

8:30 a.m.

[Mr. White in the chair]

THE CHAIRMAN: Good morning, ladies and gentlemen. I'll call the meeting to order. Might we have an approval of the agenda as precirculated? Mr. Yankowsky. Is it agreed? It's carried.

You have the minutes as circulated for February 23. It says 1999, but I think that's probably the year 2000. A motion to that effect?

MS BLAKEMAN: Yes.

THE CHAIRMAN: Is it agreed? It's carried.

We have with us this morning – well, just before we get to that, I'm sorry, a small announcement. You'll notice that in the lounge in the Confederation Room there's a ceremony going on, so if you have your coats in that room, we'd prefer you move them out before the ceremony starts. It'll be commencing about 10 or just before that. If you could move them here and then exit this way as opposed to going through the ceremony. The Premier and, I gather, some First Nations people are here for a ceremony.

Committee members, we have with us this morning the Hon. Dr. Lorne Taylor, the Minister of Innovation and Science and a host of other responsibilities. We also have the Member for Red Deer-South, who is the chairman of the Alberta Research Council.

Mr. Minister, if you'd be so kind as to introduce your staff and then make a presentation, we'd be pleased. Thank you.

DR. TAYLOR: Okay; thank you. I'm pleased to be here this morning. I'll start on my right. This is John McDougall. He's the present CEO of the Alberta Research Council. You've already introduced Victor. Ken Faulkner, my executive assistant. On my other far right we have Paul Pellis, who is our chief financial officer, and Roger Palmer, who's our deputy minister. Then we have a number of other staff members up top. [interjection] Oh, they're over here. Okay. I couldn't see them up there.

THE CHAIRMAN: They're covering your backside.

DR. TAYLOR: That's a good a place for them to be, protecting me. They will certainly be taking notes, and for any questions we do not have time to respond to here this morning, they will provide written answers to the members.

THE CHAIRMAN: Just before you launch into your presentation, as Innovation and Science are likely to do, I'd like to reintroduce once again the Auditor General in that this is the auspicious occasion of five years in the office, and he still holds the same office. I think he deserves a round of applause if not a gold watch.

Sir, if you'd be so kind as to introduce your staff.

MR. VALENTINE: Thank you, Mr. Chairman. On my immediate left is Jim Hug, the assistant Auditor General with responsibilities for this ministry. On my right is Cathy Ludwig, who is a principal with responsibilities in the same ministry, and in the gallery are three of my outstanding staff, Melanie Gesy, Bruce Laycock, and Gerry Lain.

I guess time passes quickly when you're having fun, because I have a hard time realizing that five years has gone by in this, my second career.

THE CHAIRMAN: Thank you, sir.

Mr. Minister, if you'd be so kind as to launch.

DR. TAYLOR: Absolutely. Let me just say that, as you know, the department is substantially different today from what we were looking at in 1998-99. It's a different title, a different name, a different construction, a different mandate, and so on. What we're looking at is the past, 1998-99, and as I say, there has been a substantial change. It's my understanding that our meeting today will cover the 1998-99 results for all programs and areas of innovation and science, and only the Ministry of Science, Research, and Information Technology was my responsibility for the 1998-99 fiscal year. But I will endeavour to respond as thoroughly as I can to the committee's questions on areas of innovation and science that became my responsibility after the government reorganization about May 26 of last year. So from January to May it was the Ministry of Science, Research and Information Technology, and then from May onwards it was the Ministry of Innovation and Science. Essentially the ministry was created to allow for increased integration and efficiency of government research and development expenditures, technology commercialization, and development of the knowledge industries.

The strategic move brings the following entities under Innovation and Science. From Science, Research and Information Technology we have the Alberta Science and Research Authority, the Alberta Research Council, and the Alberta Oil Sands Technology and Research Authority, and that was just added in February 1999. From Agriculture, Food and Rural Development we have the Alberta Agricultural Research Institute. That came as part of the restructuring. From Public Works, Supply and Services we have information management and technology. Office of the Chief Information Officer came as part of the restructuring. From Economic Development we have the advanced technology in emerging industries branch and the forest products development branch. That once again came through the restructuring. From Advanced Ed and Career Development we have the research excellence envelope and the intellectual infrastructure partnership program. Once again, that came through the restructuring.

The main function of the Alberta Science and Research Authority is to stimulate science and research and encourage a strong economy by recommending policies and priorities for science and research. The authority also funds strategic research initiatives in the province.

Now, we have Victor from the Alberta Research Council here, so I won't say anything about the Alberta Research Council.

I'm not quite sure – do I have 20 minutes now? No. Well, could you please tell me how the system works? I want to leave some time for Victor to talk about the ARC.

THE CHAIRMAN: We generally like to have the minister cover the highlights of the area as quickly as possible so that we can get on, because we have some very good questioners here. We try to limit it to 10 or so. You being a new entity, take what you need but . . .

DR. TAYLOR: Okay. I'll cover this quickly. And can Victor say a few words on the ARC once I'm done?

THE CHAIRMAN: Oh, certainly.

DR. TAYLOR: Okay. Thank you. So I won't mention that.

We have the Alberta Oil Sands Technology and Research Authority. Essentially it provides funds for projects relating to petroleum recovery. What we want to do with AOSTRA is that we're changing the name, we're calling it the Energy Research Institute, and we're broadening the mandate. We feel we need to be looking at perhaps some alternate forms of energy; you know, natural gas. What about wind? So we're going to broaden the

mandate of this away from oil sands technology. That's in the new bill I just introduced yesterday, the amendments to the ASRTA Act. That's one of the amendments.

We also have the Alberta Agricultural Research Institute, and it's fairly obvious what it does: co-ordinates, supports, and promotes research. Once again, that's part of the act that's coming forward, some amendments to make it more strategic and more focused, and we're working in that direction as well. We have information management technology services that provides the leadership in managing information technology and telecommunications for the government ministers. That's the operational body that looks after all the IT and telecommunications inside government. Then we have the CIO, and that promotes the effective creation, use, and sharing of information technology.

One of the directions I'm driving the CIO is to be cross-government, to be setting policies and moving to common platforms across government. So over a period of two or three years we want to have common desktops, we want to have common e-mail systems, and we want to have common software systems. Right now in government we have about four different e-mail systems. Well, my question is: why? You know, we have all kinds of different desk tops. There are efficiencies if we look at going to one system. So we're driving the CIO to come up with efficiencies and look at common systems across government.

8:40

Then we have the advanced technology and emerging industries branch and the forest products development branch. They're responsible for accelerating the development of technology business, new technologies and emerging industries in Alberta. We have the research excellence envelope, the REE, that helps universities attract talented researchers. The intellectual infrastructure partnership makes strategic investments in research infrastructure. Essentially, this is what we match CFI dollars with, the Canadian Foundation for Innovation. This is an excellent program established by the federal government. They just recently increased the budget, in the last budget, to \$1.9 billion. It's an intellectual infrastructure program where the feds provide money for infrastructure in the universities. This is infrastructure dollars. We use our intellectual infrastructure partnership program or I2P2, as it is affectionately referred to out there. The engineers call it I squared, P squared, but we refer to it as I2P2. We use those dollars to match the federal government dollars.

I would like to take an opportunity to provide the committee with a brief overview of expenditures. In 1998-99 actual expenditures for the ministry were \$85 million. This included \$16 million through the Alberta Science and Research Authority to support research initiatives. We would have averaged almost 4 to 1 on that investment. So we invested \$16 million and there were four for every dollar we invested. There were approximately four dollars, \$3.89 or something, to one, so substantial matching dollars. Fifteen million dollars through the Alberta oil sands technology research. Fifty-one million dollars through ARC, and Victor can talk about that.

Revenues for the ministry amounted to \$36 million in '98-99. Nineteen million dollars came from contracts between ARC and the private sector. Once again, I'll let Victor, if he wants to, talk about some examples of those contracts. I have a couple of examples here, but we'll let Victor talk about those. The balance of the ministry revenue included \$15 million from Alberta government departments and \$2 million from oil production and investment income.

In 1998-99 actual expenditures for other entities falling under the INS ministry as a result of the reorganization: within Public Works, Supply and Services, \$55.8 million was spent to provide IT and

telecommunication services. Agriculture: \$12.9 million was spent to support research through the AARI. Advanced Education: \$22.9 million was spent to support the I2P2 program and \$3.25 million to support the research excellence envelope. Within Economic Development \$3.8 million was spent to support the development of technology, business, and emerging industries in Alberta.

The activities of all the entities of Innovation and Science contributed to the growth and improvement of the knowledge-based economy. The gross domestic product of Alberta's knowledge-based economy has grown from \$3.8 billion in '92 to over \$7 billion, or 7.5 percent of the GDP, in '97. We have a goal of making it 25 percent of our economy by 2010. The number of scientists and engineers as a percent of the workforce continues to increase. It was 6 percent in 1998, and this is up 1 percent from '97. The level of research excellence at Alberta's universities continues to improve.

Alberta's institutions continue to rank highly compared to their peers across the country regarding the amount of sponsored research funding they receive from federal granting councils. Industry demonstrated a strong commitment to Alberta universities by increasing its investment in research by approximately 42 percent from '95-96 to '97-98. Through the Alberta Science and Research Authority, the I2P2 and research excellence program, we will continue to support growth of knowledge-based economy and research excellence in Alberta universities.

Mr. Chairman, that pretty much concludes my brief remarks, and I would be pleased to answer any questions. If we could give Victor just a minute or two first to talk about the Alberta Research Council.

THE CHAIRMAN: Mr. Doerksen.

MR. DOERKSEN: Thank you, Mr. Chairman and Mr. Minister. I'll be very brief, I think. The Alberta Research Council over the last little while, last year, is now owned by the Alberta Science and Research Authority as a nonprofit, wholly owned subsidiary of ASRA. ASRA, of course, is the key strategic adviser in science and research to the minister and to the government. The main reason for doing that restructuring in the ownership was that we now have to present our business plans to the Alberta Science and Research Authority, and they help us make the strategies that are consistent with the policy advice they're giving to the government. So we are obligated to present our budgets, our business plans through the authority.

The Alberta Research Council of course employs scientists, engineers, technical staff and performs applied research and development. We do contracts for both private-sector companies as well as government. For instance, we could be contracted out to do work on the climate change initiatives. We have some things to do with taking - what's that called, that methane project? We do work like that. The revenue we have, the total income from the financial statements, is roughly in the neighbourhood of \$50 million. Of that \$25 million is a grant or a contract with the Alberta Science and Research Authority, and the rest comes from contracts with the private sector.

Just to give you an idea of what some of these contracts are, I'll name a couple. We work with the Ceramic Protection Corporation of Calgary. We have a joint venture with them to create wear-resistant ceramic materials and coatings that will increase the life span of equipment used in the petroleum and mining industries. We have a project to develop an advanced system for monitoring and controlling industrial processes that could save pulp and paper mills up to \$2 million a year through improved productivity. An interesting one is some advances in computer modeling technologies that will virtually eliminate the use of animals for trap testing and allow for the continued development of more humane traps. In partnership

with the Fur Institute of Canada and the National Research Council's industrial research assistance program, which is commonly known as IRA, we have developed computer models that incorporate information obtained from a comprehensive research database.

I think we'd rather just go to your questions. That might be more helpful for you and more helpful for us. With that I'll leave off my comments.

THE CHAIRMAN: Before we commence with the questions, you'll recall that last meeting we finished off with Mr. Herard hanging in the wind, and the chair asked if he wished to have first go from the government side. Do you wish to? That's reasonable.

Ms Blakeman, followed by Mr. Herard, please.

MS BLAKEMAN: Thank you very much, and welcome to the minister and the Member for Red Deer-South and the staff joining us in the gallery from the department and the Auditor General's staff. Of course, welcome as always to the Auditor General and staff.

I must say that I appreciate the minister's enthusiasm in this department. It's refreshing to see someone that committed, especially to higher education and knowledge-based industries. Specifically – and I'll refer you to page 19 of your annual report – I'm interested in the results that were achieved in the fiscal year '98-99 with respect to work done with industry, government, and university stakeholders in developing a strategy for forestry research. What results were achieved there?

DR. TAYLOR: Well, the forestry group was added to us about four weeks ago. ARC has been doing some work in forestry research and developing models for different new products. Now, we have a group – what's that group called, Roger?

DR. PALMER: The Forest Research Development Council.

8:50

DR. TAYLOR: The Forest Research Development Council was added four weeks ago. Now, they come without a budget, so we're looking now, as we move into the new budget year, at what type of research and what type of funding they are going to need. In terms of specific projects that have been done with forestry, Roger can supplement and then Victor can supplement from the ARC perspective.

DR. PALMER: During the last year there was a fair amount of work done with the forestry council from Economic Development. One of the outproducts of that was a document called the Forest Legacy, which was an overall strategy for developing forestry industry and forestry research. One of the recommendations within that document was a higher profile for forestry research and the beginnings of an identification of a forestry research institute. Actually it was called the forest and forest projects research institute, which was similar in nature to the one now proposed in the legislation the minister introduced yesterday. They're not exactly the same notion, but it's a very similar one.

MR. DOERKSEN: I want to introduce to you Keith Salmon. He came in late. Keith is the chief financial officer of Alberta Research Council. We didn't introduce him earlier, and I wanted to do that.

I'm going to have John just talk about the forestry part of ARC.

MR. McDOUGALL: Sure. At ARC we work very closely with industry, with government departments, and also with the universi-

ties, and there has been active participation on AFRAC, which is the Alberta Forest Research Advisory Council. Within ARC itself, programs that have been developed largely with input from industry are forest resources, which focuses predominantly on growth and yield to maximize the ability to recover fibre and use fibre from the forests; in forest products areas where we're involved in developing products such as panelboards, using both existing materials and alternative sources of fibre such as annual fibre derived from agricultural products. And we are now involved in papermaking research to help develop that aspect of the industry in Alberta.

MS BLAKEMAN: Okay. Also a question arising from the same section on page 19, the sector-specific research and development strategy. I have a question on the results achieved by the Alberta Science and Research Authority on its work with representatives of the pharmaceutical sector in developing pharmaceutical research and development strategies. There's a couple of lines about it in here but not much more.

DR. TAYLOR: We spent considerable effort in early 1998, most of '98, traveling to Toronto and Montreal to meet with pharmaceutical representative presidents and CEOs, because the goal was to encourage them to invest in Alberta. We have good science in Alberta, so the goal was to get them to make a major investment in Alberta in our science and our scientists. We did a couple of things. One, we set up a number of meetings, because there's no use for me to talk to the CEOs. What we have to do is have the research people from the pharmaceuticals talk to our research people. So what we've done is facilitated meetings by asking the pharmaceutical companies to clearly identify several areas of research they're specifically interested in. This has to be done one pharmaceutical company at a time. They don't want to have two or three pharmaceutical companies speaking with scientists at the same time because of disclosure and privacy of their research and so on. So a company would identify that. We'd talk to our researchers here and say: you know, do any of you have any interest in any of these areas? If there was some interest, then we would cause a meeting to happen. Barbara Nyland in our department was heading that up. She was the key person doing that and was quite successful.

As well, we worked with them to make a major investment, and they have committed to spend – we had an announcement last fall. Was it last fall?

MR. FAULKNER: Yes.

DR. TAYLOR: Last fall they committed to spend at minimum \$150 million in Alberta on research over the next three years. So that was a kind of accumulation of what we were doing with the pharmaceutical companies.

We also have the pharmaceutical co-ordinating committee. That's a group of farmers – I'm going back to my roots – a group of pharmaceutical companies and the ministers from the departments of Health, Innovation and Science, and Economic Development. The CEOs of three pharmaceutical companies are going to sit down three times yearly and talk about issues of interest to the pharmaceutical companies and of interest to the government. So that's where we've been working.

THE CHAIRMAN: Thank you.

Mr. Herard, please, followed by Dr. Nicol.

MR. HERARD: Thank you, Mr. Chairman, and good morning and welcome. I, too, want to commend the minister at the outset for what he's been able to achieve in a very short time, because if we look back on where this came from, we have a collection of pieces of departments that we're here to examine today. If we look at the

kinds of initiatives you've been able to accomplish in that short time, I think you're to be commended. I, too, really appreciate the enthusiasm you show with respect to the new economy, the information and knowledge workers and all the research initiatives and so on.

One of the pieces you got was, of course, information technology and telecommunications. In your opening remarks you noted that you spent approximately \$57 million, I think it was, in this area. Could you give us some idea how this money is being spent?

DR. TAYLOR: Okay. Well, we can take a look at – let me thank you for your kind comments to start with. I will say quite publicly that we could not have accomplished in this ministry what we accomplished without the support of all of you. Even a compliment to the opposition. I've met with my critic Howard Sapers on numerous occasions, and I can tell you he has been co-operative and not confrontational. So although Howard's not here, I want to give him a word of thanks too, because he can see the vision of where we need to go. I couldn't have done it without the support of my colleagues. I need support in caucus, as all of you know, from the SPCs, to get things done. So I thank all of you for your support.

Essentially, to answer directly your question, we spent \$22.7 million, or 41 percent, of those dollars on information management and technology services. We spent \$24.8 million, or 44 percent, on telecommunications. We spent \$7.8 million on Imagis and half a million dollars on CIO. So essentially that's where the money has gone. I won't go into descriptions of each of those four areas unless you would like me to.

MR. HERARD: I understand that information management and technology services as well as the CIO were responsible for looking after the Y2K requirements. Was there any spending in '98-99 with respect to Y2K, and how did all that turn out?

DR. TAYLOR: Yes. There was about \$2 million that we spent out of our department on Y2K. Now there were, as all of you know, substantial dollars spent from other departments. I'm not sure what the figure was from health. I believe it was over \$200 million that was spent in health to check and make sure all the equipment was working properly. But it was about \$2 million from ours.

THE CHAIRMAN: Thank you, Mr. Herard.

Dr. Nicol, followed by Mr. Shariff.

DR. NICOL: Thank you, Mr. Chairman. Good morning to the minister and staff and to the Auditor General and staff. In your introductory comments, Mr. Minister, you made reference to the fact that you work in most of your research programs with matching funds, and you talked about a 4 to 1 ratio. How does that compare across the different agencies within your mandate and also across some of the provinces in western Canada? Do we stack up, I guess, in terms of the ability to get matching dollars out of our industrial partners?

9:00

DR. TAYLOR: Let me talk about what we do. Some of the projects are 1 to 1 funded; some are 10 to 1 funded. It depends on the project as to where the dollars are coming from. Let me give you a brief example. Something a couple of years ago came forward called the Pacific Institute of Mathematics. PIMS I believe it's called. They came forward essentially for some 1 to 1 funding, and I didn't think it was a very good idea. I actually voted against it at the Alberta Science, Research and Technology Authority, but when it was all

said and done, the majority of the group wanted to support it, so we supported it.

As it turned out, I was wrong again and took good advice, and that group is now at about 1 to 10. For every \$1 we put in there, there's \$10 coming in from essentially the private sector, because apparently these mathematicians – I don't understand it – can model flow of liquid through pipes on computers. You immediately see what that does for our industry in Alberta. So they've gotten huge industrial support in a period of about two years. It had gone from 1 to 1 to about 1 to 10.

It depends on the project. Some projects will be 1 to 1; other projects will be 1 to 10. As I said, the actual figure of the average was 3.89 to 1, but I don't think there was a project we supported that didn't have some matching funding, although we would if the project was, you know, a substantial project and judged through peer review. Oh, there was one project we supported that didn't have matching dollars, and we'll get Roger to supplement on that.

DR. PALMER: The 3.8 to 1 figure relates primarily to the grant programs that were under the Innovation and Science department. If you add in the ones from the other departments, like the agriculture ones and the AOSTRA pieces and the pieces from advanced education, the ratio goes down to 2.2. Primarily that is because quite a few of them are direct matching 1 to 1 type dollars related to federally sponsored research projects. Some of the ones within agriculture have got relatively little external leverage because they're more demonstration projects. Although they're classed as research, they're more demonstration than they are fundamental research.

DR. TAYLOR: What was the second part of your question?

DR. NICOL: How are we matching up compared to some of the other provinces or the federal government?

DR. TAYLOR: Our universities get more than their fair share if we look at MRC and NRC and NSERC. We represent about 9 percent of the population. I think the last figures I saw were that the universities were getting over 20 percent of federal funding. At that level we do much better. One of the reasons we do much better is because the government has belied up to the bar, so to speak, and created some innovative programs that encourage our universities and encourage our professors to get out and develop projects. They know that they can get money internally.

Of course, you know, a good example of that is the AHFMR, and this new fund that we're creating, AHFSER, the Alberta heritage fund for science and engineering research, will provide another example of that where we have funding inside Alberta that other provinces don't have available to their scientists. When we created AHFSER, I was talking to Rod Fraser and some of his people at the university shortly after that, and they were literally getting calls from their professional colleagues around the world that had already heard about this and saying: "Is this actually happening? Is this true?" So we are in a leadership role in this area.

THE CHAIRMAN: Thank you, Dr. Nicol.

Mr. Shariff, followed by Ms Blakeman and Mr. Yankowsky.

MR. SHARIFF: Thank you, Mr. Minister. I, too, want to add my compliments to the wonderful work done by this ministry. Welcome to all the staff and to the Auditor General and his staff today.

My question is based on the Auditor General's report for '98-99, page 252. In the Auditor General's comments on the ministry of

science, research, and information technology he notes that a major risk of the ministry is whether it can identify government research activities with the greatest social and economic benefit to Albertans. Can you explain how you plan to minimize this risk?

DR. TAYLOR: Well, with the government reorganization all the government's research efforts that are strategic in nature were moved to Innovation and Science. That isn't to say that there are no research programs being carried on in other ministries. For example, the Ministry of Infrastructure will probably continue to look at which is the best type of asphalt or most effective use of asphalt on our highways, and we're quite content to have the various ministries work on their own research that is specific to the department level.

The first thing I would say is that I believe that the reorganization has reduced the risk. By having all the government's research efforts in a single place, the ministry and the Alberta Science, Research and Technology Authority will be able to compare the merits of individual research projects and determine where the funding should go. For instance, if we have the science and research authority, which in legislation is designed as, for the sake of better words, the top science policy body in the province, determining strategic direction of science and research policy in the province, then having all these funds that this group, which is a private-sector and academic group, can look at and make recommendations on – then they get the broad scope and can see what is strategic and what is not strategic – I believe that will maximize through a process like this where the funds are in one place, where you have a group that can see what is strategic, what is not strategic, and focus the strategic direction of the research. I think you get rid of the risk that the Auditor General talks about.

You know, we in Alberta are a total of 3 million people with really two research universities. The University of Lethbridge is working that way and then Athabasca University. If you look at greater Toronto alone, they've got over 4 million people and I don't know how many universities in the immediate area. That's the kind of field that we compete with, and that's just Canada. We compete with the rest of the world, so to do what we've got to do, we've got to be focused, work in a few areas, and be the best in the world. With the Science, Research and Technology Authority directing the research funds, I think that will help us do that.

MR. SHARIFF: Going further down on that same page, towards the bottom of the page and the beginning of the following page, which is 253, the Auditor General also noted some concerns with your ministry's inclusion of administration costs for the Alberta Oil Sands Technology and Research Authority in your financial statements. Can you explain why you did this?

DR. TAYLOR: The Auditor General is quite right in that we did not have the authority to include the administration costs. Essentially what happened there was that when we did the OC that transferred AOSTRA to the ministry, the OC wasn't written properly. All it did was transfer the research part of AOSTRA over without transferring the administrative part of AOSTRA. So it was simply a mistake in the way the order in council was written. It didn't transfer the administrative authority to my ministry. It transferred the research but left the administrative authority in Energy. But since the research aspect came over and the administrative authority, the dollars were fundamentally to manage that research.

In spite of the OC, we felt that it was appropriate to include the administrative costs centring around those research dollars in the budget in my financial statements as opposed to Energy's, because that's where the dollars were spent in spite of the fact that the OC

was incorrectly written. It was really a mistake on our behalf that we didn't write an OC correctly, and in future we will have them more clearly vetted through Legislative Counsel and through the appropriate legal processes so that we're sure that it includes – we thought it did include everything, but sometimes lawyers kind of screw things up, I guess.

9:10

THE CHAIRMAN: On that note, moving right along, two startling revelations. A compliment from the minister to a member of the opposition – that gets written on the wall. So we'll note that as being the highlight of the meeting as opposed to the further statements.

Ms Blakeman, please.

MS BLAKEMAN: Thanks. I'm looking at the Alberta science and research fund, noted in your annual report on page 32. I'm wondering. This is essentially about accountability, but what were the general criteria used by – and I'm not using initials; you guys have way too many initials – the Alberta science and research fund in the fiscal year we're examining? What were the criteria used in the funding of 20 of the 51 proposals that were submitted? You funded 20 proposals out of 51 reviewed. What were the criteria that were used to approve the funding?

DR. TAYLOR: We had a gentleman working by the name of Bill MacDonald, who would take the proposals out to peer review. So we would get peer reviews back on the various proposals, and then the Alberta Science, Research and Technology Authority would sit down with the peer reviews, and the peer reviews of course came back with recommendations. So on the specific criteria, I can't tell you what the peer review looked at. I don't know if Roger can do that.

DR. PALMER: Only to add, to supplement that there's a process called ProGrid, which is a formal methodology for analyzing research programs. We bought into ProGrid and have got a contract with ProGrid organizers, so we follow a rigid methodology every time for analyzing research proposals which are coming in. What it really does is it makes you walk through the process of the quality of the research team, the nature of the research, whether it is unique, whether it is research which is likely to lead to ongoing results. There's a system for analyzing each part of that, including an analysis on the ProGrid of what the researchers themselves think of each of those questions. So you can go through that structure and come up with some overall rating of where the project appears to fit in terms of being world-class, reliable, productive, and contributing research.

MS BLAKEMAN: Okay.

Same category, same page. Can you talk about the general leveraging criteria or formula that you use between the public sector and the private sector in approving the proposals for funding? Are there different leveraging ratios depending on the sector?

DR. TAYLOR: No, there are not. What we look at is the quality of the science. That's the first thing.

The second thing is we have a general policy, although not written, that we will not fund projects unless there's leverage there. As Roger pointed out, we did fund one based on the quality of science with no leverage, but we like to see leverage. It's well known, and in our statements we point out, I believe, that we expect to see leverage dollars.

Thirdly, the projects must fit into our overall strategic direction as a government. So if we say that as a government we're going to focus on a couple of areas, that we're going to focus on information and communications technology, that we're going to focus on life sciences – and I use that as a broad category which includes agriculture, forestry, climate change, and so on – if we're going to focus our research dollars on those three relatively broad areas, do projects fit into those? What is the quality of the science? Roger has talked a little bit about that. Then, thirdly, what are your leverage dollars?

THE CHAIRMAN: Thank you, Mr. Minister.

Mr. Yankowsky, followed by Dr. Nicol and Mr. Cao.

MR. YANKOWSKY: Yes. Thank you, Mr. Chairman. Good morning, everyone.

Mr. Minister, my first comment and question have to do with quite a recent news item that impacts on your department, and the issue concerns problems with grant programs in the federal human resources department that have been highlighted in the news recently. It definitely looks like their accountability for issuing and monitoring grant payments is somewhat weak. My first question is this: what processes does your ministry have in place to track and monitor federal grant payments?

DR. TAYLOR: Well, we monitor all grant payments through a number of ways. We use independent boards. For instance, I've already mentioned the Alberta Science and Research Authority. We have the Alberta Agricultural Research Institute, an independent board. We have AOSTRA, which is an independent board. We will soon have a forestry group, which will be an independent board, which will look at that. When I say independent, they're truly independent. These are private-sector people and academics. That's your first thing. We also use external peer reviews, obviously, which we've already mentioned. So we have good quality people looking at the science and looking at the projects, and then we use contracts.

Before any money is released, there's a signed contract for each grant payment. Then in the contract it specifies certain requirements that must be met. You know, if the grant payment is spread over, there are certain requirements that must be met before either the dollars are given or the second payment of the grant is made. The contracts also specify future reporting requirements for the grant recipient.

As well, we're going even further now in the contracts talking about the type of press release that goes out. Many times what happens with a number of these research projects is that the public isn't aware of the importance of them. One of the things I'm trying to create is a kind of public awareness of the importance of science and research in our economy. If we do a grant project and sign a contract and the scientist goes away and does his research, well, the public doesn't know about that. So we're now starting to specify in our contracts that there needs to be some kind of press release, and my communications director, Val Mellesmoen, is very good at that. I can see that she is sitting up there. If you were sitting down here, Val, you could tell us about what was in the contracts in regard to the nature of press releases and how it is the responsibility of the contractee to get this information out. So we're being very, very specific in our contracts to try and help, you know, avoid the issues that have certainly confounded the federal political scene.

MR. YANKOWSKY: As I thumbed through the Auditor General's 1998-99 annual report, something on page 69 caught my eye. Here he raises some concerns about the effectiveness of the government's

processes "to collect and verify conditional grant information" from universities. My question here is this: could you provide some specific examples of steps that your ministry has taken or is planning to take to improve tracking processes for grants?

DR. TAYLOR: Yeah. We're working very closely with the Ministry of Learning on this, because of course all ministries take very seriously what the Auditor General says.

Some specific actions we are taking. We're bringing in an outside consultant who is working with Alberta Learning. He's developed a conditional grant course. We always go to outside consultants, it seems. Staff from our department will be attending that to look at what this consultant recommends. Then we are consolidating administrative functions as well as it relates to grants. We've established a business area that is solely related to grants and their administration, that's led by Peter Hill. He's totally responsible for all the grants. Whether it's an AOSTRA grant, whether it's an Agricultural Research Institute grant, whether it's a grant that is recommended by the Alberta Science and Research Authority, they're all going to flow through one agency, and through a unit like that you can develop best practices. If it's all over the place, you don't know what others are doing, but through one central unit you can develop best practices for the administration of grant programs, and that's what we're doing.

THE CHAIRMAN: Thank you.

Dr. Nicol, followed by Mr. Cao.

DR. NICOL: Thank you, Mr. Chairman. On page 29 and starting probably on 23 you use two terms in there kind of interlinked. One is this idea of innovation-based economy, and the other one is the knowledge-based economy. On page 29 you're talking about an innovation-based economy and then you present a graph, which is provided by an outside source, Macdonald & Associates in Toronto, that shows the investment in knowledge based. How can we correlate those two terms? I have a totally different perception of knowledge-based industry as opposed to innovation-based industry. Could you give us a sense of how the two of them relate to each other?

9:20

DR. TAYLOR: I see knowledge based as a little broader category than innovation based. Innovation based would be a subcategory of knowledge-based industries.

For instance, agriculture is a knowledge-based industry. If you look at any of the new tractors, they're all computers, and combines are all computers, so it's a knowledge-based industry. But the guy on the farm is not necessarily innovation based. Okay? He's a knowledgeable worker, a knowledge-based industry, but he may not be doing any really creative innovations. To stay with the agricultural example, I had some people in my constituency this past year that attempted to grow catnip in a new area on dry land where it had never been grown before. So they're using their knowledge of technology to do something that is innovative for that area. So that's how I would differentiate them in kind of a very practical, concrete example.

DR. NICOL: In terms of reporting the data here, though, and making comparisons, you know, what codes are you using out of the industry lists to make a comparison? Just below the first diagram there you're saying that

Alberta continues to grow, [but] less than 5% of the total investment of these funds in Canada is occurring in Alberta.

You're talking there about innovation-based economy, yet the graph

right below it talks about percentage investment in high-knowledge firms. You know, to me that term doesn't transfer into the diagram that comes out of there that you're using to get the data. If we're talking about innovation-based economic activity in our province – and I agree with you that it is a much broader set than the knowledge based. So, effectively, innovation-based economy in Alberta can be much larger than just the knowledge-based economy that you're reporting in that table. Help me.

DR. TAYLOR: Well, this is one of the things that we struggle with constantly in terms of reporting, what's appropriate and what's not appropriate. It's just a very, very difficult issue for us to deal with, but I can tell you quite clearly that, you know, both of these deal with venture capital investment and we do not have enough venture capital in Alberta. So whether it's innovation or knowledge based, we have a shortage of venture capital in Alberta.

I don't know if John would comment on some of the struggles that you have at ARC, talking about some of these very issues, because we've talked about these issues before in terms of the struggle in identifying the innovation- and knowledge-based economy and the relationships. I don't know, John, if you want to say a few words.

MR. McDOUGALL: Well, I'll take a very brief sort of stab at it. I agree that it's a very, very difficult subject, first of all, and I know, for example, that within our own operation there's constantly a debate about whether work we are doing for the resource industries is really knowledge based, high-knowledge industries and so on. We take the view that Alberta is a very knowledge-intensive province, but we also recognize that the amount of innovation that is going on, to use Minister Taylor's terminology, is not adequate. From a Canadian perspective we're seeing even our resource-based industries looking outside Alberta for too many of their ideas.

What we're trying to do is really deal with that in two ways. One is to increase the amount of activity that's going on in the innovation system here, which has been done really by front-end loading a lot of the basic research activities, but we've got to be able to create a stronger receptor capability, which is where the innovation really occurs, to convert these new ideas into commercially marketable products, which essentially is ARC's role, at least certainly one of our major roles. But it is very difficult. It's a very thinly populated area right now, and again, as the minister points out, the available equity dollars in Alberta as compared to elsewhere through venture capital and seed capital organizations are harder to come by here because most of those pools are located elsewhere and they like to invest closer to the organizations that they're investing in, if you like.

DR. TAYLOR: If I could just elaborate on that a bit. When we looked at venture capital pools, one of the things we found out in some of the work we've been doing is that venture capital pools like to invest in about a 50-mile radius of where they're located. It used to be a 200-mile radius. Now it's a 50-mile radius. If you go to Silicon Valley, it's getting to be a one square block radius, because what some of these venture capital people are doing is actually building their own buildings, and if you want their venture capital, you're in their building. We are seeing even a shrinking of, you know, the 50-mile radius. That's one issue. So venture capital firms in Ontario don't do much here.

The second issue is that we've got about 9 percent of the population and, depending on whose figures you read, 13 to 15 percent of the Canadian economy and 3 percent of the venture capital in this country. We have to really take a hard look in this province at what we're going to do to increase the venture capital.

What's happening right now – and I'll give you a good example,

Grant McFadden. We spent \$3 million out of AHFMR on Grant McFadden's research. Where is Grant McFadden today commercializing his research? In Ontario, because he couldn't get venture capital in Alberta.

I can give you example after example after example. I met with a group in Edmonton not long ago. It was called the Young Entrepreneurs. All of these guys looked like they were 35 and under, you know, and one young man there had a staff of 11 people in Alberta. He was going to double the size of his staff in the year 2000 and move his company outside Alberta. He's actually looking at going to Saskatchewan, because it was still close.

Look; the problem was that he couldn't get venture capital in Alberta. This has to do really with what I would say, if I can use the term, the high-tech area, the information communications area, the biotechnology area, because in Alberta the venture capital that we do have is largely oil based, and when they invest, they stay with what they're safe with. They invest in oil and gas. They don't invest in biotech or information communications technology. So this year my ministry is going to take a really hard look at this whole issue and what we can do to create a pool of venture capital in Alberta, because as much science as we have and as much good science as we have, you know – well, it's the economic development surrounding the science, of course, and all the jobs it creates, but the economic development spin-offs into companies will not happen unless we develop a pool of venture capital. Now, I don't mean we as government. I mean we as Albertans develop a pool of venture capital in Alberta. So we're going to take a hard look at that this year and see exactly what the direction is that we need to take and see what we can do to stimulate and create the right environment for venture capital to be in Alberta.

THE CHAIRMAN: Thank you.

Mr. Cao, followed by Ms Blakeman.

MR. CAO: Thank you, Chairman. This is a very good report, very comprehensive, of the ministry's work. I commend the people who have helped to put it together.

On page 64 of the annual report there's note 15 on the financial instruments. I notice that ARC owns options, warrants, and common shares in public companies. Can the minister explain why ARC has equity holdings in companies?

DR. TAYLOR: I'll put that to Victor as chair of ARC.

MR. DOERKSEN: We operate in two worlds. Because we get a good chunk of our revenue from the province, we operate in the public environment, and then the other half comes through our involvement in private business. Again, as John mentioned before, our role is to commercialize, take research and move it into the marketplace, and one of the ways that we will do that to make projects work is negotiate with the private company with respect to how we're going to do the deal. Some of it involves taking options or royalties or a number of different instruments to make that happen.

9:30

You'll actually note on our financial statements that we have a revenue line in the neighbourhood of about a million dollars, just shy of that, I think, in terms of income we earn that way. That's part of our payback. If we invest in these companies, in the technology, in the research, in the intellectual capital, we want a payback so we can then take that money, in turn, and put it into other projects. That's kind of why you'll see that on our statements. It corresponds to investments or the way we've struck deals with the private sector.

MR. CAO: I recognize that investing in a private company has its benefits, also its risks. So how does ARC manage its risk when making those investments?

MR. DOERKSEN: One of the things that we struggle with as a board is when we have good success on the equity side or in the licensing agreements. Our business is not the financial business. We continually work on an exit strategy to sell the shares on the market so we can get the money back to plow into more research. Again, our role is to facilitate the movement of research into the commercial marketplace, because that's what creates employment, work, for Albertans and also lets some of these high-venture, innovative companies that we've been talking about get going. We want to do more of this, frankly. But we do set up a system, have processes in place to evaluate them and to look at when we move out and utilize those funds.

Maybe John wants to add some comments on that.

MR. McDUGALL: If I might. It's a very, very important question. In terms of the risk management area, we begin in terms of the due diligence that we use in terms of partner selection. We try to ensure that the company that we're working with as far as possible has both the management and the financial depth to be able to carry the innovation effectively into the market. We look for companies that have operating values, if you like, that are congruent with what we're trying to achieve. Then once we actually have the equity or the option for the equity, we have an equity management committee, which we've established, that includes external financial advisors. We meet regularly with the companies. We review their performance, and we try to determine as a result how things are proceeding and whether or not risks are growing or diminishing and so on. So there's a very active management process of the risk area.

THE CHAIRMAN: Ms Blakeman, followed by Mrs. Forsyth.

MS BLAKEMAN: All right. Thanks. I'll refer you to page 62, in particular note 9, Accumulated Provision for Future Project Abandonment:

Under joint participation agreements, the Ministry will incur certain costs when wells and experimental projects are abandoned.

The projects listed here: OAmoco – is that a typo? Amoco with an O in front of it? – UMATAC; Amoco GLISP, way too many initials; a Buffalo Creek project; Husky Kearle Lake; Norcen Bodo; and others. I'm asking the minister to elaborate on how this \$2.629 million provision for this site abandonment was arrived at.

DR. TAYLOR: Well, this all has to do with AOSTRA, which came into the ministry in February of 1999, so I'm going to refer the specifics of that to Roger or Paul, whichever person would like to handle it.

DR. PALMER: I'll attempt to give you an overview of what this means. I'm sure that the words are self-explanatory in many ways. We've been involved in various experimental projects at different times to extract oil in different ways around the province, and when we get involved with those projects with corporations, there is always the issue of what will happen at the end of the project. What happens if we have to clean up the site and move away from it, recover it in a way so that it can be used for some other purpose? In each of the large projects we try to do an analysis as part of the project definition of what it will take to return the site to its original state and what share of that cost might be attributable to AOSTRA and now to our department.

Most of these agreements date back many years – some of them are 15, 20 years old – because the project was done and is still going on, or some activity is still likely in the same area, but the recovery

has not started yet or is only just beginning to be under way. But we have to carry these on our books in terms of potential liabilities in the future, because when it gets to the final state and the project is over and no more work is going to occur, that site has to be returned to its original state or as close to it as can possibly be handled.

MS BLAKEMAN: All right. I'm still looking for specifics, and the one that jumps out, of course, is the first one at \$1.612 million. Can the minister provide further information on this project as of March 31, 1999? You said that some of it sits on the books and nothing in fact is happening. Is that the case with this project? You do have \$1.6 million sitting on your books. Did anything happen with it? Are there any plans?

DR. TAYLOR: I don't have that information. I don't know if anybody else does right now, but we can provide you with a written response to that question. We don't have the specifics.

DR. PALMER: I can tell you that it is active. This is one where the site is being cleared up right now. We are in current negotiation with Amoco about the cost of that site. It is a site which is fairly complicated, because several different activities by different oil companies occurred on the site at different periods, and the question of exactly what is our liability for a particular site around the project area was one of the ones which has been actively negotiated for the past three years or so. We think we're close to a solution on that particular site. I can certainly give you the fine detail, if you want.

MS BLAKEMAN: Excellent. Thank you.

THE CHAIRMAN: Mrs. Forsyth, followed by Dr. Nicol and Mr. Herard.

MRS. FORSYTH: Thank you, Mr. Chairman, and welcome, Mr. Minister. You indicated when you were speaking earlier how far you've come, and I have to congratulate you on what you've accomplished over the last year.

I guess unfortunately in this committee we go back, so I want to draw your attention to a number of indicators starting on page 23 of your annual report related to Alberta's knowledge-based economy. In spite of the efforts of your ministry the indicators still indicate that this sector is relatively insignificant as compared to the overall Alberta gross domestic product. Why is that?

DR. TAYLOR: Essentially it is still a small percentage, about 8 percent of Alberta's GDP, but it is growing twice as fast as any other part of our economy and will continue to do that. If you look at our economy in the past, it has largely been resource based: forestry, agriculture, and the oil patch.

Although recognizing that those still are knowledge based, what we're trying to do is broaden the economy into a high-tech economy: life sciences, information and communications technology, and some effort on climate change. We'll never totally, obviously, move away from Alberta's traditional sectors because they're going to be powerful generators for our economy, but particularly in the ICT area and life sciences there is huge opportunity for rapid growth. Those two areas are growing. I've seen a figure in the ICT area of 26 percent per year and in the life sciences area about 12 percent. That's over double what the rest of our economy is doing. Overall, our economy is expected to grow at about 3.9 percent. So we are looking at a minimum of three times for these two high-tech areas, if I can use that terminology. As those areas grow more rapidly than the rest of our economy, we are going to see them make up a higher percentage of our economy.

9:40

We have to have the right environment in Alberta for those areas to grow. I mean, these high-tech areas are two things: people – that's the brains – and money. And both of those are extremely mobile. The people will be in California or Texas or wherever tomorrow if we don't have the right structures here to encourage them to stay in Alberta. The money can be moved very quickly, as you know, as well.

So that's what the AHFMR is about, that's what this new fund is about, and that's what our supporting and matching Canadian Foundation for Innovation dollars are about, trying to create that right environment. Right now I think we're moving in the right direction, but we can't just sit back and say: "Well, we've done all this. We don't have to do any more." We need other things in this province.

We need a high-speed Internet right through this province, that we don't have right now, the ability for the various communities to be on that, to hook into, a wired province, if I could say that. There is only one other jurisdiction in North America that's trying to do this at present, and that's Massachusetts. It's doing it with copper, which is old style and can't carry the volume. Yesterday we put an RFP out to request proposals to wire this province so that we will have high-speed access in Manyberries and we'll have high-speed access in Fort Vermilion.

I always use Manyberries as an example because it's in my constituency. They've got a school there, K to 12, with 77 kids in it. Denis has heard and knows all the stories of Manyberries, I'm sure. It's got seven kids in high school, in 10 to 12. Well, how do we teach math 31 and physics 30 and biology 30 to seven kids in Manyberries? Well, we can't possibly do it.

So if we can provide this high-speed connector right across this province, kids that want to take biology 30 in Manyberries could hook up with the best biology 30 teacher in this province, if we could identify that person, and hook into her classroom and be taught biology 30 or math 30 or whatever it is.

We've gone some steps, but there are other steps, and I'm talking about venture capital. Wiring the province is another step that we have to accomplish if this industry in the private sector is going to grow. Without a wired province the industry in the private sector cannot grow and will not grow.

MRS. FORSYTH: Thank you. He's answered my second question in his response.

DR. TAYLOR: Full answers. Sorry about that.

THE CHAIRMAN: He came through again with a full and complete answer.

Dr. Nicol, followed by Mr. Herard.

DR. NICOL: Thank you, Mr. Chairman. I guess this is on the Alberta Research Council. You report that you've effectively been successful in achieving a number of patents approved in the '98-99 year. A number of these are distributed between Canada and the United States, and I think there are three in other countries. Why the discrepancy? What is it that doesn't allow these individuals to patent in Canada as opposed to another country? Is that where the research is located, or is it because the U.S. has kind of the central world patent centre?

DR. TAYLOR: I'm going to ask John to answer those technical questions.

MR. McDOUGALL: When you develop intellectual property, one of the very early thought processes when it comes to protect it is: where is the appropriate place to protect it? That judgment is made before an application is made. The U.S. and Canadian systems are slightly different, although ultimately we expect the U.S. system will probably become, hopefully, like the rest of the world, and that is their first-to-file systems and their sort of first-to-discover systems. The U.S., though, is in a sense a very, very important marketplace for many of the technologies. As a very large market in and of itself it becomes critical sometimes to go into that market first and then file subsequently in Canada. In most cases, having filed in the U.S., effectively you've protected your position in Canada in any case.

DR. NICOL: Has anything been initiated to improve that position for Canadian patents?

MR. McDOUGALL: I think what we have to recognize is that technology is a global business these days. There is an increasing amount of uniformity of process around the world. The U.S. continues to be slightly different than most of the other places in the world, but on the other hand it's the largest market in the world. Whether or not they will adopt the same approach as the rest of the world, I don't know. I really don't know. We don't view it as sort of our job to try to deal with that kind of an issue. We must just work within it.

MR. DOERKSEN: Mr. Chairman, I wonder if this isn't an issue that goes beyond Alberta Research Council. It impacts also universities. I don't know, Lorne, if you have any ideas on that. Ken, you might even have some thoughts.

DR. NICOL: I guess what I was trying to get at is: is there any loss to our economic development and our growth in Alberta just because a patent is filed somewhere else? We're basically in a worldwide patenting situation now, and effectively reporting a geographic breakdown of location of a patent is not as important as the fact that there were 21 new patents created out of the research that was undertaken. That's the significant achievement in knowledge-based, as opposed to where a patent is filed.

[Mr. Shariff in the chair]

MR. DOERKSEN: I think that's probably a good question we should take back to ASRA to explore that issue. I think we can do that.

DR. TAYLOR: That's an excellent question.

THE DEPUTY CHAIRMAN: Okay. Mr. Herard, followed by Ms Blakeman.

MR. HERARD: Thank you, Mr. Chairman. I just thought the chairman of ARC was getting off too easily here, so I've got a question or two for him. On page 55 of the annual report the ministry has revenues from private-sector contracts, and I note that the actuals are not as much as the budget. Now, if ARC is to run more like a business, shouldn't it be able to meet its revenue targets?

DR. TAYLOR: That's a very good question, Denis.

MR. DOERKSEN: The first thing I'll point out to you, hon. member who thought I was getting off easy, is that if you look at history compared to where we're going, we are in fact growing in that area. But we took some deliberate management decisions over the past number of years, because we wanted to become more aggressive in

the market, to grow the private-sector part of our business. We did set some stretch targets for our business units as well. But if you look at the trends over the last three or four years, you'll see that our contract revenue is in fact growing quite substantially. Maybe John wants to elaborate on it.

MR. McDOUGALL: Contract revenue is growing rapidly, and you're correct in noting that the achievement relative to – we did not meet our budgeted external revenue target for the year in question. Notwithstanding that, we did grow by – what? – about 15 percent.

As Victor Doerksen has pointed out, we are very much pushing external revenue generation. We have set aggressive targets. In the year in question to some extent we ran up against the realities of the tail end of some soft pricing in energy which had spilled over into a lot of other activities. That changed, if you like, many of the psychological decision factors that people apply, and they were a little reticent to spend money and so on. We felt that under those circumstances a 15 percent revenue gain in fact was very good from external contracts.

9:50

MR. HERARD: Thank you. Mr. Chairman, that's good news. Does that mean, then, that over time you expect that the grants from the province to ARC will decrease? Because I note on page 88 of the report that the grants to ARC increased almost \$2 million in that year. Does that good news sort of extend to this part as well? Will we see a reduction there?

MR. DOERKSEN: I'm going to answer that question two ways. The first one. I want to point out to you page 35, where we indicate some of our performance measures and targets. The one I always look at that means the most to me among those, frankly, is the ratio of private-sector R and D funding to government investing. It's been my objective as chair of ARC since I was appointed there to see that particular ratio increase so that we have a greater amount of our revenue coming from the private sector as opposed to from the government. Our focus has been on achieving that particular ratio.

The second way I'll answer that question, as I said in my opening comments, is that we now have to present our business plan to the Alberta Science and Research Authority. We have to demonstrate to them that we're meeting the strategic direction that ASRA has for the province and make sure that we fit in there. We have to answer to them, and the decision in terms of how much revenue that will mean to the Alberta Research Council directly from the government through ASRA to ARC is really at their discretion. Sometimes we get into different debates as to what that might mean. So I would think you will see probably a flat-line kind of investment from ASRA or from the province to the Alberta Research Council, and for this coming year I think in the budget we actually show a small dip in the amount of money that's coming from there. Again, we live in two worlds. We're in the business world, we're in the public world, and sometimes that causes us some difficulties, but we work through it pretty well I think.

DR. TAYLOR: If I could just comment briefly. We have the need in this province for what I would call public-good research that has to be funded by government, that will not be funded by other groups, so the Alberta Research Council is a natural repository for that. I think overall the strategic direction will be decided by the Alberta Science and Research Authority. You could perhaps even see an increase one year and a decrease the next year, depending on the public-good research.

Now, we want to move very much to a contractual basis so that rather than giving them a pot of money, ARC will be working on a

contractual basis. They'll be doing this research for that many dollars and this research for that many dollars. That's the direction we're going, and that's the direction ARC wants to move so we clarify the relationship over the next several years in terms of the direction that we're going.

MR. DOERKSEN: I kind of like this negotiating in public with the minister for our budget dollars. I will say that when we have the skills to deliver a service or a strategy, for instance, like climate control – let's use that one because we've talked about that one a lot – Alberta Research Council will compete to provide that service along with everybody else, and if we can do it better or more effectively than somebody else, I would hope that they would see fit to let us have the work.

DR. TAYLOR: Absolutely, and that's why I suggested the budget might go up some year, Victor.

THE DEPUTY CHAIRMAN: Ms Blakeman.

MS BLAKEMAN: Thanks. I may just end up giving you the two questions and letting you respond to them in writing. The first is page 88, contract revenue, commercial. It's actually a supplemental to the previous member's question. I'm looking for a breakdown by entity of this \$17,878,000 of revenue through commercial contract revenue. You may both wish to do that by written question.

While I can still get my supplemental in, which was the question I intended to ask, on page 64 under note 13, contingencies, I'm wondering if the minister can provide additional information on this almost \$5 million claim which is against the Alberta Research Council relating to contamination of petroleum produced from certain oil wells. Again, I suspect that's a lengthy answer, so I'd be happy to receive it in writing through the secretary.

DR. TAYLOR: Through the secretary what we'll do is provide written answers to those two questions, unless you can answer them very quickly, Victor.

MR. DOERKSEN: No. We'll do what the minister has suggested. Just one word of caution. Because of client confidentiality with respect to when we're working in the private realm, we will not be able to release to you names of some companies. We'll provide you the information that we can. Would it be helpful if we also highlight which particular areas we're in, like, say, forestry or biotechnology, and the percentage? Would that be useful?

MS BLAKEMAN: Well, I should know. Knowledge is a wonderful thing.

MR. DOERKSEN: Okay.

THE DEPUTY CHAIRMAN: So we'll expect an answer coming through the office and circulate it to all the members.

Given the time, I guess we could have a motion to adjourn.

MR. HERARD: So moved.

THE DEPUTY CHAIRMAN: Mr. Herard.

The meeting is adjourned. Thank you. See you next week.

[The committee adjourned at 9:57 a.m.]