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8:06 p.m.

[Mrs. Gordon in the Chair]

**Subcom.D: Science, Res. & Info. Tech.**

**Subcommittee D – Science, Research, and Information Technology**

Gordon, Mrs. Judy, Chairman  
Haley, Carol, Deputy Chairman  
Amery, Moe  
Barrett, Pam  
Black, Hon. Pat  
Boutilier, Guy C.  
Broda, Dave

Carlson, Ms Debby  
Coutts, David  
Herard, Mr. Denis  
Langevin, Paul A.  
Lund, Hon. Ty  
Magnus, Richard  
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Paul, Pamela C.  
Pham, Mr. Hung Kim  
Sapers, Mr. Howard  
Smith, Hon. Murray D.  
Taylor, Hon. Lorne  
West, Hon. Stephen C.

THE CHAIRMAN: Well, once again, everyone, I'd like to welcome you to subcommittee. Tonight we're with the estimates of the department of science, research, and information technology as well as their business plans. So with that, we look forward to hearing the minister.

Hon. minister, if you'd like to go over the estimates of your department.

DR. TAYLOR: Thank you, Madam Chairman. It gives me great pleasure to be here this evening to present our '97-98 estimates. Do I have to stand to do this? Okay. I point out that in the other room you do not require us to stand.

MR. SAPERS: You're a bigger target, Lorne.

DR. TAYLOR: That's what I'm afraid of.

THE CHAIRMAN: Hon. minister, we do stand. You're young.

DR. TAYLOR: Thank you, Madam Chairman.

I would point out that we will follow the usual procedure, one in which the minister presents his comments and then the chairman of the Alberta Research Council presents his comments as well dealing with the Alberta Research Council. So my comments will deal very specifically with the ministry and not with ARC.

THE CHAIRMAN: Hon. minister, I just have to qualify for you that that will be part of your overall time allocation.

DR. TAYLOR: I don't wish to argue with you, but last year in particular it was not part of the overall time allocation, Madam Chairman.

THE CHAIRMAN: Okay. We'll check on that.

DR. TAYLOR: Yeah. If we check *Hansard* from last year, you will see that it was ruled in fact that I had 20 minutes and then the chairman of ARC had 20 minutes as well. We did actually check on this beforehand.

Just let me acknowledge a number of people that we have here in the gallery this evening. We have Keith Salmon and Karen Beliveau from ARC. We have Bob Fessenden from the Alberta Science and Research Authority. We have Keray Henke from Executive Council, and we have Mark Patton from my office.

I would like to talk first of all about the ministry, and I've asked the pages to pass out a sheet here, one page. I just thought it might be useful for everybody to take a look at that, because it gives you a breakdown on what the ministry of science, research,

and information technology is. If we look at that sheet, you can see it's made up of four components, although I see that the fourth component isn't numbered. It should be numbered 4, external to government aspects of information technology. So we'll see that that gets corrected in the next printout.

First is the Alberta Research Council, and this includes what used to be called the Alberta Environmental Centre. It is now called the Alberta Research Council, Vegreville. The mandate of the Research Council is to create wealth and jobs by providing technology services to industry and government. The important point I want to make here is that ARC is not a policy setter. It is a doer of research, not a policy setter. It's involved in commercialization of technology. It does not set policy.

MR. DOERKSEN: Are you reading my speech or what?

DR. TAYLOR: No, I'm not reading your speech, hon. member.

The second point is the Alberta Science and Research Authority. This is also part of the ministry. The mandate is to ensure that the whole science and research innovation system is healthy and that Alberta is making the best use of science and research to create wealth and jobs. It includes four subsections there, and you all have that, so I will not read those four subsections to you. I will comment about some of them a little later in my speech, and I'm happy to accept any questions on any of these. What we're trying to do is quite clearly differentiate the roles that are played within the ministry.

Thirdly, we have the interprovincial, federal/provincial, and international science and research relations. This is the responsibility of the ministry and the minister. It is not a Science and Research Authority responsibility, and it's not an ARC responsibility. Once again it gives you several areas there that deal directly with this.

Finally, the fourth point. It is external to government aspects of information technology. This does not include the chief information officer. What the chief information officer does is internal aspects to government. For those of you who were here the other night during the Premier's estimates, he made that very clear.

So I thought it would be useful for all of you to have that, because it does quite clearly indicate what the role of the ministry is and how it all fits together.

Let me comment on the Alberta Science and Research Authority. This authority is advised by a board of management which is comprised of some of the province's best and brightest science and research people as well as businesspeople. It's a combination. The authority is supported by a small secretariat of eight. I see it says in here: hardworking, dedicated staff. I think somebody from the authority must have written that for us. Because I have no department, that authority also acts as a partial department for me as well. The eight people do the departmental work as well as the Science and Research Authority work. So they are obviously hardworking and dedicated.

The theme of my ministry and what I'm going to make important in the ministry – and I think it is very important – is the importance of knowledge, the importance of a content industry. I believe that this is our most critical resource. You know, we are all aware that the province has been blessed with very good natural resources if we look at our oil business, if we look at our forestry business, if we look at agriculture. Typically when people talk about resources, they talk only about those three. My point – and what I will continue in the future – is that we must increasingly focus on knowledge as the most important resource, because knowledge underlies all three of these issues. A good example of that would be what's happening in the tar sands in the Fort McMurray area. Some of the research that has been done, which is knowledge based, is enabling us to develop new areas in the oil sands, and these areas would not be developed if it weren't for knowledge-based industries. So we have to realize that Alberta's competitive advantage in Canada lies in our ability to generate new knowledge.

I don't think we've done enough as a government to talk to people in industry, to talk to the general public and convince them that knowledge is an important industry. That's one of the, as I say, prime motivators of this ministry: to get out there, talk to people, talk to business groups, talk to school groups and let them know how important knowledge is. So knowledge, then, is the very foundation of the ministry of science, research, and information technology.

Our fundamental task is to ensure our knowledge in the form of science and research is put to the best possible use for all Albertans. Ensuring this resource is maintained and strengthened is of a measurable concern to both government and industry and the general public. Unless we encourage as a government, as a ministry the development of a content industry, we will be left in the Dark Ages, quite frankly. Other provinces that are spending more money than we are in research and development will just leave us in the dust. So one of the things we have to do is recognize that knowledge equals jobs, and that's a very important recognition that we have to get out there.

Science, research, and technology development is critical for Alberta's economic growth and diversification. This is best illustrated by the fact that more than half of our province's growth results indirectly or directly from technological innovation. Those are not statistics from my ministry. In fact, they're from ED and T.

The diversification of Alberta's economy in the last decade is based on new technology, products, and processes. A study found that 69 percent of new jobs in Alberta were in the high knowledge-intensive areas. There are more than 3,000 technology-intensive companies in Alberta with over \$4.8 billion in annual revenues, employing over 50,000 people. These jobs are in Alberta because of our highly educated workforce and the investment we have made in our science and research infrastructure.

Now, our research infrastructure consists of a number of organizations. It consists of the Alberta Research Council, the Alberta Microelectronics Centre, the Laser Institute, TRILabs, the Centre for Frontier Engineering Research, and the Alberta Heritage Foundation for Medical Research. The mandate, then, of the ministry of science and research is to ensure that our science and research effort, as I've said, is focused, effective, and co-ordinated. There are numerous plans and strategies we will be employing in order to accomplish our objective, and I'll take a minute to outline just some of them this evening so that the members are aware of some of the things we're trying to accomplish.

## 8:16

One of the ministry's most critical responsibilities is to monitor and evaluate all government-supported science and research to ensure that it addresses the province's economic and social needs. This is a considerable task when one considers that government expenditures in research and development, excluding the funding Advanced Education provides to our postsecondary institutions, amount to about \$110 million. This figure is a considerable decrease, though, we must recognize, from roughly a decade ago, when we spent close to \$250 million. In fact, it's a decrease of about 69 percent.

If we look at what Alberta is doing, quite frankly, in regards to where we are and where we should be, comparing other provinces within Canada, I can say to you categorically that Alberta lags behind Canada in R and D expenditure as a percent of the GDP. Now, some might argue that that's because we have this large GDP, and we do. I've just got these recent statistics, actually. But Alberta also lags behind per capita. It's one of the slowest growing per capita when comes to spending money on R and D. That's why I'm talking about the importance of this ministry recognizing and getting people to recognize the importance of the knowledge-based, the content-based industry. When we recognize that, then we can deal with some of these other issues. But until we recognize that, then we cannot deal with these other issues.

Now, the ASRA board of management helps with our duties, and we quite frankly couldn't do what we need to do without them. They're basically volunteers. The board is comprised of some of the best people in Alberta from science, research, business, and academia. I'd like to provide you with just a couple of names. I've got all the names here if anybody's interested in them, but just to give you an example of some of the people that are on that board. I think I've got just three or four people here I'll use as examples, but as I say, I have all the names here if anybody's interested.

Dr. Bob Church is the chairman. He's an ex-professor of medical biochemistry at the University of Calgary. He was associate dean of medical research at the same university. He sits on innumerable boards and assists in developing high-technology companies. As well, he happens to be a rancher in Alberta.

We have expertise in the field of engineering. We have Dr. Len Bruton. He's a professor of electrical and computer engineering at the U of C. He's the founder of the University of Calgary centre of excellence in microelectronics and was a past winner of the Manning award for innovation.

We have Dr. Bill Cochrane. He is a health products investment consultant, and he's a former president of Connaught Laboratories. He was also the first dean of medicine at the University of Calgary.

We have Mike Pfeiffer. He's president and CEO of QC Data. It's an international company offering spatial data business solutions. Mr. Pfeiffer was in the past president and CEO of Hughes Aircraft Canada. QC Data is a very interesting story, actually. Three and a half years ago when Mike took over the helm, they had 25 employees. Today QC Data in Calgary has 550 employees, and if you want to see an exciting story, quite frankly, of what's happening in the knowledge industry, take an hour or two hours and go down and visit QC Data. They are doing really exciting things in data management, and they're working all over the world. They're working in the southeast U.S. and they're working in the North Sea, and it's very exciting what's happening.

As I said, this is just a small sample of the quality people we have on our board, and once again I want to emphasize that we

could not do the work we do without these very busy people contributing their very valuable time and helping us. It shows the commitment that these people have to the development of a knowledge industry in Alberta when we have these high-quality people willing to spend their time and donate their time to the board and to what's happening in Alberta.

Another thing the board does is we take a look at research business plans, and we do this with the assistance of the science and research secretariat. We analyze each department's research business plan to ensure it addresses the province's short-, medium-, and long-term goals. We completed a well-received review last year. I think I have it. No, I didn't bring a copy with me, unfortunately. But if anybody would like to see a copy of it, it's a very good document. It shows what departments are doing. It shows where the money is being spent. Unfortunately, if we look at the three-year business plans of most departments, they show a continuing decline in the R and D spending in each department. I'm just going by memory here, but I believe in '98-99 we're looking at a decline to about \$92 million from \$110 million. So that's a very interesting report, and it is available. That was done last year, and we will continue to review departmental business plans in terms of research and in terms of the goals that they're meeting.

One of the more important tasks that we are undertaking is establishing performance measures for the science and research innovation system. In total in Alberta there is about \$850 million being spent on science and research. Of that total the government of Alberta spends about 18 percent, or \$110 million, which I've mentioned before. The remainder is funded by the federal government and industry. We are currently in the process of determining how this overall expenditure is benefiting Albertans by establishing performance measures. In doing so, the Alberta Science and Research Authority is working with various stakeholders on the government's Technology and Research Advisory Committee.

Some of the key measures we will be investigating include, one, the level of R and D funding – and I've hinted at some of that tonight – the level of human capital in the R and D system, for example, the number of researchers and engineers in the province. Once again, I have hot-off-the-press kind of data. We have in Alberta the highest percentage per capita of engineers in the country. I think that's exciting, because it shows you what Alberta has accomplished and what it can accomplish. Now, some might say it's better than having the highest percentage of lawyers in the country, but I wouldn't be the one that would insult my legal brethren. Well, I guess I can't insult them; there are none here. [interjection]

DR. TAYLOR: Pat says: go ahead and do it.

We do have the highest percentage of engineers in the country. We'll be looking at research outputs. This includes the number of publications being produced and the number of patents being issued. We have to recognize that is just one measure. Being a former university professor with quite a few publications at one stage of my life, the publications were very important at the university level. I think we have to change the attitude to a certain extent at universities and say: other than publications, what is coming out of this research? Publications aren't enough anymore. They may be enough to get you an associate prof or a full prof position, but it's not enough anymore.

We need to look at the level of venture capital investment emerging in knowledge-based firms. We need to look at economic performance of the resource value-added sector and knowledge-based industries. As such, when we determine our performance measures, we will be looking at both inputs and

outputs in order to obtain a clear, concise, and comprehensive picture of the health and status of our province's science and research innovation system. This investigative work will lead to publication of an innovation strategy with specific plans to improve the critical elements of the system. We are presently working on all of this, and we will hopefully have a lot of this done by the middle of June.

The ministry will also be working to promote the recommendations of Barriers to Technology Commercialization in Alberta. I did bring that one. I'd highly recommend that any of you who are interested in this area get a copy of this. It's an independently done report. It's a very valuable report. The study was undertaken because of the increasing importance of the advanced tech to our economy. Some of you may have noticed there was a question in the House on that today, a coincidence of course, I'm sure.

As I said today in the House, there are two main issues: finance and management. There is another excellent report out here, once again not done by us but done by the BDC: Economic Impact of Venture Capital. If we look at the last page of that report, once again for those of you who are interested, we see that Alberta has only nine venture capital companies working. Saskatchewan, which has less than half the population, has 43. Does that make sense? Newfoundland, where I taught at Memorial University for five years, has six. Our competitors like Ontario, Quebec, and B.C. – Ontario and Quebec have way over a hundred each. This is an issue that we need to be aware of, and we have to ask the question: why aren't venture capital companies working in Alberta? That's one of the issues that we need to deal with, and we will be dealing with it.

This report, as I've discussed, looked at ways we can be helpful. The other way is in terms of management. We don't have a good mentor system in Alberta to help young entrepreneurs dealing with some of the issues that they will be facing, so it's necessary that we take a look at this report, that we as a ministry and as a Science and Research Authority take some action on this report.

I'd like to briefly comment now on the science and research fund. This research fund was established under the Science and Research Authority Act proclaimed in 1995. The purpose of the fund is to kick start important strategic science and research initiatives that will provide human, social, environmental, or economic benefits for Albertans. As I say, we haven't got the money yet. It's \$5 million for each of the next three years. Unfortunately, I don't have time to talk about it, but if somebody would ask me a question on that, I may be able to talk about it at a later date.

I adjourn my comments and turn the floor over to the chairman of the Alberta Research Council, the Member for Red Deer-South.

8:26

THE CHAIRMAN: The hon. Member for Red Deer-South.

MR. DOERKSEN: Thank you, Madam Chairman. This being hockey season, I thought a little levity to start with would be appropriate. Seeing as I'm from Red Deer, we can either cheer for the Calgary Flames or the Edmonton Oilers or we can make fun of them as well. I'm not sure if the people from Calgary knew this, but Calgary has just hired two new Russian hockey players. Their names are Summer-off and Tee-off. I'm sorry. Okay. For those of you who need an explanation afterwards, I'd be happy to give it to you in private.

It's an honour today, Madam Chairman, my first chance to speak in this Assembly on behalf of the Alberta Research Council, of which I was recently appointed chairman, and to report to you the excellent work that they do and to emphasize what the investment means for the province of Alberta. The hon. minister has already introduced the people from the Alberta Research Council, Keith Salmon and Karen Beliveau. I appreciate their help in leading me through the ropes, getting used to the responsibilities of the Research Council

As most of you are aware, the Alberta Research Council has been advancing Alberta's economy through the development and application of technology for more than 75 years. It is internationally recognized as an innovative technology corporation and as a valuable business partner to the private sector. This past year has been filled with new opportunities for ARC. In July 1996 the responsibility for the Alberta Environmental Centre was transferred by order in council from Alberta Environmental Protection to ARC. They of course are located near Vegreville, and I'm looking forward to my first opportunity to go out there and visit that particular site.

As a result of this transfer the provincial investment in ARC has increased from \$19.2 million to \$22.9 million annually. In addition to this core investment, ARC has been retained by Alberta Agriculture and Alberta Environmental Protection to carry out specific research projects on their behalf. Throughout the transfer process ARC has remained committed to providing the same scope of services delivered to the public as in the past, including those previously provided by the Alberta Environmental Centre. As a result, ARC has increased investment and programs in the areas of agriculture and the environment while maintaining investment levels in other key sectors: biotechnology, energy, information, forestry, and manufacturing.

In addition to this transfer news ARC has made some important strategic investment decisions for the next year that will carry forward into the years to come. The fundamental goal of ARC is to advance the economy of Alberta. For the most part this is done by maintaining a technology infrastructure; that is, people with specialized knowledge, state-of-the-art equipment, and facilities that can be used by its customers and partners to develop value-added technology products, processes, and services for the global marketplace.

For the '97-98 year ARC has increased its annual investment in its joint research venture program by \$1 million. This increase reflects a renewed emphasis on this program as a means of encouraging investment from the private sector in research and technology development. As well, an allocation of \$1 million has been made for the sole purpose of strategically recruiting new employees in areas in which ARC plans to build new capability or increase its core competencies. This is important if we are to maintain a skilled and flexible workforce in Alberta and build on the knowledge resource of our economy. Of course, our honoured minister has waxed eloquent on the need for a knowledge base in this province.

External contract revenue, including royalties and licensing fees, is forecasted to be approximately \$23.9 million. This means that for every dollar invested in ARC by the provincial government, they are able to attract an equal amount of investment from the private sector and other government agencies.

Directionally, ARC would like to see the investment made by the provincial government leverage the economy through increased business partnerships. These collaborations with the private sector result in increased domestic and export sales, new investment in Alberta from outside the province, and cost reductions from technological or process innovations. This means

new jobs and economic prosperity for Alberta. It is estimated that ARC's customers and partners contribute over \$100 million annually to the Alberta economy directly as a result of their collaboration with ARC. That is a 5 to 1 return on the government's investment in ARC. ARC works with 875 customers and partners each year. These customers and partners create 700 jobs annually for Albertans.

ARC has strategically focused its market activities on the key sectors of the Alberta economy in which it can have the greatest impact yet be flexible to respond to new opportunities. ARC has played and will continue to play a vital role in fulfilling Alberta's new economic strategy. In partnership with industry and government ARC will expand new business opportunities for the province in strong and growing parts of the Alberta economy such as agriculture, biotechnology, energy, environment, forestry, information, and manufacturing.

I'd like now to provide you with a few highlights of some of the specific initiatives that will be undertaken during the coming year in agriculture. ARC is undertaking very . . .

MR. SAPERS: Just table it.

MR. DOERKSEN: It's very important to have this read into the record, hon. member from the other side.

ARC is undertaking very important research in support of the second largest sector of Alberta's economy. An ARC program to manage blackleg disease on canola has saved Alberta farmers an estimated \$40 million per year for the past 10 years. New research will be undertaken this coming year to develop biological control for this disease which will be environmentally prudent and less expensive.

In the area of biotechnology ARC has recently established western Canada's first large-scale facility for the development, scale-up, and manufacture of animal health products, specifically animal and fish vaccines. This facility has been designed to meet U.S. Department of Agriculture and Agriculture Canada manufacturing standards and will enable companies to access all North American markets as well as other markets around the globe.

The North American market for animal health vaccines is approximately U.S. \$503 million. This is a significant market opportunity for ARC and western Canadian biotechnology companies.

I should interject at this point that having had the chance actually twice now to tour the Mill Woods facility, we would certainly hope, particularly the new members in this Assembly, that we will be able to get you down on a tour so you can see some of the great things that ARC is doing. For those who have been there before who wish to go again, it's always an exciting time to go. So we will certainly work to arrange that, hopefully within the next year or so and maybe sooner. Hopefully sooner than later. [interjection] The minister wants a special invitation, so we will look after him on that count.

**8:36**

In the area of forestry . . . I'm just waiting because I know everybody wants to hear this, so I have to make sure that there's quiet in the House. In the area of forestry ARC maintains one of the most highly automated and sophisticated forest products research facilities in North America. This world-class facility is fully utilized as private mills work to speed up production and lower costs. ARC works with every OSB plant – you know what that is, Mr. Minister of the Environment; that's the oriented strandboard plant – in Canada, and all the major wood products companies in Alberta. ARC's work provides a vital link between

product development done in the lab and what is possible in the mill.

An example is Pressman, an innovative software system developed to monitor variables in wood panel presses. By letting companies know what is going on in their presses, Pressman helps them make better panels. Local mills have estimated an annual cost savings of \$600,000 per mill by using the research results from Pressman to modify their press cycles. This is a machine that will probably be available for you to see once you do the tour of the site. At least, it was there when I was there. Work will be undertaken this coming year to enhance this system so that it can be used easily by mills on a continuous basis. It is estimated that another 10 percent of cost savings, \$60,000, will be achieved annually by mills using this technology.

Another important priority for ARC in the coming year will be to develop new initiatives that will have significant university and industry involvement and build on the synergies of Alberta's and Canada's science and technology infrastructure. Joint initiatives will be pursued in the areas of carbohydrate research, carbon dioxide emissions, and intelligent manufacturing.

In summary, ARC's goals for '97-98 are to contribute \$116 million to the Alberta economy through successful commercialization of new technology-based products and services by its customers and partners, to increase external contract revenue, including licensing fees and royalties, from \$23.9 million to \$26.9 million in '97-98. As we see out into the future, we want to see that external contract revenue continue to increase. That's the leveraging effect that I talked about earlier in my comments. It's also to cause 740 direct jobs to be created. This is by the partner companies, not 740 direct jobs with ARC. This is outside of ARC. We want to continually increase customer satisfaction. We want to support the priorities of government through people, prosperity, and preservation.

If you look at the Alberta government web site, you'll see that the home page comes up with those themes: people, prosperity, and preservation, and you're allowed to click on the various windows there and surf the net through all the good things in the Alberta government. In fact, should you be interested, you should also tune into the ARC home page through the Internet, although I understand that they're going to upgrade it and make it even more fabulous for you so you'll just want to visit that site very often.

We want to continue to provide the value-added services required by the Alberta government departments and agencies, including Alberta Agriculture and Alberta Environmental Protection. We certainly will work in co-operation with the minister, and I know he'll work in co-operation with us. I'm pleased that he is here tonight listening intently to the comments.

These are ambitious goals, goals that are vitally important to Alberta's economic prosperity and our quality of life. Madam Chairman, hon. minister, members, this is just a taste of the good news stemming from the excellent research being conducted by Alberta's leading technology corporation. I encourage you to seek more information about this valuable resource, and I thank you for allowing me to share with you some of the exciting news the Alberta Research Council has to offer.

Just to pre-empt a question, because I notice it came up in some of the other research, no, this speech is not the same as the one that was given last year. I did check that out. I made sure that there were some differences. There have been some new things that have happened at the Alberta Research Council, and more good things are going to happen.

Madam Chairman, with that, I'll take my place and look forward to the questions.

THE CHAIRMAN: Thank you.

The hon. Member for Edmonton-Glenora, followed by Edmonton-Ellerslie, followed by Calgary-Egmont.

MR. SAPERS: Thank you, Madam Chairman. To the Member for Red Deer-South: I wasn't going to ask if that was the same speech. I was going to compliment you on your writing and reading ability, but I wasn't going to assume that it was the same speech.

I want to thank the minister for his introductory comments and also for handing out the summary of the mandate. That's useful one-page information. I appreciate that. Welcome to your new responsibilities. I note that when you were chairman of the ARC, you provided a meal when the new members went on the tour of the facility. So I issue that as a challenge to Red Deer-South. Of course, we weren't exactly sure what we were eating. It was right by that OSB press, but it was considerably more tasty, I'm sure.

I also want to thank the minister for having some officials that he works with that told him what to say tonight. I want to thank them for being here to make sure that, of course, he gets it right.

Mr. Minister, this is truly an exciting area to be involved with, and it is truly a bit of good news. You know me; I'm never at a loss for words when it comes to praising the Alberta government. I happen to think that there are some things that are happening with science and research in this province which really are a lot to be proud of.

I'm not one of those who question the existence of a stand-alone ministry for science, research, and information technology. In fact, I kind of think of this as the little ministry that could. You know, we've got a ministry that, I believe, has a really important role, needs to exist, should exist, and it's very exciting for me to hear members of the government talk about the importance of knowledge, that Alberta's economy, much as the world economy, is really working towards a world-based knowledge economy and that the trade is really going to be in knowledge and information. The spoils of those battles will go to those who can create, replicate, and transmit that knowledge and have the technology to control that knowledge and distribute that knowledge. So I'm glad that the ministry exists.

I do have some questions about how it's structured, it's relationship with other government departments. Previously in the House I questioned the minister about the role of the Member for Red Deer-South and the role of the Member for Calgary-Mountain View, who I forgot to mention earlier today and who of course was the questioner of that question that was inappropriate only because it anticipated this particular debate, and I didn't want to steal any of the thunder from tonight's proceedings.

You know, we have a ministry that I think the government has rightly acknowledged is important, needs to exist. Members on this side acknowledge the importance of the subject area, but we have a query as to why it only appears to get lip service. If indeed, Mr. Minister, knowledge is one of the most important resources, I think were the words that you used, and knowledge is an important industry in the Alberta economy – and I believe those were your words as well – then why is it that when you strip away the ARC funding, the total commitment that this government has made to your department is something less than \$2 million? As a minister, when you get up to that table, you know, in the star chamber in Government House and you're asked to justify what it is that you're doing, I'm wondering how I can help you get the attention that this department deserves. How is it that we can work to ensure that this government really puts its money where its mouth is and its commitment to science and tech and R and D?

While I'm pursuing that theme, Mr. Minister, I guess I would like your comments on this. Both you and the Member for Red Deer-South talked a lot about partnerships and strategic alliances and collaboration. I'm a fan of all that, as much as I understand what I think it means, but I do have a concern. The concern is this: if we're talking about committing public dollars to a research agenda, what safeguards are in place that it truly is a public research agenda and not one that is driven either by outside private interests or one that is simply existing because of the existence of these partnership dollars?

**8:46**

Now, I had an opportunity not so long ago to participate in the Conference Board of Canada process that defined collaboration and partnership. I would commend the report of the Conference Board of Canada on collaboration to the minister and perhaps to the Member for Red Deer-South to read, because while the report was really a summary of all of the benefits of collaboration and strategic partnering, it also had many cautionary tales. There are dangers associated with collaboration, and one of those dangers is the subversion of the public good.

Of course, this government has been very adept at pointing out private interests. I believe that this government has defined many things as special interest and has rejected special interest concerns, always trying to put forward public interest concerns as overriding what those special interest concerns would be. I would hope that the same will be true when it comes to the development of a public research agenda and a co-ordinated, integrated research strategy across all of the various government departments that consume that \$110 million that the minister was talking about.

We must of course find a way to make sure that research is used as a lever for Alberta value-added industries. There are hundreds of companies just in agricultural processing alone, I believe, that operate in Alberta. They've benefited, as clearly outlined by the Member for Red Deer-South, from some of the made-in-Alberta research breakthroughs. But I wouldn't want to see that come to a halt because some private interests are suggesting that the public good needs to be set aside.

I have a couple of other questions out of the mandate summary that the minister circulated and particularly the mandate that he described as his and his alone for interprovincial, federal/provincial, and international science and research relations. Mr. Minister, there's a couple of things that are going on across this country right now that I'm glad to hear you're on top of. One of them is the placement of a level 3 microbiology contagion lab. It's supposed to be coming to western Canada.

As I understand it, the debate is raging between that lab finding a home in Edmonton or Saskatoon. This is a Department of National Defence initiative. We have a unique infrastructure, I believe, in Edmonton. That infrastructure is somewhere in that triangle between ARC in Mill Woods and the University hospital and the university science labs. I would hope that you are front and centre and present in those discussions with the federal government when it comes to the placement of that lab.

Of course, the federal government has done us a favour by building up quite a military infrastructure in and around Edmonton, and of course the primary sponsor of this lab is going to be the Department of National Defence. It seems to me that this should be the home for this lab, and you have my commitment that I will certainly work with you to see that that takes place. Of course, there's a federal election going on right now, and we wouldn't want to mix politics into this discussion, but, Mr. Minister, if you want to meet me after, we can talk.

MR. MAGNUS: Out in the alley, Howie?

MR. SAPERS: No. We'll meet at the front doors, Calgary-North Hill. You and I can go rumble in the alley if you want.

The other issue that I'm very excited about is the issue of telemedicine and really all of the breakthroughs in this province. The partnership right now between the University of Alberta and Hughes I think is something that we need to talk more and more about. The pilot projects that are taking place around the province are very exciting, but we need to pay more attention to these breakthroughs. We need to make sure that we build on them.

Again, there's a role for the federal government here and perhaps even CRTC, and maybe we have to figure out how to get space on a satellite so we don't have to worry about landlines, all of that. But what about the responsibility of your department, Mr. Minister, in nurturing this and making sure that some department is taking a leadership role? It certainly isn't the Ministry of Health, with respect Mr. Minister, that's taking a leadership role on that initiative. Somebody has to, and I suspect that you're well positioned to do so.

While I'm talking about communications, now that I've got your undivided attention, Mr. Minister, I'd like to ask you a little bit about what strategies are in place to deal with community access to the Internet. Earlier today Calgary-Egmont in response to the throne speech was talking about how we maybe shouldn't be wiring schools, that we should be wiring communities. At least that's how I heard it: let's get computers into the community. So what exactly are you doing to ensure that we have public access, community access to the Internet? It seems to me that the further down this road we go, the more apparent it becomes that Internet, E-mail, electronic communication, virtual conferencing, et cetera, et cetera, are this generation's pony express if not mail service.

We'll be at the point soon if not already where - there are certainly paperless offices of all types - there will be paperless communications that will probably be replacing a number of documents that actually get processed in more traditional ways. What are we doing in this province to anticipate that? It's going to happen. What are we doing to make sure that Alberta citizens can fully participate? We don't want to be left in the dust, Mr. Minister. We've already seen a big oops, if you'll permit me, and that big oops was perhaps not clearly anticipating the year 2000, as if that was going to be a surprise to everybody. I'd hate to see a big oops about the years beyond 2000 when it comes to taking advantage of fully electronic communication.

It's not just information, but of course services are now being bought and sold as commodities over the Internet. So as we talk about industrial development and economic development, I think we would be naive not to look at the huge economic impact just in terms of the exchange of goods and services electronically and the impact that'll have on our economy overall.

While I'm pursuing that, a very specific question. I couldn't find it. There are some references, but when I read your business plan, I had a relatively simple question and was looking for a relatively specific answer. What specific things is your department going to do to stimulate or bring technology into business and industry in this province? What's the checklist? What are the things you're going to do? What will we be able to measure you against? What will your legacy as minister be? Of course, I'm sure you're going to have a long and illustrious career as minister of this department, but still, anticipating when that ends, what will your legacy be in this regard, Mr. Minister?

I'm looking at page 344 of the business plan summary in the

budget. If you want to turn to it, I'm looking at the bottom of the page. It's the middle bullet, where it reads, "Define key science and technology priorities and approaches to achieve the economic and social objectives of the government." I think Dilbert wrote that, Mr. Minister, with all respect to anybody who may be in the room that actually authored it.

DR. TAYLOR: That's Gilbert and Sullivan.

MR. SAPERS: Dilbert, not Gilbert. You know, the engineer with the dog and the rat.

What exactly does that mean? I want to know: how are you going to define the key science and technology priorities? Who are the stakeholders in the process? What exactly is the process? Is it an open, consultative one? Is it a closed one? Are you only bringing in your partners now? What exactly are the key economic and social objectives of the government as they pertain to science and technology priorities? That one little statement, I believe, needs a lot of flesh to make it meaningful, so I would like some assistance in more fully understanding and appreciating that.

The assistance to the science and research fund, the \$5 million fund. That, in my reading, is brand new to government. I know it's new to the department, and I couldn't find another place in government where it may have been taken away from. So I'm assuming that that's 5 million brand-new dollars. Under line 1.0.4, that operating expense of \$5 million, how exactly is that going to be spent? Who's actually going to be parceling that money out? Is it you? Is it a committee? Is it the Science and Research Authority? Is it renewable? Can it only be used as matching dollars? Is there a federal component? I'd like to know some more about that.

#### 8:56

My question as well about major strategies. The last bullet on page 344 is "encourage the development and implementation of new high value strategic science and research opportunities." I'm wondering if that is where we will find your discussion on tax incentives that you mentioned. You said that there were some management issues and some financial issues and that we had to look at perhaps tax incentives and the tax structure, the inability of Alberta to attract investment dollars for research as compared to some other jurisdictions. I'm wondering if that's where that's going to be and if you could tell us a little bit more specifically about what kinds of tax incentives you have in mind. Let me keep my fingers crossed that one of them has to do with the Canadian medical discoveries fund, I believe is its title. This is a fund of millions and millions of dollars – I think it's about \$250 million right now – and Alberta gets far less than what it should get in terms of not just the level of activity here but also our population and also the other kind of medical and biomedical research that goes on.

This is going to be a bit of a tightrope for you, I suggest, Mr. Minister, talking about tax incentives in the get-out-of-business government. I want you to know that if you do it right, we'll support you. I'm not suggesting that the government open up its wallet, and I'm not suggesting that you become overly interventionist. But certainly we've had representations from many outside groups about the tax structure in this province. There are things that we can do to reform that will attract research dollars, and we are truly looking for some innovation here.

Again, this is an area that we would be happy to work on with you, but there are some big cautions. One of those big cautions is that we don't think a tax incentive is simply one that honours either huge industrial investors or huge corporate interests and

leaves small investors, small entrepreneurs aside and does not do anything to diversify Alberta's economy. We don't want to see a tax structure that simply takes more of the profit-after capital out of town. I see you nodding, and I'm glad to see that.

DR. NICOL: You'd better say he's nodding in the affirmative.

MR. SAPERS: In the affirmative. Would you call that an up and down as opposed to a lateral? I'm not sure.

MS CARLSON: From the left to the right.

MR. SAPERS: Yes. He never goes left. Genetically he can't do that.

DR. TAYLOR: Because I have Victor sitting on my right.

THE CHAIRMAN: Hon. minister, you will have time to reply later.

MR. SAPERS: A little while ago I made reference to some 350 companies in Alberta that process agricultural products, and the last figure that I have is that the value of shipments from these companies is estimated at \$5.6 billion. This is expected to increase to over \$20 billion over the next 15 years, according to the government's projections. I know there is an agrifood and fibre innovations centre. I'd like to know more about that. I'd like to know more about how that centre fits in with your department, the plans, the funding, how you expect to see that quadrupling in the output of these shipments over a relatively short time period.

Mr. Minister, I can't believe how fast 20 minutes goes, but I look forward to your answers.

DR. TAYLOR: Thank you. I'll take the opportunity to respond to some of those questions, if I might?

THE CHAIRMAN: Go ahead, hon. minister.

DR. TAYLOR: Thank you. I thought there were a lot of very valuable questions and very helpful points made. Let me just try and respond to some of them, and we'll get back to you on the ones I don't necessarily respond to.

The first comment about the small budget. Certainly, it is a small budget; \$2 million is not a lot of money. But when we look at the overall research restructuring that's happening, the government is spending \$110 million. I don't see it as the role of the ministry to grab all this money into one pot, to grab it from agriculture, to grab it from environment or wherever and put it in one pot.

On the report that we did on the science and research business plans, there's a table at the front of that report showing you how much each department spends. What the role of the ministry is when it comes to departmental expenditures is to take an umbrella approach. I'm trying to look at the ministry as an umbrella organization that looks at each department and says, "Hey, you're doing a good job there; this fits the priorities of the province, so keep going," or "You're not doing a good job there; this does not fit the priorities of the province, and you need to change your research plans and your research budget accordingly." Although the ministry only has roughly a \$2 million budget, it is adequate basically to fulfill that role: to evaluate the research plans and the research business plans of each department. We can do that through the help of the Science and Research Authority. So I think that's an important question that you did raise.

I'd like to comment on the DND initiative. We are very much up on that. The president of the Alberta Science and Research Authority, Bob Fessenden, with some members of the Economic Development Authority was in Ottawa last week talking to the DND and working with the DND. In fact, the head of DRES, the Defense Research Establishment Suffield, is coming up to meet with Dr. Fessenden next week to talk more about what's happening with this DND facility. Certainly if there is any input you can provide us on this, we would be more than willing to encourage you to do that and encourage your help in locating this facility to Edmonton. It is a very important facility, and we are working very hard with Economic Development Edmonton to try and locate that facility to Edmonton. We recognize it as an important priority.

You asked about the priorities of research and how we will be establishing those in terms of funding and generally. Minister Mirosh held a number of consultations around the province. Perhaps Dr. Nicol was in on one in Lethbridge; I don't know. You were? I thought you had been there. What happened was that these consultations were held around the province and were generally open to the public. People could come and talk about research, R and D. From those consultations we came up with a chart, and once again I realize I perhaps should have made copies of this as well. It asked: has it attractiveness? That means, how attractive is it for Alberta to do? Along the bottom: is it feasible? So something might be attractive but not very feasible. In this top quadrant here - I'd be pleased to give you this report after, if you'd like - we've got about nine different areas that have been defined as highly attractive and highly feasible research priorities for Alberta. They include things like agriculture, agrifood, biotechnology, and so on. We have these nine different areas.

So that's one of the ways that research priorities have been established, in terms of looking at where should Alberta be working, where should we be spending our limited dollars. Let's face it: unfortunately we don't have unlimited funds. That's one of the things when we're looking at business plans. We will be looking at their business plans in terms of these priorities. Are the business plans in your department meeting these priorities that have been determined by Albertans? I think that's important, and that's one of the things that we'll be looking at in terms of the \$5 million fund, assuming we get the money, of course. The money's not there until this budget is approved. One of the questions you asked is: was it renewable? It's renewable over three years. It's a three-year commitment, \$5 million a year for each of the next three years.

#### 9:06

Assuming the budget is approved and we get the money, one of the criterion we will be looking at for projects is: does it meet those priorities that Albertans have told us?

Another criterion we'll be looking at is in terms of leverage. I mean, we want some leverage dollars here. ARC is very good at leveraging dollars. You can get anywhere from 3 to 1 to 10 to 1 dollars. So one of the criteria for the projects we'll be looking at is leverage dollars.

Ultimately the Science and Research Authority, this group of independent people on the board, will be determining the projects that are awarded, the funds. As I said, I've got all their names here; I gave you an example of some. But I personally would not like to see the funds all going to one person, as you talked about a little earlier. I'd rather see them spread amongst a number of small companies, small technology companies. I'm sure that's some of the biases that the Science and Research Authority will bring to the awarding of the funds as well.

We do have several projects that people have already approached us with, and they are presently being evaluated in terms of their acceptability. One of the things we will be looking at is that the project should demonstrate a high probability of generating significant, identifiable economic or social benefits for the province. In other words, we want strong performance measures. What are you going to produce? These could include things like sustainable employment, exports, health, or something to do with environmental quality, just as examples.

The other thing we're going to be looking at is that we do not want projects that are going to create orphans. The business plan should satisfy the ASRA board that the initiative, once launched, can be successful without the indefinite support of the fund. We're not interested, as I say, in supporting projects that are going to need indefinite support. This fund is to kick start and then have that project out there surviving and working on its own. As I say, we do not want orphans. The initiatives will be looked at in terms of: do they enhance human capital through learning and training? Initiatives should be founded on relative, expert, professional assessment of opportunity and need.

Then we go into a very detailed procedure of what the initiative must go through. There are six gating processes, and I'm not going to go through all of those. If you're interested in the gating processes, I can do it in a later question or give them to you. But they will be gated at each of the six steps, so it won't be just giving a pot of money to somebody and saying: go do it. It'll be saying: okay; here's the first step you have to go through; if you meet that, there's some money. If you go through the second step - and it's a six-stage gating process. So as I say, I've got those here. If you're interested, I can get into that.

You commented on telemedicine. We actually have a project going that is through ARC. I asked Mr. Doerksen if he was really familiar with the project and . . .

THE CHAIRMAN: Hon. minister, you never use proper names, please.

DR. TAYLOR: Oh, I'm sorry. The hon. Member for Red Deer-South.

I might just comment on it very briefly. It's being run by Steven Edworthy. He's not a member, so I can say his name; right?

THE CHAIRMAN: That's correct.

DR. TAYLOR: He's at the University of Calgary, Faculty of Medicine, and Steve runs a project called the Lupusnet. It's a very interesting project. In fact, I'm meeting with Dr. Edworthy tomorrow in Calgary. So that's one program that is already out there in terms of telemedicine, and it hopefully will be used as a model. I know Dr. Edworthy and Dr. Fessenden have met with the Department of Health, are showing them this model, and are presently working with the department and saying: hey, we've got a model working there; let us provide you with a model of telemedicine. Those negotiations are ongoing.

MR. SAPERS: Lorne, could you table that gating stuff or just send over copies?

DR. TAYLOR: Oh, the gating? Yeah, we can get you the gating stuff.

You asked about the area of tax credits. I'm not saying it's going to be easy, quite frankly, hon. member. That's why I'm already starting to talk about knowledge as the most important



industry, because I want to convince you and I want to convince all my colleagues here – she's convinced. I want to convince cabinet and I want to convince the Treasury Board colleagues whom I sit with on the Treasury Board, because it's only as I can convince people of this that we then will be able to look seriously at some of the things that probably we need to do. I'm not arguing that we open up the purses. What I'm arguing is that as a government we've said we've got a certain number of dollars for reinvestment. You know, the dollars we have from interest savings we have for reinvestment in the province in worthwhile programs. The past budget year all those dollars went into Health and Education. Whether we agree with the amount of them or don't, that's what we've done. But what I want to argue with my colleagues is that, okay, we've got this limited pot of dollars; let's put some of it from this limited pot of dollars we have for reinvestment into something that's going to encourage research and development in this province.

There are a number of things this report recommends. You know, we will never get all of them; we can get one or two of them hopefully. They are to

- Introduce a Provincial R&D Tax Credit
- Establish Capital Gains Offset Tax Credit
- Allow operation of Labour Sponsored Venture Capital Company in Alberta
- Facilitate program to recruit and educate Angels, and match [them with small- and medium-sized enterprises]

If you're not familiar with the term "Angels," it came out of Silicon Valley in the '80s. It's somebody who has lots of money and is willing to dedicate some of it to research. Also, to "facilitate [a] program to provide mentoring and networking opportunities to" small- and medium-sized enterprises. As I say, this comes out of the independent Davitech report. It's called Barriers to Technology Commercialization in Alberta.

Certainly it's an area that I'm going to be arguing strongly for. I see myself, quite frankly, as an advocate for science and technology in the province, and I'm going to carry out that advocate role in the strongest possible terms that I can. So I'll stand up and say, "Hey, government, you know, we need to be doing more." When I look at what we're doing in terms of percent of GDP, it's not good enough. When I look at what we're doing in terms of comparison of R and D expenditure per capita, it's not good enough. As I say, I'm the advocate for science and research and information technology in the province, and that's the role I intend to take. I will do my advocacy in the strongest terms I possibly can. I'm not going to win them all – I recognize that – but if I can win some of them, I will be happy.

You asked a question as well about information technology. Quite frankly, this part of the portfolio was just added after the last election. We are just starting to work on it. One of the things I was doing with Mike Pfeiffer in Calgary two weeks ago is asking Mike: where do we need to go with this information technology? What do we need to do about Internet access? Mike has some notes that he has written on this, and he has agreed to pass that on to me. I have yet to get those notes from Mike, so I cannot provide any direct answer at the present time to your question, other than to say I know it's a problem. I know we need to work on it. The direction we'll take on this I can't say. One of the suggestions we will be doing, once we get this information from Mike, is sitting down with some of the technology leaders in the province and talking to them about the same issues. What do we do? Where do we go? What direction should we take? In fact, tomorrow I'm meeting in Calgary with some of them on this very issue, talking about some of these IT issues and just searching out. There's a group coming from the

Calgary Research and – what is it? The Calgary Research and Development Authority. I know that wasn't really legal, but we did it anyway.

We're going to be talking with them, and they've brought in people from the private sector, some IT people. They're establishing a software chair at the University of Calgary tomorrow. We're meeting with some of those people tomorrow afternoon in Calgary.

So we are moving in this area and starting to progress in it. I can't give you any, you know, definite direction other than to say I'm learning, and we're going to be talking to the people that I think are important in this area. If you have people that want to contribute to the discussion in Edmonton here, I'm more than willing to sit down and talk with anybody on these issues.

Now, I realize I haven't answered all of your questions, but if there are things that we haven't answered, we will try to get back to you on them.

Thank you.

THE CHAIRMAN: Thank you.

Edmonton-Ellerslie, followed by Calgary-Egmont.

### 9:16

MS CARLSON: Thank you, Madam Chairman. It's a pleasure to rise and speak to the estimates of science, research, and information technology. I've always been a fan of research and technology and in fact firmly believe that if the Tory government of the '70s would have put more emphasis on it, we wouldn't be sending things like raw lumber to Japan now for them to stock underseas. Certainly there would have been a lot more in terms of technological development over the years, and we probably wouldn't be facing the kind of job crisis we have in this province now.

I am also very supportive of the Alberta Research Council. With the restructuring of the boundaries, that council is now in my constituency. I've been out there a number of times and certainly enjoy seeing the progress that the individual companies which are there working on projects are making and the high spiritedness with which they enter into those developments and try to take their projects to the marketplace. The kind of support that is provided there by the council is certainly supportive to all businesses that are involved there, and I know there are many that are trying to get in. I wonder if the minister would table the specific requirements there are for businesses to find space in the ARC and the other development institutes we've got throughout the province so that we can make that available to constituents who are looking for that kind of support.

[Ms Haley in the Chair]

First of all, before I get into the actual line-by-line estimates, I'd like to address a few comments from the Member for Red Deer-South. He talked about the government contributing \$116 million to the economy in terms of the kind of development they're doing there. It always bothers me a bit when the government takes full credit for everything that individuals are doing inside and outside of the economy. I'm wondering if they have done an evaluation in terms of what they feel would have happened naturally in terms of economic development here without the support of government as compared to other provinces and in fact other countries and what kind of impact other factors in the economy had towards this kind of growth. I'm thinking specifically of things like interest rates and the availability of capital and federal tax incentives that are there for R and D dollars and things of that nature.

In addition, the Member for Red Deer-South talked about the expectation and I think he said hope of external contract revenue increasing. I would say that given what's been tabled in the 1996 ARC business plan – it must be a yearly forecast – it's very optimistic to say that they expect the contract revenue to increase. As I see it, looking at the table on page 5, the annual revenue share from private-sector contracts has in fact decreased. It's gone down to some degree for every year since 1991, and I'm wondering on what basis you make the statement that you're looking at the contract revenue increasing. It certainly doesn't look like it's in that trend as far as the information they've provided here. If you've got other information, certainly I'd be very happy to see that.

DR. TAYLOR: What page are you on?

MS CARLSON: Page 5, financial highlights. There's a little chart down there talking about annual revenue, private-sector contracts, which I assume is the top third of the bar. My copy is in black and white. It's been on a slight decrease since '91. In 1991 it was up a little from 1990 and then steadily decreased from there. The centre part of that graph is the provincial contracts, which have also decreased from that point in time, and I'm wondering if you can explain why. I have no problem with the government outsourcing on some of its stuff and, if not applicable, not going to the ARC, but I'm wondering what changed during that time period. Did the kind of research that the ARC had at developmental stage not fit into the kinds of contracts that the government needs or wants? Or did the government come up with a new policy that said they'll outsource from other places as opposed to the ARC? Just exactly what's the explanation there?

We can see that the grant money has steadily decreased. In fact, as my colleague and the minister stated, there isn't all that much money going into this department. I'm wondering if the minister is fully satisfied with that and feels that with the kinds of dollars they've got, they are maximizing the best possible benefit. With the kinds of dollars they have, then, I of course have to ask the question: how is it that in terms of his own support he's added an additional person this time? The Member for Red Deer-South has his old job, I believe, as the chair of the Alberta Research Council, but it seems to me a new person has been added: the Member for Calgary-Mountain View.

DR. TAYLOR: It's not out my budget.

MS CARLSON: It's not out of your budget. Okay. Then the \$15,000 that goes for that job, can you tell me . . . [interjection] Oh, that comes out of economic development. Thank you very much, Madam Minister, for that information.

Then, if the minister of science and research could tell me how it is that he needs that extra help and specifically what the mandate of the Member for Calgary-Mountain View is in terms of supporting you there, which leads me to the next question, which has been slightly discussed tonight already. How is it that the Member for Calgary-Mountain View would need to ask a question in the House in terms of some trial balloons that you're obviously floating out here? It seems to me that the gist of this question would have been much better suited to a ministerial statement or a press release or some sort of back and forth discussion between the minister and whoever he thinks is interested in it. It doesn't seem that it's appropriate for a member who's directly responsible to you in his responsibilities for technology development and commercialization to also need to, then, ask that question in the House. I thought questions were for

private members to ask ministers, not for people who are reporting to the ministers to ask them questions. That would be like any of the deputy ministers asking their ministers questions in the House. I'm not sure that that's an appropriate format.

Having said that, I do have some comments about the question itself. I would agree with the question that some of the problems in terms of R and D in the province are a lack of financial support in some respect and a lack of management. Now, you talked in the answer to the question about some things such as taxation relief and then tonight about some other things that would support development in this area. I think they're all interesting ideas. I think that if you are approaching them in the context of overall tax reform, then tax reform is certainly a concept that we could support on this side of the House. I think it's long needed. Some sort of stabilization and consistency and perhaps tax relief for the people of this province, I believe, is long overdue. The user fees and the taxation levels and the unequal payments and tax burden that some people within the province are paying certainly don't lend themselves to the best possible tax structure. So I think that's something that at some point we need to address. I'm wondering if you could comment in terms of that.

Now, you also talked about a labour-sponsored venture capital company. I'd like some more feedback on that, if you would like. It seems to me that you've given it some thought and that there's perhaps a great more to this particular idea than what you have talked about this evening. I'm wondering specifically if you can tell me how you see that being structured and who will have the opportunity to participate in something like that. Are you currently looking at a structure or a company or a group of people, or is this something that's open to tender? Is this something that you expect to be a public offering, and if so, how far along, at what stage is it? Those are the kinds of questions. As much detail as you can provide on that particular piece of information I would appreciate.

I would like to go now to the one page that you handed out at the beginning of your discussion and go through a few of the items line by line. In point 2, where you talk about the Alberta Science and Research Authority, you talk about the mandate, and you talk about ensuring that this system is healthy. Could you define healthy for us? That seems to be something of a motherhood statement, and I'm sure that you have a concrete definition that would explain to us exactly what it is you're meaning to get across to the people and how it is that you're going to be measuring that system in the context of that term.

#### 9:26

Later on in that sentence you talk about “the best use of science and research to create wealth and jobs.” Well, once again I'd like to specifically know how you're measuring wealth and jobs, particularly in contrast to those that would have been created in the marketplace anyway. When I say anyway, I mean those that anyway would have also been created in research and development, because as we know, a number of the larger corporations in this province have ongoing research and development projects which do ultimately lead to additional jobs and wealth in this province. So are you talking here about specifically attracting new dollars or new companies which will then bring wealth and jobs, or are you talking about the transition between what's being developed now and its going to market and therefore creating wealth and jobs? Just some more specifics on that.

Then under point (a) here you say, “This is why ASRA conducts an annual review of government science and research expenditures.” So I'm wondering if these expenditures are tied to some accepted standard of results so that that might be consistent

from year to year within the ASRA, or are there some sorts of provincial standards or federal or international standards that you measure this against? A review is only as good as what you can compare it to or what your expectations are of it in the future, so there must be some sort of a mandate there.

Point (b): “developing science and research policy and priorities that are compatible with the economic policies and priorities of the government.” I couldn't specifically see anywhere in the information that's provided a sort of line-by-line comparison of the policies and priorities in terms with the research policies and priorities. So if you could expand on that a little bit or if you could tell me where there is a document where I could see that kind of comparison, I would certainly appreciate that.

Point (c): “stimulating and encouraging private sector investment in R&D.” Once again, precisely how is this done in the absence of any of the tax changes or credits that you're talking about? Just for a moment back to the tax credits. Tax credits are very helpful to companies that are making money, so if we're taking a look at large companies investing back in the marketplace, then a tax credit is a good incentive to them. A tax credit can also be a minor incentive to an individual who has a few dollars that they may be ready to invest in something that's somewhat speculative. So I don't see how that actually helps start-up companies, which traditionally have a lack of capital and traditionally run at a loss for some years before they've got a product that is actually generating revenue. So are you expecting all the tax relief to come from the side of large companies and wealthy individuals? If you could expand on that a little bit.

I'd also like to know what kind of protection we are looking at for those people who do in fact, assuming that you at some point in time find some form of tax credit, avail themselves of that tax credit from reviews in the future? Over the past 15 or 20 years there have been a number of instances where tax credits have been given initially and then for some reason disallowed at a later stage by Revenue Canada. So I would want to know that whatever you're proposing or taking a look at would have individuals and companies well protected from that perspective.

I'm thinking particularly of motion picture tax credits that were around sometime in the late '70s or early '80s that came under dark scrutiny, and many were disallowed. Also the MURBs of the '80s, which was a similar kind of scheme to get investment dollars in an industry. Many people did that because it was as good or better than RRSPs in those days and three or four or five or six years down the road ended up having to pay a heavy price not only in having those expenses disallowed but having to pay back taxes and accumulated interest and penalties.

So I'm just wondering if the minister has considered that and what he expects to do to overcome any potential difficulties down the road. That may be as simple as having it streamlined with your federal counterpart and working in co-operation with some sort of a tax relief scheme in that regard.

Point (d): “promotion and advocacy of science, research and technology.” There must be some sort of priority list that you take a look at, because there are just so many people who have good ideas and who are at some stage of development of them and would like to be the people who have their ideas promoted and have advocates on their behalf. So have you specifically targeted areas in the marketplace? Do you have some sort of a criteria list that people need to meet? Is there some sort of prioritization? On average how many new ideas or new projects get the go-ahead? You talked a little bit about staging previously. Can you give us a little bit more detail in terms of what hoops they have to jump through in order to get the next stage go-ahead? Maybe you've got that information somewhere that you could just pass

over to us and don't have to take up time in the House discussing it.

Okay. So now to get down to interprovincial, federal/provincial, and international science and research relations. You lay out two specific pieces of information about what this includes, but you don't specifically talk here about what's actually happening. I know that at the federal level there's an election going on, but you must have had some discussion pre-election. Where do you expect that to pick up after the election in terms of the federal side of things, and what's happening on an international scale? Certainly in the global marketplace we don't want to get left in the dust, and that means, I'm sure, that you're in contact with a number of international science groups and research groups. I would expect that Alberta would be leading the pack there or at least keeping up to speed with what's going on globally. So if you could just bring us up to date on that or if you could put it in a letter and send it to us, whatever, that would be really good for us.

In your opening comments you talked about being a doer of research, not a policy setter, and being particularly interested in bringing research development to market. Well, so are we. I think that's the fundamental area where we tend to fall down. I don't think that's necessarily anybody's fault, not the government's fault and not the inventor's fault, but it's, I think, a lack of skill sets, which is something that you talked about today in the question that was asked in the House. That would be the inability of some inventors in the area of management expertise.

You spoke a little bit about that in the answer to the question here today, but I think that clearly the area of greatest failure in terms of bringing really good ideas and really good technology to market is the lack of market expertise and management expertise. Even the knowledge about how to market a product that is a really good idea is lacking, and that's something different than management. I'm hoping that in where you go from here over the next year and, in fact, in long-term planning for your department, for ARC, and for all of those people who have projects that are in production, you would be paying some specific attention to that.

There are a number of other groups that are providing that kind of expertise now in the marketplace. You talked a little bit about mentoring, and that's ongoing, but there are many places now, federal and provincial government programs, that specifically target marketing and management. I'm wondering if you are currently linking up with any of them and, if so, what kind of success you're having even in terms of their mentoring programs. Certainly there's a lot of currently successful businesspeople who would be more than happy to partner up with someone who's new and help them establish both management techniques and marketing skills. I'm not sure that you need to spend any new dollars in this area. I think first of all you should fully explore what's out there, and certainly the minister of economic development knows about the partners that they have in this. I hope you'd explore those.

Well, many more questions, Madam Chairman, and I hope I'll get a chance yet to return.

**9:36**

THE DEPUTY CHAIRMAN: Thank you.

The next speaker is Calgary-Egmont. Oh, I'm sorry. Red Deer-South.

MR. DOERKSEN: Madam Chairman, if I may be permitted to make a few comments, I will make certain I leave enough time for the Member for Calgary-Egmont to make his comments and ask his questions.

There have been a number of points raised by both the previous members from the Official Opposition that I want to address briefly. One has to do with the involvement with the private sector. At Alberta Research Council we certainly do work with the private sector. We work for them on a contract basis; we work with them in partnerships.

I think that the Member for Edmonton-Glenora raised a similar question to the one that has come to my mind, and it's an important question. Are we subsidizing the work of companies or businesspeople to the detriment of or to disadvantage competitors? I have to say that the services of the Alberta Research Council are available to anybody. They can come and approach ARC to joint-venture, to do contract work, and the board treats that very carefully, because we don't want to be in that position.

Something that we have to realize with research and development is that there is a time lag between the expenditures that we put into R and D and the outcome or the payoff down the road. I mean, depending on what figures you use, there's anywhere from a five- to a 10- to a 15-year time lag for the real effect of that research and development cost to be realized.

Having said that, I think what's important to note is that in terms of external contract revenue there was a recommendation in the Auditor General's report of last year to the Alberta Research Council that they needed to develop a system for the timely collection of royalties and licensing fees. The Alberta Research Council hasn't always been focused on that particular part of their business in terms of getting a payback from the work they do in terms of the licensing fees. They pay a lot more attention to that now and particularly as a result of the Auditor's recommendation to them. I think that's important, because from any work that ARC's involved in in partnership with other companies and to which they've contributed, there should be some royalty that comes back that can then be used to generate more research and development. So those were good questions. I wanted to make that point.

Also, in terms of the board of directors, I think it's important to know exactly what the board of directors is made up of. The board of directors is set up under the Alberta Research Council Act. In that Act it stipulates that there is a 15-member board of directors. That includes the chairman, who is a member of the Legislature. It includes the minister who is responsible for ARC. It has one representative from each of the three major research universities: the University of Lethbridge, the University of Calgary, and the University of Alberta. The other 10 appointments all come from the private sector, and we have very good senior people serving on the board of ARC.

There have been a few comments tonight about my role versus the minister's role. I'll be frank here tonight: if the minister sees fit that a member of the Legislature should not be the chair of that particular board, I think he can make that recommendation. We've had that debate. We had debate in the House today even with respect to how we set up the board for the foundation that ran CKUA, and there was no government involvement in that particular board. You've read some of the comments that the Auditor made with respect to that.

This afternoon the opposition were making comments on the Historical Resources Act. They were concerned at some of these getting too arm's length from the government. So I think that with a \$22 million investment annually in the Alberta Research Council, it is incumbent upon the government to make sure that we do sit at the table to make sure that that money is in fact well spent. I think it is important to have it there. But again, like I say, if the minister can find a better way to organize his department and run everything, so be it. At the time, I think it is

important for us to be at the table and represent the people of Alberta's interests at that table.

The Member for Edmonton-Ellerslie says: why is the government taking all the credit for all the wonderful things that are happening at ARC? Well, frankly, folks, it's not the government that gets the credit; it's the people that are working at ARC that should get the credit for everything that they are doing. They're the ones that are doing the work and doing the good job. Those are the folks that deserve the credit and should get it. If I'm standing here pretending that the government should get all the credit, well, then I will defer that praise, that credit to the people at the Alberta Research Council.

Coming back to the work with the private sector, what is so important with Alberta Research Council is that the companies they work for and with are successful. That is our measurement of success. ARC goes out and audits companies that they have worked for to determine what they have been able to save them in terms of their processing costs, what they've been able to add in terms of sales because of the new advances that have been made as a result of the work of ARC. They do an audit, and the company signs off on those audits to confirm that in fact they have been able to benefit because of the work of ARC. So it is a tightly controlled process. It is being measured much more carefully now than it ever has been in the past. They are certainly following the three-year business planning process. They have set some targets in place, and they've set some targets that they're going to have to run hard to meet. I'm confident in their ability to do that.

So those are a few comments, Madam Chairman. I would like to give the Member for Calgary-Egmont a chance to say some words.

THE DEPUTY CHAIRMAN: That's very kind of you, Red Deer-South.

Calgary-Egmont, please.

MR. HERARD: Thank you, Madam Chairman. First of all, I want to compliment the minister for I think probably one of the more exciting initiatives I've seen in a number of years with respect to the recognition and the role that knowledge will play in the ministry and in the things that we see the science, research, and information technology ministry involved in in the future.

Essentially, in the global economy everybody can buy everybody else's technology, so there's really not a lot of difference between corporations being able to mass-produce or deliver goods with respect to the global economy. But the difference will be in the knowledge that they in fact amass over the years. So the knowledge part of it is going to become more and more important. The main problem with that is that the bean counters, you know, have not figured out a way yet of putting a value on knowledge. Today you look at capital as an input, and you look at costs and productivity and productivity gains and improvements. The bean counters can relate to that. But how are they going to relate to knowledge? How are they going to put a value on that if in fact knowledge becomes the capital of the 21st century? So that's a problem I don't think too many people have put their heads around yet, but it's got to happen. Otherwise it won't happen.

9:46

With respect to some questions, they're primarily with respect to the ARC. I have to agree to a certain extent with some of the comments that we've heard from across the way with respect to economic impact and job creation, because I think the ARC is in

fact doing two different kinds of work. They're doing contract work, and they're doing partnerships. I would like to know the breakdown of the revenue that comes back into ARC with respect to partnerships versus contract work.

I don't think it's fair, for example, that if you're operating as a consultant and you work with a corporation and you do some good work and that corporation does well, you then as the consultant don't take any credit for the economic impact or the job creation that that company is generating, but here we seem to do that. I think the work of the Alberta Research Council is important enough without trying to fudge the numbers this way. It seems to me that we need to have a breakdown of exactly how much of this is consultant type work and how much of it is contract work where in fact you can take some ownership, then, from the economic impact and job creation if you're in partnership with somebody. This way we're seeing economic impact, and it's really tough, I think, to correlate that to the real worth of the Research Council. I think it's done some tremendous work over the years and ought to be able to stand on its own record without playing with these kinds of numbers.

The area of the number of employees, over 475 people. That's combined ARC and AEC employees. I'm not here to say that they need fewer people, but I'm here to ask the question: if in fact we are in the knowledge business, then would it not be the practical approach to have a number of people that you can call on, depending on the expertise you happen to need at the time? Nobody knows what projects are going to walk through the door, and it could be projects you have absolutely no expertise in, but you can find that expertise out in the open market. I'm wondering if in fact instead of developing the employee base, as we currently tend to do – one of the targets in here says:

maintain the number of employees at approximately the same level to provide leading edge core competencies and expertise in key areas; enhance technical and marketing skills through intensified training, coaching and mentoring.

Well I'm wondering: are we talking about the past, or are we talking about the future? If we're talking about the past, then all of those skills are important, but they may not be important tomorrow.

[Mrs. Gordon in the chair]

In fact, if we're going to be in the knowledge business – and I think that the ARC's got a tremendous future with respect to the knowledge industry – I'm wondering, then, if maybe we need to look at whether or not the staffing ought to be perhaps a mix of core competencies and also a number of experts that you can hire by the day, the month, or the hour or whatever to bring in the kind of expertise that you need for specific projects. That way you stay current. Not only that, but you're going to attract new research enterprises because the community out there recognizes that you're flexible enough to bring in the very best if the project looks like it's at all viable.

Those would be my comments. Thank you.

THE CHAIRMAN: Edmonton-Castle Downs.

MRS. PAUL: Thank you, Madam Chairman. I just have a few questions actually. To start with, the Alberta Economic Development Authority's business plan reports that it will be in charge of market development of private-sector science and technology initiatives. The business plan for the Alberta Science and Research Authority – that's in government estimates, page 344 – states as its goal “to increase the . . . socioeconomic benefits to

Alberta from science and research investments in Alberta” and encourage “an adequate level of investment in science to ensure future prosperity.” I'm wondering why the Science and Research Authority has not been combined with the economic authority since they have a very similar mandate. Since the economic authority has announced it has established a task force on technology, why do we need to maintain a separate Science and Research Authority?

My third question. The report *The Commercialization of Biotechnology in Alberta*, which, as you know, was done by the Science and Research Authority, made 31 recommendations. I'm wondering if the minister could report on the status in terms of implementation of these recommendations, just sort of give an overview as to what has been done with the 31 recommendations, if anything has been implemented. Can you report as to whether there will be any improvements in the functioning of this industry as a direct result of this report?

I was wondering if I could have an answer to the report *Health Research: A Strategic Opportunity for Albertans*. I would like to know and have you comment on the results of that report and what specific changes will be implemented as well, just an overview. You don't have to stand up and do it at this point but sometime in the future.

Also I was wondering what assessment has been done on the impact of closing part of the AVC, in Calgary of course, student library more than one year ago. The library was closed a year ago, and I'm just wondering what impact that has had on AVC in Calgary, especially in terms of the students.

Thank you. That's the end of my questions.

THE CHAIRMAN: Lethbridge-East.

DR. NICOL: Thank you, Madam Chairman. Just a couple of questions that I'd like to spend some time asking the minister, specifically about some of their strategy and some of the points that they're taking in terms of the direction they're going with the ministry of science, research, and information technology. I think there are 10 or 11 points I've got on my notes here. I think I'm going to build a lot of my comments in terms of questioning the approach you took on some of the issues you talked about in your introductory remarks as much as the issues you talked about in terms of your specific numbers. We can all look at those and deal with those, you know, in terms of the approach, but how those numbers relate to the actions of the ministry is kind of the way I'd like to go at it.

Your introductory comments left me with a little bit of a question in terms of how you're trying to generate a balance between theoretical research, the idea research, as opposed to the application technologies: how do you take an idea and put it into place. We're all aware of the fact that when computers got started, people really didn't understand what the capacity of them was, but that idea of a computer as more than just an electronic calculator had to come from somewhere. It had to come from envisioning the aspects of how to deal with it. We need some Einsteins, I guess, is what I'm saying, or these kinds of people that bring through really breakthrough technologies in terms of conceptual research. I didn't hear any balance in that from the way you were talking about the mandate of your ministry in terms of how you were going to deal with support.

You did mention an aspect of how university research has to be built into the ARC, get it out into industry and get it commercialized type efforts. When you made your comment about the advanced education institutions having to kind of work a little more toward a public mandate, I think we have to recognize the

fact that in a lot of cases it's the advanced education institutions that allow for this creative thought, creative idea generation. Then it's the applied researchers, the engineers that you talked about, who take those ideas and make them into economic activities. So I'd just like to have the minister talk a little bit about how those concepts kind of fit together in terms of how they see their mandate and how you see your mandate working in with that component that falls under the ministry of advanced education.

#### 9:56

We're seeing issues now where more and more universities are putting kind of the squeeze on professors in terms of: should they be teaching, should they be doing research? How do we get that balance there, between how they deal with that mandate? How do we look at that in terms of the difference between different institutions as well, in terms of the research component that fits with the teaching mandate of the universities and the minister of advanced education?

One other thing. As I listened to your introductory comments, you kept talking about knowledge-based industry. I kind of got the feel from the way you were talking that your definition of knowledge within the context of your presentation – you talked more about knowledge in the concept of information as opposed to idea generation and transmittal as opposed to generation. Again, we need to have a little bit of a breakdown there. The idea that business is dealing with right now – I'd like to have the minister talk a little bit about how he sees this fit into his concept of knowledge.

We hear industry talking right now about knowledge as capital, you know, in terms of having an individual there who has developed an idea, who has developed a new computer program, who has developed some new scientific application, and that person decides to go down the street and start working for a competitor. How do we deal with that concept of knowledge and that transfer of knowledge, the protection of knowledge and all those issues? I was wondering if the minister is looking at that as part of your mandate both in terms of how you see your ministry working – this is something that you'd have to be working with the federal government on in terms of copyright, all of these other things about how you can have people move from one business to another and protect the knowledge that they developed while financed by one company as opposed to carrying that to another one.

I guess it comes down to a basic question about who owns an idea. Is it the person whose head holds it or the person whose head thought it up, the person who can make the connection between an idea and an application and how we deal with that kind of share of the process? I would just ask the minister to look at the idea of a balance between the creation of these knowledge-based industries that you're talking about and also some of the technology-based research and development that has to go along with promoting those knowledge industries, the knowledge support. We have to kind of get our terms more clearly defined, because a lot of people speak about the knowledge and really they're talking about information and information systems and information transmission, you know, the Internet and knowledge transmission and all this kind of stuff, as opposed to idea transmission into applied economic activity.

The minister also talked about the idea that you were looking at trying to decide how you put your investment in your research and development. You talked about our falling behind some of the other provinces, both the percentage of gross domestic product and on a per capita basis. Has the minister given any thought to

how you would look at making those investment decisions, not so much specific projects but sector investments? Should 10 percent of our money go into this sector? Should 90 percent of our money go into that sector? How do you make that balance? How are you going to judge the cost-benefit analysis of research? I didn't see that anywhere in your strategies that you've got in the business plan here in terms of deciding which direction.

I remember in your introductory comments that you made comment about – I think you had eight different areas that the previous minister had collected as most likely areas to increase our investment in research and development. Well, how are you going to make the balance between the dollars that go in between those?

An issue that I wanted to just address quickly, then, is some of the issues that come up with kind of the idea of the ethics that are associated with research and development technology transmission. How do you deal with that in terms of the relationship that you as a government have with your partners, you know, in terms of the shared knowledge? The head of the Alberta Research Council talked about the increased emphasis that they're now putting on making sure that there are either some fees that come back or royalty shares, this kind of thing. But you also have to have something that deals with the aspects of proprietary right, proprietary equity. This has to be dealt with also.

The other thing that comes up is we end up with having to look at this transmission, and you talk about the access to knowledge, and the latter part of your new mandate now includes information technologies. I just wondered if the minister had any thoughts on some of the ideas that come up with the transmission of this knowledge. I think we saw the extreme of this this past weekend in Red Deer, where that young person took a formula off the Internet, went out in the park and put a bunch of chemicals together and ended up just about blowing himself apart and injuring a couple of his friends.

How do we deal with responsible access to information, I think is the best way to put it? We don't want to talk about censorship. We don't want to talk about prohibition. We've got to talk about responsible access and how we deal with that. Do you see that as part of your mandate in terms of trying to get in there and deal with this kind of influence leadership in terms of how we deal with access to the information that comes out of research and development, out of new ideas, out of kind of the expanded access, the expanded knowledge base that's out there to people who have not yet developed the appreciation of the responsibility that comes with internalizing that knowledge and applying that knowledge? So these are the kinds of things that we need to deal with.

The other aspect that I wanted to just touch on – and then I'll close and let the minister respond to some of the concerns that have been raised by members. You made a comment during your presentation also that Albertans have kind of developed a culture that is not as conducive to venture capital use. I think you said that we had four firms – there are eight, you say? Nine? – that are involved in the promotion of venture capital, whereas some of the other provinces have an expanded number. I guess I would like to see the minister relate how he perceived this centralization, almost – dare I say the word? – socialism approach to venture capital, a central controlled approach to venture capital as opposed to a broader based venture capital that we've seen in some other jurisdictions where there's more freedom for individual efforts at promoting and co-ordinating venture capital, recognizing that, you know, those terms I was using are not applicable to the minister's term of administration. They're a result of prior administrative decision-making. But I would like to have the minister look at

that in terms of how we deal with those kinds of private-sector, individual-driven venture capital initiatives, whether it be by sector or by region. Some of the venture capital issues could become very strong in terms of promoting regional development and that kind of activity.

**10:06**

One other comment that I wanted to make just briefly. We've heard a lot of discussion this evening in terms of the possible use of tax credits to promote research. I would caution the minister on this. What it does in many cases, tax credits of any kind for any purpose, is really allow people who have taxable incomes to direct an agenda. It may not be in the best public interest when you start out saying: we want to promote this kind of whatever. Then we end up having a subsector of our public making those decisions rather than the collective legislative process that's in place for making public decisions.

So I guess what I'm trying to say, Mr. Minister, is that I believe in the idea that we have to promote research and development, but I don't believe tax credits are the way to do it. That's my personal opinion, but it's now for your information. I think we should look at these kinds of ideas that deal with, you know, the equity issue in terms of taxation.

I guess, Mr. Minister, given that we've had a lot of questions, I'll give you a chance now to respond. I know that your door's always open and I can always come in and ask other questions as the need arises. So thank you very much for your time.

THE CHAIRMAN: Hon. minister.

DR. TAYLOR: One more, briefly.

THE CHAIRMAN: The hon. Member for Calgary-Buffalo.

MR. DICKSON: Thanks very much, Madam Chairman. I just had three very brief questions. I can't find anything in the budget for the Plains Indian Cultural Survival School in Calgary. This is a school that always seems to fall between the cracks because a lot of the native youth are, frankly, over 18, and would fall under the mandate of advanced education. In the past it's been a question of some funding from the Calgary board of education, some from the Department of Ed, and I think some from advanced ed. I was just wondering if the minister is able to provide any support to that school.

The second question would be the number of freedom of information requests that this department might have received, Madam Chairman, in the last year, the number of them that have been complied with, and finally, the number of applications that have been deemed abandoned when no fee or deposit was paid

within the 30-day period after a fee estimate was provided by the department.

Thanks, Madam Chairman. Mr. Minister, thanks for your indulgence. [interjections]

THE CHAIRMAN: The hon. minister responsible for science, research, and information technology.

DR. TAYLOR: Shows he can live up to a deal.

I'd like to talk very briefly. I would like to talk much longer, but my colleagues won't allow me. Let me say, first of all, that a lot of the questions you asked on finance and financial issues, tax credit issues, are answered in the Alberta Science and Research Authority Barriers to Tech Commercialization in Alberta. I'll be sure that your House leader gets a copy of that, and then if you wish, you can get it from him and review it.

Another report that we have out that tells you a lot about what we've done and what we're doing and answers a lot of the questions that were raised is the research business plan review. I'll make sure that your House leader gets a copy of that so you can refer to it.

I would very much like to talk to the Member for Lethbridge-East on the whole idea of idea research, because it's a very interesting thing. We cannot have technological commercialization if there are no ideas, you see. I would like to go into more detail because I find it a very stimulating kind of conversation to have. We are working on a very basic model that we just started talking about on Friday of last week, myself, Bob Fessenden, Steve Moran of the Science and Research Authority, and it is a model that talks about idea generation, where it fits in the model, where tech commercialization fits in the model. It's just in the very developmental stages, but we are thinking about that issue. We are talking about that issue as a group, and it's a very exciting issue. I would very much like to talk some more about these concepts, the concept of intellectual property.

I am getting these signals, so I will conclude and move that we adjourn debate and report progress when the committee rises and reports.

THE CHAIRMAN: Thank you. It has been moved by the hon. minister that this subcommittee rise and report progress to the Committee of Supply. Do you concur?

HON. MEMBERS: Agreed.

THE CHAIRMAN: Opposed? Carried.

[The committee adjourned at 10:15 p.m.]

