECB, the Atomic Energy Control Board, takes great care in the licensing of these flasks and in the transportation methods that are used. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Patterson.

HON. DENNIS PATTERSON: Thank you, Mr. Chairman. I got the answer about the weight of the core but I did not get an answer as to how this compares with the core of the research reactors and while I am on this subject of the core, I would like to ask this question, if for some reason all the water were to completely drain from around the fuel core in this unmanned reactor, would the core not overheat? Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. I am sorry I missed the point about the comparison. The SLOWPOKE-2 has 800 grams of fuel. In terms of the situation where, through some way or other, we would have all the water drain out of the pool, we have done preliminary tests on the heat build-up that would take place in the reactor in this situation. These tests show that air cooling, that is, the air that replaces the water would suffice to prevent any damage to the fuel. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Mr. T'Seleie.

Effects On Human Health

MR. T'SELEIE: Thank you, Mr. Chairman. I want to say by general comments that we have, I think, two experiences with the substance that is called uranium. One is on Great Bear Lake and the other is at Rayrock. It seems that this substance is a cancer-causing substance and I would like to ask the witnesses what do they know about the effects of this substance on human health and why is it that if it was not a dangerous substance that they have to be so careful with the waste that comes from these reactors?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. There is no question that uranium and other materials that it contains, radium for example, are or can be harmful to human health. That evidence is very clear from old uranium mines and the Member mentions Rayrock and Great Bear Lake. There was also a study done in Ontario which showed that some miners who worked in the early uranium mines suffered higher numbers of lung cancer than people in the general population. I am not suggesting and neither would anybody else suggest that there is no hazard to this material. We all know that there is. An important point is that -- I mentioned that these were in the old mines. I know from reports that I have read that, particularly in the Great Bear Lake mine, ventilation was not as good as exists in mines today. The conditions under which the miners worked were not supervised as strictly as they are today. So under those conditions there was some damage to the health of the miners. Everybody knows that that happened and today the agencies that are responsible to protect the health of the miners monitor those situations much more carefully and have, as well, set down regulations that are many times more strict than existed 25 years ago or so.

I think with the fact that this knowledge exists, people are much more careful to ensure that there are not harmful health effects to people working in the industry. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. T'Seleie.

Transportation And Storage Of Nuclear Wastes

MR. T'SELEIE: Thank you, Mr. Chairman. I would like to ask the witnesses, because we know that there is no permanent solution for storing nuclear wastes, I would like to ask them where they plan to store the waste from the SLOWPOKE-3?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. There is no place that has been developed in which used fuel or waste can be put. There is a great deal of understanding about how that should be done. And as I mentioned earlier there is a very large research program in Canada that is now designing the ways in which the fuel or the waste material is to be disposed of. There is an agreement between the Ontario government and the federal government and our company that the first disposal site will be built in Ontario because that is the province that is producing most of the waste. The disposal site that is envisioned will essentially be a deep mine inside a very special rock formation down to the depth of about 3000 feet. It will be disposed of in such a mine. Again, it is a very complex problem and again it would take a lot of time to give you the information on that. I would be very happy to do that with some of our people from that program if you are interested in hearing details about it. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. T'Seleie.

MR. T'SELEIE: I do not know if it was asked but I would like to know how these wastes will be transported. I would also like to know what AECL plans to do with a situation where now we know that a lot of people in southern Canada do not want nuclear wastes in their part of the country. At some point in time the pressure will be there to put it somewhere else and I would like to know what you plan to do?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. I talked a little bit earlier about how the waste is transported. It can be moved by truck or by rail inside containers, very strong containers that are made of steel with lead shielding in them. This is now being done, moving material like this through many countries. Canada also moves fuel like this between Ontario Hydro and our research site, for example, where Ontario Hydro might want us to examine some of their fuel and see if it is being used efficiently. So the movement of the material is a fairly common occurrence now. It happens by ship and by air as well as by ground transport.

As to the decision as to where this disposal site should take place, the federal government has asked us as one of its companies to develop the methods by which the disposal will be made. They have told us that they want to know how this disposal might be done. It is then going to be up to another process, presumably this will include public hearings and things like that, but it will be up to another process to decide where the disposal should take place and by what method the decision will be made as to where that place will be. But again I can tell you that there is an agreement now which says that that first disposal site will be located in Ontario. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Gargan.

MR. GARGAN: Thank you, Mr. Chairman. Mr. Dmytriw, I guess in answering Mr. T'Seleie's question, you did say that uranium mining right now is done under the strictest rules and conditions. I guess the point I wanted to make is that you also mentioned that in transporting the nuclear wastes from a site they have to be stored in very strong containers and also for mining too, it would be probably the same situation because it is really -- it does not matter the kind of restrictions you put on them or not, I guess it is the radiation from the material that causes cancer. So I am still not convinced that even though you might go through the strictest conditions in mining the material, it still does not prevent you from getting it, whether it is in 25 years or now.

Fission Battery Unit

The other thing, Mr. Chairman, I wanted to mention is that in your document here you mention the term "fission battery". Now, in using that, is there a difference between that term "fission" and "fusion"? Is fusion used only when you are addressing nuclear weaponry? And is fission just another term that may be used to identify peaceful use of such a nuclear reaction?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Dmytriw.

MR. DMYTRIW: Thank you, Mr. Chairman. Those terms are used to describe two different processes. When uranium atoms break down and produce heat, that process is referred to as "fission", so it is a breaking-down process. The uranium atoms fall into two pieces and produce some heat when they do that. The "fusion" process is the process by which the sun works. What it does is instead of breaking down things like uranium, it puts them together and in the fusion process, when you put things together you also have some heat produced. You have more heat produced in fusion than you do in fission and so people talk about fusion being a very great opportunity for producing energy. The problem is that you can only create fusion at very, very high temperatures. That is why fusion occurs on the sun because there are those very high temperatures. So, the technology for fusion has not yet been developed. It is an idea, if you like. It is a technology that is anticipated, that might be developed but it has not been demonstrated on earth except, unfortunately, in the weapons program and fusion -- bombs can work by either process. There are fission bombs and unfortunately there are also fusion bombs, but there is no process, no controlled fusion process that has been used on earth for generating energy that we can use. Thank you.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. Butters.

HON. TOM BUTTERS: Thank you, Mr. Chairman. On page five of your remarks you made a reference to new radar stations and the types of units that might be used to power those stations. You mention that you are in business and you suggest that whether such power will be provided to the stations at the present time is speculation. However, you are doing design work and is it possible, or have there been approaches by the United States government for this type of atomic plant and would they be a potential customer or are they realistically a customer?

CHAIRMAN (Mr. Erkloo): Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. The development of the fission battery or the nuclear battery is totally separate from the SLOWPOKE and we introduced it in our presentation only because there has been news of it and it applies to your territory. The development of the battery is a joint United States and Canadian development. The commercial application of that battery has not been decided. The development is still at a considerably earlier stage than the SLOWPOKE. We have not decided upon a demonstration unit and can only undertake to keep you informed if you deem it necessary on the developments of that reactor. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. MacQuarrie.

MR. MacQUARRIE: Thank you, Mr. Chairman. I first must apologize. I find this a very important subject and I wanted to be here for the whole time and yet it has been an afternoon when other things have forced me to be away and I am not aware of some of the questions that were asked. But first I would like to say I appreciate the Minister arranging this kind of opportunity and I can certainly read through the debates to find all that was said this afternoon but I appreciate the Minister making this kind of opportunity open to us and in my own case, perhaps I am more receptive than most. I, in this House, have on several occasions spoken very strongly against the

development of nuclear weaponry. I think it is an insane process that we are embarked upon. The cost is enormous and we have far more than we need now. I am told recently that as much as $2.2 billion is spent every day in the world to produce nuclear weaponry and that is insane in my opinion. So, I have spoken very strongly against it but I do make the distinction between this used for nuclear weaponry and used for peaceful purposes and I am someone who is open to hearing more about it and learning more about it and in one sense I wish that all of the safety concerns could be answered so that we could begin to take advantage of whatever opportunities there are in this area.

A few years ago I was even more open to the large reactors for the production of electricity. I heard assurances about design and that kind of thing and generally found them credible but what has come to disturb me over the last few years is not the failing of scientific theory but the failings of ordinary people who are supposed to do jobs related with it, whether it is people who are making pipes to put into these things or people who have various functions to perform in regard to them. I find that in too many cases, there are human failings that result in difficulties and so I have much more concern with regard to large reactors than I had at an earlier time. I recognize again that this is a smaller model and likely far less dangerous and so I am open to hearing more about it.

Dangers Of Contamination And Safety Mechanism

I guess I just have one question for you and then perhaps a couple of questions for our Minister. I am not sure whether this was ever asked, but if in the design here we see that the fuel is inside a metal cylinder, if that cylinder should fracture for some reason or other, whether it is shifting ground or whatever, is there the danger of contaminated water running through the system into the places that are being heated? If that is the case, what is the safety mechanism that supposedly is available here? Do things shut down, how quickly, and so on?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman.

HON. TAGAK CURLEY: Point of order. Mr. Chairman, I just wanted to correct the honourable Member. He referred to one of the witnesses as a Minister. I just wanted to let him know...

MR. MacQUARRIE: No, I am going to ask you a couple of questions.

HON. TAGAK CURLEY: Oh, I see, okay. Thank you.

MR. BALLANTYNE: You are Minister still.

CHAIRMAN (Mr. Erkloo): Could we have order, please? Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. In response to the Member's question regarding an event whereby a leak developed in the container, the design is to have another container and a pump in that container then returns the liquid into the original container. There is no chance that this liquid can ever get into the distribution system because the distribution system is above the reactor itself and there is just no feasible way that it could get into the community as such.

CHAIRMAN (Mr. Erkloo): Thank you. Mr. MacQuarrie.

MR. MacQUARRIE: Unless the outer container fractured as well? Or is there no chance of that?

CHAIRMAN (Mr. Erkloo): Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. The structure is such that the inner container effectively floats, in a structural sense, within the outer container so that any jar would likely harm the outer one rather than the inner one, in that situation. If you are referring to the reflector right in the middle of the container, any fracture in that would slow down the reactor because that is a device to keep the reactor going. So, any failure on that would prematurely halt the reactor. Thank you, Mr. Chairman.

MR. CHAIRMAN (Mr. Erkloo): Thank you. Mr. MacQuarrie.

MR. MacQUARRIE: If there were that kind of an event with the amount of fuel that is in one of these small reactors, what is the range of hazard to people who are in the vicinity? If there were some incident, could it mean people in the community having to be evacuated or something like that? I am saying if there were an event, we will underline that, so if you would answer on that basis supposing there were, would the hazard be so great that people might have to be moved from a community?

CHAIRMAN (Mr. Erkloo): Thank you. Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. In the event that the coolant, which is the liquid, were to -- for whatever reason and we are hard-pressed to imagine it as you have underlined, were that coolant to go below the core then our tests have indicated that air cooling would prevent any damage to the fuel. The loss of the water prevents the reactor from continuing to function. What we have to test is the possibility of a transition period when there might be too much heat before the air coolant took effect. We have done preliminary tests on that and indicate that the fuel would not be damaged. The fission products which people worry about in a nuclear situation are contained within the fuel pellets and it is concern over damage to the fuel that concerns us. Our tests indicate that this reactor is so innocuous that that in fact would not take place. Thank you, Mr. Chairman.

CHAIRMAN (Mr. Erkloo): Thank you, Mr. McDougall. Mr. MacQuarrie.

MR. MacQUARRIE: Okay, if our own Minister would not mind answering a couple of questions in respect to this, could you clarify for us what relationship formal or informal our government has with Atomic Energy of Canada Limited in finding out the kinds of activities that they are undertaking and the possibility of some day trying a small reactor somewhere in the Northwest Territories, and whether there is anything that could be characterized as negotiations going on between our government and Atomic Energy of Canada Limited?

CHAIRMAN (Mr. McCallum): Thank you, Mr. MacQuarrie. Mr. Minister.

HON. TAGAK CURLEY: You are kidding?

---Laughter

Information Only From Atomic Energy Of Canada Limited

Thank you, Mr. Chairman. I would like to respond to the Member's question. I say at the outset I think our relationship is less informal than any of the antinuclear movement that we normally see on television or maybe in the gallery. We have had very little contact -- the only contact that I had last year was when they wished to entertain the idea of a briefing on the matter. I immediately felt it was important that the caucus or the Assembly as a whole should be provided that opportunity and that is the only main contact that I had with them. I would say my officials probably had some contact with them but as far as the Executive Council and this government is concerned, we have no formal relationship nor do we have any plans whatsoever to try and make a deal with Atomic Energy of Canada. I believe at this time, and I will say this, in spite of the reports that have come out from the New Democratic Party, that I have been accused of having some sort of a proposal before the public of the NWT, this is simply not true. I think my position is that it is important that you be provided the information because I believe the information is powerful and that you can do whatever you want with that information provided to you. That is all I have and any further progress as far as information is concerned that we receive will be shared with the Assembly and the Members of the Assembly.

AN HON. MEMBER: Hear, hear!

HON. TAGAK CURLEY: That is all I can say at the moment. Thank you.

---Applause

CHAIRMAN (Mr. McCallum): Thank you, Mr. Minister. I take it you are under the rule, caveat emptor, and if they are selling, you are not buying. Mr. MacQuarrie.

MR. MacQUARRIE: They did not quite say that, Mr. Chairman. Now, I said earlier when I started my remarks, I think that he is being very open-minded with respect to it and I approve of that. I would suggest further that actually the government should not leave it on quite such an informal basis but establish some line of communication so that we always are aware of any thoughts that they might have with respect to subsequent developments so that we know at the earliest possible date that that is the case. As I said, I am reasonably open to looking at it further and would always like more information. Certainly when we consider the very high cost of fuel in so many communities and our requiring assistance by way of federal grants to maintain programs and services in the Territories and to perhaps subsidize power bills and so on, I think we are not in a position just to say that we ignore every initiative that might be taken to try to help that situation in some way. But there may be other ways. So I could ask the Minister as well, has his department in any way investigated or does it have ongoing investigations of alternative methods of generating heat and electricity as well?

CHAIRMAN (Mr. McCallum): Thank you, Mr. MacQuarrie. Mr. Minister.

Alternative Sources Of Energy

HON. TAGAK CURLEY: Mr. Chairman, yes. The government certainly has an ongoing review of the alternative sources of energy and I think there have been some experimental demonstration projects that I believe my energy secretariat has explored with the federal Energy, Mines and Resources. But I personally do not have the latest information on these but once they are available I will be prepared to table them before the House for future consideration.

There are at this moment I think a number of ideas but there is nothing concrete as far as the possibility of this government really ever adopting them at this stage, mainly because I think many of the demonstration projects are far from conclusive at this stage. But I will check with my secretariat to see whether or not I can provide at a certain time -- maybe even be prepared to table some project that might have been concluded, during the June session if not later this session. I will be prepared to try to provide an information item to the Assembly. Thank you.

CHAIRMAN (Mr. McCallum): Mr. MacQuarrie.

MR. MacQUARRIE: I am trying. Okay, I certainly appreciate that answer. As one of the alternatives I would just ask the Minister always to keep an open door in this area too, so that we are aware of developments and can assess them as time goes by.

CHAIRMAN (Mr. McCallum): Thank you, Mr. MacQuarrie. Is that a comment or are you asking him to keep an open mind? Mr. Minister, do you want to further comment?

HON. TAGAK CURLEY: Mr. Chairman, I would just like to inform the Member opposite, I always have an open mind.

---Laughter

CHAIRMAN (Mr. McCallum): Mr. Richard.

MR. RICHARD: Thank you, Mr. Chairman, sir.

CHAIRMAN (Mr. McCallum): Any smart remarks, Mr. Richard...

MR. RICHARD: Mr. Chairman, my colleague, Mr. MacQuarrie, asks about any relationship that might exist between the government of the Territories and AECL. It occurs to me both AECL and the GNWT are creatures of the federal government or children of the federal government. So, any relationship that might exist would be incestuous at best.

But in any event, Mr. Chairman, without precluding any further questions by my colleagues, I would like to make a motion this afternoon regarding this topic. I think the witnesses from AECL clearly see that many Members of this House have concerns about the use of nuclear reactors in the North. I appreciate, as well, that we have had this opportunity this afternoon and also that we have a few years before anything will happen in this area.

Motion That Assembly Seek Advice From Science Institute Of NWT On Use Of Nuclear Reactors

I believe my colleagues, from their remarks this afternoon, would agree with me that this Assembly should have its own independent advice and, meaning no disrespect to the representatives from AECL, I believe they can see that independent advice is important to Members of this Assembly and with that comment, Mr. Chairman, I would move the following motion: Whereas the Legislative Assembly has received a presentation from representatives of AECL on the possible use of nuclear reactors to provide heat and electricity in certain communities in the Northwest Territories; and whereas Members of this Assembly are desirous of obtaining independent advice on the feasibility, economic and safety factors associated with the use of nuclear reactors for such purposes; therefore, I move, seconded by the Member for Deh Cho, that this Assembly seek advice from the Science Institute of the Northwest Territories on the feasibility and the economic and safety factors associated with the use of nuclear reactors in the Northwest Territories for the provision of heat and electricity.

CHAIRMAN (Mr. McCallum): Thank you, Mr. Richard. I will accept it as being in order but I recognize and take into consideration that as a rookie MLA, we do not need seconders in committee of the whole but I will accept it as being in order. Are there...

AN HON. MEMBER: (Inaudible comment)

MR. RICHARD: One-one.

CHAIRMAN (Mr. McCallum): That is all I want to do, come out even. To the motion. Mr. Wray, did I understand you had a comment?

HON. GORDON WRAY: I had a comment to make but it was not to the motion. Perhaps, after the motion.

CHAIRMAN (Mr. McCallum): Then you will not make it. Mr. Patterson.

HON. DENNIS PATTERSON: Thank you, Mr. Chairman. I agree very definitely that we need independent advice because, quite frankly, and again with all due respect to the witnesses, quite frankly, I question the credibility and independence of Atomic Energy Canada Limited on these matters. We know that AECL has devoured billions of dollars of taxpayers' money. Yet, it cannot keep its head above water and I have seen other evidence to suggest the three billion dollars that was referred to by one of the witnesses may well be less than half of what has been spent of taxpayers' money on this industry when one considers tax write-offs and all the costs associated. The industry and AECL, I believe, is desperately searching for alternative markets since they cannot sell the CANDU reactors and even the market for medical radio-isotopes is declining. I believe they are looking for new products to sell, new markets, new customers and many reactors which would eventually be sold to the third world, I believe, are planned as nuclear batteries designed to supply electricity for military installations like the DEWline. I believe that therefore we must look critically at the motives and the objectivity of this company in promoting its own justification in future -- establishing a raison d'etre where they have clearly lost credibility in the world with the CANDU reactor.

AN HON. MEMBER: To the motion.

HON. DENNIS PATTERSON: I am speaking to the motion, Mr. Chairman. I am talking about the need for independent advice and I am putting it to the Science Institute of the Northwest Territories because with all respect to AECL and even the Atomic Energy Control Board, they do not have my confidence for being objective because I think their own survival and the survival of the nuclear industry is so wrapped up in this whole business that it is impossible for that organization to be objective.

I also must say, Mr. Chairman, that I have not been satisfied with the kind of conduct of AECL even before the public accounts committee of the House of Commons when asked to investigate and co-operate on accusations of bribery in their operations in sales of reactors to South Korea and Argentina. The AECL officials have been evasive, unco-operative and at the very least reluctant in answering questions in that investigation of the committee of the disappearance of some $20 million of unaccounted-for moneys. The committee found that payments were used for illegal or corrupt purposes and I just mentioned this because I think it is important that we put this matter in the hands of an objective body like our Northwest Territories Science Institute in whom I have confidence.

However, Mr. Chairman, I would like to say that there still are some other questions that may not be answered by this motion. Questions, I note, that I raised that the witnesses have not responded to perhaps because there was not enough time. It still has not been admitted that we are talking about enriched fuel which will come from the United States or countries that produce nuclear weapons, and that indirectly at least in endorsing the SLOWPOKE we are contributing to the nuclear arms weaponry race. I also believe that questions must be asked about the possibility of use of waste products and fuel in connection with the potential for production of nuclear weapons.

CHAIRMAN (Mr. McCallum): Mr. Patterson, the motion deals with the feasibility, economic and safety factors associated for the provision of heat and electricity. Would you speak to those particular factors, please?

HON. DENNIS PATTERSON: Okay, Mr. Chairman. My only question about the motion is whether -- and maybe I will ask. If it is appropriate I will ask this of the mover, whether he considers that the questions of transport, disposal of fuel and waste in decommissioning of these reactors is contemplated within the ambit of this motion. If the Member feels that it is broad enough to be called a factor associated with the nuclear reactors, I will support the motion. If not, perhaps an amendment might be appropriate to recognize transport and disposal of waste.

CHAIRMAN (Mr. McCallum): Mr. Patterson, I understand that you are seeking a point of information of the mover of the motion. On that basis, I will allow the mover to answer just in relation to the transportation, as you indicated. Mr. Richard, if you would like to answer, be specific, sir.

MR. RICHARD: Thank you, Mr. Chairman.

CHAIRMAN (Mr. McCallum): Sir.

---Laughter

Transportation, Disposal And Decommissioning Included

MR. RICHARD: In response, I believe those concerns come within, certainly the intent of the motion and I think when whatever representative of the Assembly, if this motion is passed, seeks that advice that can be clarified in the direction or the request for advice. So, my response, Mr. Chairman, would be yes the transportation, the disposal and the decommissioning would be included in the feasibility, economic and safety factors.

CHAIRMAN (Mr. McCallum): Thank you, Mr. Richard. I think I will go along with the latter, maybe not the other two. To the motion. Mr. Butters.

HON. TOM BUTTERS: Mr. Chairman, I support the motion on the basis that we are looking at plants or batteries for communities in which hydro power is unavailable, and that we are looking at, say the use of micronuclear reactors, plants or "batteries". I do not think we want to saddle the Science Institute with looking into the safety factors and economic factors of the CANDU or a type like the Three Mile Island operation. It is just these small, little fellows that we are looking at here.

HON. RICHARD NERYSOO: Agreed.

CHAIRMAN (Mr. McCallum): To the motion. Mr. T'Seleie.

MR. T'SELEIE: Mr. Chairman, I wonder if I could get away with going back to the presentation that was made by the witnesses.

Motion That Assembly Seek Advice From Science Institute Of NWT On Use Of Nuclear Reactors, Carried

CHAIRMAN (Mr. McCallum): Mr. T'Seleie, before you get started, no. We are dealing with the motion. To the motion. Question being called. All those in favour of the motion, signify in the usual manner. Contrary? Motion carried.

---Carried

Are there further questions of the witnesses? Mr. Wray.

HON. GORDON WRAY: I know you are not used to the job, Mr. Chairman. I did not have a question for the witness, I just wanted to briefly follow up on my colleague's comments to Mr. MacQuarrie inasmuch as the energy conservation division of DPW has under way right now a number of joint studies and joint programs with the federal government and Energy, Mines and Resources on alternate energy supply including windmills, things like that. I can provide a list of those projects to the Member so he can see what has been done. Thank you.

CHAIRMAN (Mr. McCallum): Thank you. Mr. T'Seleie.

MR. T'SELEIE: Thank you. On the top of page five of the presentation, in the paragraph close to the previous page, concerning the study of which communities might be involved in this nuclear electricity, one sentence says that "Of the 23 communities we included, heat could cost less in 11 of them by more than 30 per cent." I would like to know which 11 communities were they?

CHAIRMAN (Mr. McCallum): Thank you, Mr. T'Seleie. Mr. McDougall.

Cost Studies Based On Assumed Data

MR. McDOUGALL: Thank you, Mr. Chairman. When we did the study, we did not have the information necessary to determine the cost of the distribution system. That forced us to make an estimate of what the cost might be because we did not have specific plans of the distances between homes, major-sized buildings, etc. We made assumptions and in the assumption then dropped the idea of specific communities but determined that 11 or approximately half of the communities studied would fall into a savings range of 30 per cent, but I cannot be specific as to which ones those were because that would be indicating that we had better data than we do have. We just have total data of which a certain proportion appeared to be economic. I would be misleading the Member if I stated that this community and that community had this amount of savings and that amount of savings. Thank you, Mr. Chairman.

CHAIRMAN (Mr. McCallum): Thank you. Mr. T'Seleie.

MR. T'SELEIE: Thank you, Mr. Chairman. I do not quite understand that answer. I wonder if I could have a list of which 11 communities where electricity would cost 30 per cent less?

CHAIRMAN (Mr. McCallum): Thank you, Mr. T'Seleie. Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. Perhaps the best way to answer that question, we have done a study on a typical community and perhaps the best way to answer it would be to describe to you the typical communities that we looked at and the assumptions we made and the savings that fell to those assumptions. Thank you, Mr. Chairman.

CHAIRMAN (Mr. McCallum): Thank you, Mr. McDougall. Mr. T'Seleie.

MR. T'SELEIE: I wonder if I could have information on how you decided what a typical community was?

CHAIRMAN (Mr. McCallum): Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. The best we could do, and I agree that whenever you take an average you are not being reflective very well of the community, was to take a community with a population in a certain range and as best as we could determine the electrical requirements, the heat requirements of a population of that size and then from there do our best estimate of what the cost of the reactor would be versus the cost of the diesel fuel in that community. We basically averaged the numbers that were for communities that were approximately the same size. Thank you, Mr. Chairman.

CHAIRMAN (Mr. McCallum): Thank you, Mr. McDougall. Mr. MacQuarrie.

MR. MacQUARRIE: Yes, my question revolves around the same area as Mr. T'Seleie's. The assumptions then are based on typical or average communities and in fact...

SOME HON. MEMBER: None of those.

MR. MacQUARRIE: Yes, I do not think any of those might exist in the North so the people who are making those assumptions had they visited a typical northern community which might be strung out along a straight line along a seashore or something like that -- in fact, the distribution might be considerably more than what was anticipated and in fact then the statements with respect to cost appear to become more and more meaningless. In other words it is still an area that is open for consideration and that there might not be any saving in that case at all.

CHAIRMAN (Mr. McCallum): Thank you, Mr. MacQuarrie. Mr. McDougall, would you want to comment?

MR. McDOUGALL: Thank you, Mr. Chairman. The Member is quite right. We did not feel it appropriate for us to examine any specific community without first addressing this body and getting some indication of their feelings about AECL in working in a community. The conclusions that we have drawn are preliminary. We will not be sure that the savings that we have described are available until in fact we have looked at a specific community. Thank you, Mr. Chairman.

CHAIRMAN (Mr. McCallum): Thank you, Mr. McDougall. Mr. MacQuarrie, supplementary?

MR. MacQUARRIE: So, can I ask the witnesses then whether they intend in fact to approach the Government of the Northwest Territories in order not to put a nuclear reactor into a community or even to suggest that it would be going into that community, but rather approach to have a look at the layout of the town and maybe some plans of other communities and so on in order to get a more accurate assessment? Is that maybe a next step that is being considered?

CHAIRMAN (Mr. McCallum): Thank you, Mr. MacQuarrie. Mr. McDougall.

MR. McDOUGALL: Thank you, Mr. Chairman. I believe our position in that is basically we are available to respond to the wishes of the Assembly.

CHAIRMAN (Mr. McCallum): Thank you. Ms Cournoyea.

HON. NELLIE COURNOYEA: Yes, Mr. Chairman, just on some figures, in the latest estimate, the cost of an econoline just for basic water and sewage, the cost that was given is $250 to $375 per foot. That is just for the pipes and the outer surface and the insulation. This is for an econo-utilidor which does not hold heat. In terms of a main distribution system that has been quoted in terms of replacing the Inuvik main distribution line we are talking about $500 per foot. Thank you.

CHAIRMAN (Mr. McCallum): Thank you, Ms Cournoyea, for the data information. Are there any further questions of the witnesses? Do you consider the matter has been dealt with?

SOME HON. MEMBERS: Agreed.

---Agreed

CHAIRMAN (Mr. McCallum): Mr. Dmytriw, Mr. McDougall, I would on behalf of the committee want to thank you for appearing and responding in the manner in which you did. Now, do we report progress?

MR. BALLANTYNE: Bravo! Bravo!

---Applause

MR. DEPUTY SPEAKER: Mr. McCallum.

ITEM 16: REPORT OF COMMITTEE OF THE WHOLE

REPORT OF COMMITTEE OF THE WHOLE OF APPEARANCE OF ATOMIC ENERGY OF CANADA WITNESSES

MR. McCALLUM: Mr. Speaker, unaccustomed as I am. Mr. Speaker, your committee has been considering the appearance of the Atomic Energy of Canada witnesses and wishes to report the matter concluded with no motions adopted.

MR. BALLANTYNE: He only had one motion. That's all he had to handle was one motion.

AN HON. MEMBER: You're fired!

MR. McCALLUM: Let me try that again -- and wishes to report the matter concluded with one motion adopted.

MR. BALLANTYNE: That's right.

AN HON. MEMBER: Agreed.

Motion To Accept Report Of Committee Of The Whole, Carried

MR. McCALLUM: ...and that Bill 7-85(1) and Bill 3-85(1) are recommended for further consideration in the committee of the whole, and humbly request, Mr. Speaker, that the report of the committee of the whole be concurred with.

HON. TAGAK CURLEY: Hear, hear!

---Applause

MR. BALLANTYNE: You were close. You were close, Arnie?

MR. McCALLUM: That's the last cheek I'm getting from you guys. Got it?

---Laughter

MR. DEPUTY SPEAKER: Members have heard the report of the chairman of the committee of the whole. Are you agreed?

SOME HON. MEMBERS: Agreed.

SOME HON. MEMBERS: As amended.

---Carried

MR. DEPUTY SPEAKER: Thank you. Are there any announcements from the floor? Mr. McCallum.

Support Of Western Caucus For WCF Representatives

MR. McCALLUM: Mr. Speaker, as a result of allegations made public recently regarding the actions of the western caucus representatives on the WCF, I, as chairman of the western caucus wish to announce to this House and to the public of the NWT that I have received offers of resignation from the western Members. It is my pleasure on behalf of the western caucus to indicate to all that these offers have been totally refused and the western caucus has authorized me as chairman to affirm the appointments of the Hon. Nick Sibbeston and Mr. Bob MacQuarrie, as the western representatives on the WCF and therefore the Constitutional Alliance.

AN HON. MEMBER: Hear, hear!

---Applause

MR. McCALLUM: We, the western Members, take this action in support of our representatives' tireless efforts and long hours and honourable intentions to reach consensus with the NCF and we enthusiastically endorse the good will both Members brought to the negotiations in which they were involved. We are grateful for their contributions and we support their endeavours.

AN HON. MEMBER: Hear, hear!

---Applause

MR. DEPUTY SPEAKER: Are there any further announcements? Mr. MacQuarrie.

MR. MacQUARRIE: Yes, Mr. Speaker, as someone who just recently hit 50 years of age, I take delight in announcing that my colleague for Yellowknife North has just today hit 40 years of age. So, happy birthday, Mr. Ballantyne.

MR. BALLANTYNE: Tutti-frutti.

---Applause

MR. DEPUTY SPEAKER: Any further announcements from the floor? Mr. Curley.

HON. TAGAK CURLEY: Mr. Speaker, just a point of privilege. It is regrettable that the honourable Members for Slave River or Yellowknife South area could not share that important job with all friends from the -- more of representatives -- the other traditional native communities here. It is just too bad.

MR. BALLANTYNE: My 40th birthday?

---Laughter

AN HON. MEMBER: ...10 years.

MR. DEPUTY SPEAKER: Any further announcements from the floor?

MR. BALLANTYNE: Question of privilege.

MR DEPUTY SPEAKER: Mr. Ballantyne, point of privilege.

MR. BALLANTYNE: Ten years ago, when I turned 30, I was in Cambodia being shot at by the Khmer Rouge. Today, I am 40 and being shot at by the NCF and I am not sure which is worse. Thank you.

MR. DEPUTY SPEAKER: Any further announcements from the floor? If that concludes announcements, Mr. Clerk, orders of the day, please.

CLERK OF THE HOUSE (Mr. Hamilton): Announcements, Mr. Speaker. There will be a meeting of the standing committee on finance tomorrow morning at 10:00 a.m.

ITEM 17: ORDERS OF THE DAY

Orders of the day for Thursday, February 28th at 1:00 p.m.

1. Prayer
2. Members' Replies
3. Ministers' Statements
4. Oral Questions
5. Written Questions
6. Returns
7. Petitions
8. Reports of Standing and Special Committees
9. Tabling of Documents
10. Notices of Motion
11. Notices of Motion for First Reading of Bills
12. Motions
13. First Reading of Bills
14. Second Reading of Bills

15. Consideration in Committee of the Whole of Bills and Other Matters: Bills 7-85(1), 3-85(1), 9-85(1)

16. Report of Committee of the Whole

17. Orders of the Day

MR. DEPUTY SPEAKER: This House stands adjourned until Thursday, February 28th at 1:00 p.m.

---ADJOURNMENT

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