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JOINT COMMITTEE OF PUBLIC ACCOUNTS AND AUDIT

**Reference: Financial reporting and equipment acquisition at the Department of
Defence and Defence Materiel Organisation**

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**JOINT STATUTORY COMMITTEE OF
PUBLIC ACCOUNTS AND AUDIT**

Wednesday, 23 May 2007

Members: Mr Barresi (*Chair*), Ms Grierson (*Deputy Chair*), Senators Mark Bishop, Chapman, Hogg, Humphries, Murray and Watson and Mrs Bronwyn Bishop, Mr Broadbent, Dr Emerson, Dr Jensen, Miss Jackie Kelly, Ms King, Mr Laming and Mr Tanner

Members in attendance: Senators Mark Bishop and Hogg and Mr Barresi and Dr Jensen

Terms of reference for the inquiry:

To inquire into and report on:

Progress in implementing systematic reforms in the areas of financial reporting and equipment acquisition at the Department of Defence and the Defence Materiel Organisation (DMO), as identified in ANAO financial and performance audits, the Defence Procurement Review 2003 (the Kinnaird Review) and the Senate Foreign Affairs, Defence and Trade References Committee's 2003 Report on the Inquiry into Materiel Acquisition and Management in Defence, including the following:

- Progress in implementing Defence's financial remediation plans, relative to international best practice in these areas, and recommend any further measures that can be adopted;
- Progress in implementing the Kinnaird Reforms, relative to international best practice in these areas, and recommend any further measures that can be adopted;
- Review Australia's relative achievements in procurement and financial reform relative to international best practice in these areas of defence administration; and
- Assess progress in Defence's adoption of international business accounting standards relative to international best practice in this area of defence administration.

WITNESSES

**HURLEY, Lieutenant General David John, Chief, Capability Development Executive,
Department of Defence 1**

**LOUGH, Dr Roger Malcolm, Chief Defence Scientist, Defence Science and Technology
Organisation 1**

Committee met at 11.37 am

CHAIR (Mr Barresi)—I welcome everybody here this morning to this public hearing for the committee's inquiry into financial reporting and equipment acquisition for the Department of Defence and the Defence Materiel Organisation. The purpose of this hearing is to discuss the role of the Defence Science and Technology Organisation and the capability of the development and materiel acquisition process of the Department of Defence.

Before beginning, I advise witnesses that the hearing today is a legal proceeding of the parliament and warrants the same respect as the proceedings of the House itself. The giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. The evidence given today will be recorded by Hansard and will attract parliamentary privilege.

HURLEY, Lieutenant General David John, Chief, Capability Development Executive, Department of Defence

LOUGH, Dr Roger Malcolm, Chief Defence Scientist, Defence Science and Technology Organisation

CHAIR—We welcome to the committee Lieutenant General Hurley and Dr Lough. Do you have any comments to make on the capacity in which you appear?

Dr Lough—In the capacity of Chief Defence Scientist, I also function as the Chief Executive Officer of the Defence Science and Technology Organisation.

CHAIR—Gentlemen, do you wish to make an opening statement before we go to questions?

Dr Lough—As this is the first time I have appeared before this committee, I thought it would be useful if I could say a few words about the Defence Science and Technology Organisation, give a bit of background and give an overview of our role in the acquisition process. The Defence Science and Technology Organisation is the Australian government's lead agency for providing science and technology support for the country's defence and security needs. We have been around for some time, and, in fact, if you look at my lanyard you will find that we are now celebrating 100 years of defence science in Australia.

We are the second largest publicly funded research agency after the CSIRO. However, we do not function the same as them in terms of how we do research. We are not an independent organisation like CSIRO; we are a group in Defence and we function alongside General Hurley's activity, the Defence Support Group and all of that. I function as a deputy secretary inside the Defence organisation.

We also collaborate around the world, and with industry, to provide science and technology support, and when I come to talk about the equipment acquisition process and our role in it you will see what 'science and technology' means in this context.

We employ 2,480 people in 11 research divisions across the country. Our staff are primarily scientists, engineers, information technology specialists and technicians; and about 35 per cent

of them have PhDs. Our headquarters are here in Canberra, in the Russell complex, but our major activities are in Edinburgh in South Australia, which really functions as the largest ICT—information, communications and technology—research organisation in Australia. In Melbourne, we have facilities at Fisherman's Bend, in the south of the city, and at Maribyrnong, to the west of the city. We also have smaller research facilities in Sydney, Brisbane, HMAS *Stirling* in Western Australia, Scottsdale in Tasmania, and Innisfail in Northern Queensland. A number of defence scientists are embedded with ADF units around the country and we have a few people that work overseas.

Our net budget for 2006-07, portfolio allocated, was \$378.3 million in the present books; while gross funding, available from all sources for DSTO, is around \$446 million. We have a hybrid business model. The total represents about two per cent of the defence budget. We were last reviewed on that activity in 2003 by Mr Robert Trenberth, a retired deputy secretary from the Department of Industry, Science and Tourism, looking at our value-for-money activities, and in that review we were deemed to be high value for money. That is all I want to say about DSTO in general.

We have a role at every stage of the equipment acquisition process, supporting General Hurley and the other organisations that are involved in that process—mainly the DMO and some of the strategy people. Right at the needs phase we do the quantitative analysis. 'Science and technology' in this context refers to all the quantitative analysis that gets done in looking at concept formulations, needs, the needs phase of projects, the definition of projects—all the way up to first pass. It is really called capability analysis, operations analysis, operations research, or such. Also, it requires us to look at what technologies are available, whether they are feasible and things like that.

After first pass, we assist the equipment acquisition process in terms of looking at the risk mitigation strategies for getting from first pass to second pass in the defence acquisition process. That includes analysis, technology investigations, development of new technologies—where that is required—and general technical support through that process. At second pass, our expertise is required as subject matter experts as part of the tender evaluation process. After second pass, we move into the introduction-to-service phase, where we assist the DMO and primarily the other capability managers—which, in this case, means the services—in how they will introduce that capability into service. For example, with the armed reconnaissance helicopter, how do you actually integrate it into the battle command process of the army? We have a number of experiments, people and technologies that support that process. I will leave it there, Mr Chair.

CHAIR—Of the 2,400 people that you employ, you said 35 per cent are PhDs. What kinds of positions are particularly those people with PhDs placed in? Are they in project advisory positions and therefore involved in capability and development?

Dr Lough—Some are, yes. It is a mix; the PhDs are scattered through the organisation. Many of them are in project advisory roles, and some of them are in non project advisory roles. For every project that we get involved with—and that is most of the major ones—we designate a DSTO scientist as a science and technology adviser. That scientist is the project adviser for that project, and they can be a PhD or a non-PhD. We do not discriminate after they have got a certain level of experience. It is their job then to orchestrate the DSTO support to that project

through the equipment acquisition process that I have just spoken about. Whether you have or do not have a PhD is not that relevant at that sort of level.

CHAIR—Can you please go through with us how extensive the DSTO's involvement was with some of the projects that we are looking at, particularly with the FFGs and the Tiger Air 87s.

Dr Lough—The FFGs? You are going back in history there. Do you mean the upgrade?

CHAIR—Correct.

Dr Lough—We did not have that much involvement in the original aspects of the upgrade. We have been giving some advice over the last two to three years, but because it is already in contract we have not been that much involved. The Air 87: yes, we have been deeply involved with that process.

CHAIR—Would that outcome happen in the future or was that just something that was unique to that project in the past?

Dr Lough—Generally speaking, when the FFG upgrade went through, the current series of business rules about how the first- and second-pass process works were not in place; therefore, the role of DSTO in that process was not as well defined as it is now.

Lt Gen. Hurley—There would not be a project that goes through any approval process at the moment that does not have heavy involvement from DSTO.

Dr Lough—With the ARH, for example, we did all the analysis and said, 'What do you want an attack and reconnaissance helicopter for? What are the optimum solutions around the place?'

Dr JENSEN—You have explained some of the involvement in terms of capability development early in the piece: in your view is the involvement of DSTO adequate in that process?

Dr Lough—In general, yes. We could always use more resources. I am sure General Hurley can comment for himself, but he would always like more of the DSTO resources in order to do the job. Essentially there is a prioritisation process. I have only got so many operations analysts—as you well know, they don't grow on trees. Therefore, we have to continually monitor and reassign analysts as projects come in or slip. But, at the moment, when I look across the broad aspects of the DCP and stuff that is coming into the DCP, I am generally satisfied that we are offering the right level of support; but I would ask General Hurley to comment on that.

CHAIR—Could I just refer to Dr Jensen's question. Because of the changing involvement, as you said, with the FFG upgrade you were not as involved as perhaps you may be now. Has there been an increase in personnel since then in order to meet that extra responsibility that you now have?

Dr Lough—Yes.

CHAIR—To what extent? You have got almost 2,500 people: what kind of growth have you seen and in what positions?

Dr Lough—The number of people in the DSTO has stayed reasonably steady over the years. Where we have grown is in the use of support contractors and specialised assistants. But what we have done is move a lot of the capability that we have in DSTO over to the front end to support General Hurley's activities, so we have more analysts now than we did in the past, which means that we have less of something else.

CHAIR—Sorry, General Hurley; I interrupted you. You were going to provide some extra information.

Lt Gen. Hurley—The relationship is very close. I have a scientific adviser for the capability executive who works for me, Dr David Wood, and I have a large number of DSTO staff who are embedded in my organisation on the same floor where all the staff are working on issues. Not only do they provide analysis and analytical support but they are also our conduit into the various divisions of DSTO to help us understand and tap knowledge.

We get involved in the budgetary process with DSTO. We look ahead and do our long-term science and technology planning, trying to look through the DCP and determine when we are going to require what sort of support over what timeframe to what sort of depth, and the size of a group we might need, and the input we might need to help Dr Lough in his longer-term planning for manpower. We try to help him identify what kinds of qualifications he needs to have out there in the future as technologies change or as we get interested in a technology that is coming in. We will have an executive science and technology plan, and then each of the projects will have a science and technology plan which supports them as they move through the various phases going forwards.

It is quite a tight arrangement, and we fund a lot of the work that DSTO does. It has a baseline budget, and then we fund a lot of the additional work it does out of the Defence Capability Plan, as we pool 10 to 15 per cent of investment before second-pass approval. A proportion of that will be spent on DSTO support to help us do studies and understand the issues.

Dr Lough—It depends on the size and the complexity of the project.

Senator MARK BISHOP—In terms of the AWD, which is a very technical project, we have had the first phase, with the second phase coming up later this year. DSTO would have been heavily involved in the capability group under General Leahy in all of the scientific or technical planning from the beginning until it gets signed off by government and then when the government goes into contract allocation. Is that right?

Dr Lough—Even after it goes into contract allocation, we will be part of the team that will probably be over in the States looking at the combat system and how it gets integrated and comes back and things like that. We would do that with the AEW, for example.

Senator MARK BISHOP—So, in terms of that major project, you are fully integrated and fully participating from beginning to end.

Dr Lough—Right from the gleam in the eye to—

Senator MARK BISHOP—So, in that respect, are you the primary technical adviser on the complex scientific issues associated with the systems and the missiles within the AWD?

Dr Lough—Yes. I delegate that down, of course, but essentially the accountability comes up to me.

Senator MARK BISHOP—Are you the only scientific and technical adviser on those issues going to government, or are there other sources of advice?

Dr Lough—I am not the only source of technical advice; the project can and does source technical advice from wherever it wants, but it most often comes through us. My role in terms of technical advice to government is a separate one in the sense that, as part of first-pass approval and second-pass approval, I have to assign a technical risk assessment to the project for government regarding the technical aspects of whether the technology is available, whether it is feasible, whether it is fit for purpose, and those sorts of issues. In that sense, I am the government's scientific and technical adviser.

Senator HOGG—Could I ask one question following on from that.

CHAIR—I have a question following on from that too. In terms of that other advice: who sources that? Is it you who is sourcing the other advice or is it the defence department itself?

Dr Lough—I am part of the defence department.

CHAIR—Sorry. The—

Dr Lough—The advice can be sought from the project through me.

Lt Gen. Hurley—It is mandated.

Dr Lough—The technical risk assessment is mandated, but what I am saying is that I do not claim to be the font of all knowledge on all projects.

CHAIR—But you are not being bypassed: you may use some other technical expertise, either domestically or internationally, to assist you.

Dr Lough—Absolutely.

Senator HOGG—Just following on that line of questioning: where does your organisation fit, given that a number of the projects that have been up for procurement over a period of time have failed in the IT area, because of the complexity of the IT that was required ultimately for the project? Was your organisation involved in making the assessment of the risk associated with those projects, and, if so, why was there a failure in identifying the risk? Or, if not, why were you not involved?

Dr Lough—Senator, some of those projects were before the current system was in place.

Senator HOGG—I accept that.

Dr Lough—The second point is that, historically—at least up until very recently—DSTO's activities have concentrated on the ADF military capability aspects, not the business systems. Many of the projects that you are talking about were basically business systems, and we have limited expertise in business systems.

Senator HOGG—Do you now look at the business systems?

Dr Lough—We do, but we do not have a high level of expertise in the business systems. We have enough to be able to assess the risk. I will assess as high risk many of those projects that are going through. That does not stop the projects; it just says that when they go through they are high risk.

Lt Gen. Hurley—The project team is obviously working hand in glove in putting this together. The package that goes to government would say, 'The DSTO assessment is that these particular areas are high risk, so, in the project, this is what we have done about it.' We look at what mitigation we have put against that in terms of funding, time and additional resources to address those issues, and we make a call. Is it such a high risk that we would not do it—yes or no? If we do think we can proceed, how can we best mitigate the risk that has been identified? Then, they will assess that mitigation plan to say whether it is likely to be effective or not.

Dr JENSEN—The Kinnaird two-pass process has been something that has considerably benefited the acquisition of projects. In your view, is the two-pass process always adequately used, or are there major projects where the time period from identification of a requirement through first pass and second pass has really been inadequate to analyse what is required in sufficient detail?

Dr Lough—You could always use more time. That is really where I come from there. We acknowledge the constraints on government in terms of projects that emerge, mostly for capability needs reasons, and go through to the acquisition process. The length of time between first pass and second pass can be short or long, and we do the analysis that we can within that time. If there is a lot of analysis to be done in a short time, then I will just reprioritise to do that. So the issue is one of horses for courses in that process.

Dr JENSEN—You say 'horses for courses', but I can imagine times when really you do not have the adequate resources for the time period that is required. What sort of information do you then feed across? Do you tell Lieutenant General Hurley, who then tells the defence minister, that the time is inadequate, or do you just make do with what you have got, given those time constraints?

Dr Lough—We generally give the best advice that we can within the time constraints that we have.

Dr JENSEN—A bit further down the process: in terms of where you are going through the acquisition, you talk about a scientist that is allocated to the project. Do you think that the resources that are put in there are adequate? Are they adequately integrated with but independent of the rest of the acquisition team, so to speak?

Dr Lough—No, they are generally part of the acquisition team. Every project has a science and technology plan, which is essentially a risk mitigation plan, especially between first and second pass. That is managed by the science and technology adviser, the DSTO person, who is generally an integrated member of the integrated product team. The DSTO support is provided as part of the way that the project goes forward. In fact, if it was any other way, I would be very disappointed in terms of the relationships between the DSTO staff and the project acquisition teams.

Dr JENSEN—At a higher level, are you happy with effectively being funded directly from Defence and in effect, therefore, being directly responsible—I will not use the word ‘beholden’—to Defence; or do you think that perhaps the bucket of money should be somewhat more independent, should come more directly from some other source?

Dr Lough—No, the way the defence organisation works, I am quite satisfied with my independence. I suppose the issue is to understand that we have a hybrid business model in DSTO. I get the bulk of my funds from the portfolio, but a significant and increasing amount of the funds—specifically to support the projects; in essence, the risk mitigation activities—are funded directly by General Hurley out of the DCP. That is an agreement we have had in place now for a year or 18 months. It is a similar activity with the DMO.

The area where I maintain the independence is that, in terms of looking at the risks, the risks are generally always funded through independent moneys—my own portfolio money—and the staff are reporting to me; they are not part of the project.

Dr JENSEN—In terms of the capability definition and acquisition phases, if you could make two changes what would they be?

Dr Lough—Changes?

Dr JENSEN—In terms of making the system even better, in your view.

Dr Lough—I am not sure that I would want to make too many changes at all at the present time. You can always refine the process.

CHAIR—We have seen an improvement in that you are now involved in projects all the way through compared to the past, so that has been a change that has taken place and that has been in place now for a number of years. You can look at it and say, ‘We’ve been in this new paradigm for a period of time. Is it working? Is it not working?’

Dr Lough—There are some projects that are less suitable for the two-pass process than others. These are the ones that are software intensive, like those Senator Hogg was talking about, or ones where you have fast-moving technology where the technology refresh cycle is less than the approval cycle, in which case you are always getting further and further behind. Within the department we have been talking about some possible refinements to the process of how we accommodate projects where you are not quite sure what you want when you need to buy it because you are not quite sure what the technology will be when you actually acquire it. Therefore, there are some process changes to be looked at, and General Hurley is looking at that activity at the moment.

Senator MARK BISHOP—How can you buy something without knowing what you are buying or what its purpose is?

Lt Gen. Hurley—You can put the question that way. I will give a practical example: the joint command support environment—how we do business, how we command and control the ADF and how we link in with the US. At one level you can say, ‘Yes, we are always going to have a joint command support environment and it will have the following characteristics.’ However, the applications it sits on—which we use to do our business and to help us with deliberate planning, short-term planning, reporting, situational awareness, and understanding what is going on on the battlefield—can change reasonably quickly, and you need to make the call as to whether you want to do it or not.

How do we set a process up that gives government the transparency and assurance that it gets under the two-pass system that we presently have but allows us to have a bit more freedom to make some quicker changes? If some of those applications change by the time you do integration, you could be into \$20 or \$30 million, which classifies it as going to two ministers or NFC or whatever, and simply trying to get that number of small changes through a government approvals system would be difficult.

Is there another way that we could provide transparency and assurance to government to enable us—if it is another layer of governance, if it is another interaction with, say, the Department of Finance and Administration—to make those decisions a bit more freely? That is what we are after, because when the software becomes available it is in a short time frame. By the time you develop first- and second-pass documentation, and do all the other business you need to do, you are on it. So, we are just trying to ease our way through that.

Again, it is not something we can do unilaterally, because the first- and second-pass processes are a cabinet mandate on us. So, we are working right now with industry and others to see how we might approach that. We have got the Department of Finance and Administration involved in helping to understand how we might proceed with it. Then we will put a case to government to say, ‘Do you want to trial this? Can we approach this in another way?’

We need DSTA to be really in our pocket on that, because they have to be forecasting ahead. So we talk to the Americans, industry, and other coalition allies about where they think they are going, and we try to keep a continual assessment going up front to say, ‘Look, things look like they are going this way: when do we want to make a change? Do we want to make a change?’ and so forth. It is a matter of gathering information in a much shorter time frame to try to build a business case.

Senator MARK BISHOP—In relation to the problem that you have outlined there: isn’t that at the heart of the nature of IT systems as they develop—and these days they appear to develop almost exponentially—in terms of capability and things of that nature? What was considered to be advanced 12 months ago, all of a sudden, once it is fully developed, becomes an off-the-shelf product and it is just normal—

Dr Lough—Yes, and you are on to the next cycle.

Lt Gen. Hurley—And you have to make a decision whether you are going with version six, seven or eight? Do you keep changing with every version? That is good in one sense. If you leap versions, you might have a bigger up-front cost to make a change, and the change management issues are bigger because the system has changed much more significantly than the one you are using.

Senator MARK BISHOP—Dr Lough, is your organisation involved in the commercial risk assessment? We all know, for example, that we can go down to Antarctica and grow strawberries, given sufficient money and technology, if we want, but we do not want to pay \$20 for a punnet of strawberries. In that context, does your organisation do the commercial risk assessment on a particular capability, or a particular product, as part of the second phase, or is that outsourced to other parts of the group?

Dr Lough—No, the DMO does the commercial risk.

Senator MARK BISHOP—Do you have input to that?

Dr Lough—Where appropriate, yes.

Senator MARK BISHOP—At their request?

Dr Lough—At their request; if there is a technical aspect to it. But my main function in terms of certification, if that is the right to term, is really on: ‘Does the technology do what it is supposed to do?’

Senator MARK BISHOP—Right. And then the cost and the commercial risk—

Dr Lough—And schedule and all that sort of stuff. DMO handle that.

Senator MARK BISHOP—That being the case, you are perfectly capable of finding a technical solution: a scientist is capable of finding a technical solution to growing strawberries in Antarctica, as an example. The issue of cost and commercialisation comes down to the DMO in that analogy. Is it appropriate, in your mind, that they continue to be separate issues: the technical development and capability, and then the commercial risk assessment?

Dr Lough—Part of my function is in the technical risk, that is: is the technology realisable? And there is an element of commercial assessment in that: ‘Can it be manufactured in Australia? Should it be manufactured in Australia? What are the risks if it is not manufactured in Australia? Is it a fit-for-purpose process?’ That is part of the technical risk assessment, so I stray into that area a bit, but mostly I am looking at the technology and saying: ‘Will it do what it is supposed to do?’ and ‘Can we acquire it?’

Senator MARK BISHOP—There is a reason why I ask this question. When we were funded to travel to the United States last year as part of the inquiry we were doing into naval shipbuilding, we had a level of involvement with a number of major US weapons and ships manufacturers. They made the point to us that, at a number of levels in their organisations in terms of the development of a product, the placement of a product and the sale of a product—all of those sorts of things—through their system, there was significant commercial overview of the

technical or scientific sides within their research organisations, because they are for-profit companies. I do not hear you saying that that commercial oversight, that commercial involvement, that commercial integration, is at the level within your organisation that we were exposed to with those major companies in the US.

Dr Lough—You are probably right, because I am not a for-profit activity, and nor is Defence.

Senator MARK BISHOP—No, and you have a charter and a mandate; I understand those limitations.

Dr Lough—There is an element of value-for-money that one looks at in terms of the technical risk assessment, because more advanced technology can offer some or less value for money. So that, again, is part of the mix in terms of the technical risk that comes into it. It is really only value for money in terms of the technology that is being offered, as distinct from value-for-money for the whole project, which is not my expertise.

Lt Gen. Hurley—Certainly, I take the investigator's advice about the nature of the technology, the maturity of the technology and the timeframe you are looking at on the commercial side. At DMO they will be saying, 'In terms of contracting with this company, is it a development contract or is it a fixed-price contract? How are we going to handle the knowledge that we have about this, and our discussions with industry about how we are going to handle that together in going forward with the project?' So the commercial side comes in then with an understanding of what is achievable with that technology.

Senator MARK BISHOP—I have one final question on this issue. Do you see from your position as head of the DCP any utility in having an earlier and heightened commercial overview of projects, or are you more than satisfied with the current arrangement where DMO becomes involved at the appropriate stage?

Lt Gen. Hurley—I think there is an assumption underneath your question that they get involved later than they might. DMO are involved in our projects from pre-entry to the DCP. I am trying to get a view of the achievability, the affordability, of a new project in the early days. So there are questions. What will be the value-for-money construct? Is it an Australian or an overseas approach? Is it a deal with the Americans through foreign military sales? What is the commercial construct? I bring that advice in from DMO. It does not necessarily reside with my people. So all along we are mindful of the capability that we are after but also of whether we can deliver it, and working our way through it with DMO is important. They are involved all the way up to the first pass; they are involved obviously from first to second pass. If you were to draw a chart of how the balance of responsibilities and inputs changes over the life of a project, at the front end I would fill most of that chart, and it would move downwards towards second pass as DMO's input grows and grows with their responsibility. But they are there right at the start, offering that advice we need and helping us to prepare the project.

CHAIR—Dr Lough mentioned that you are looking at some of these issues of process improvement, at this very moment. How far down the track are you in that? Is there going to be a report to the minister? In what way would the report be presented, who is it going to go to and is it possible for us to have that as well?

Lt Gen. Hurley—At the present time we have had workshops with industry and presented the issue to them. We bring industry representatives in, so the companies are involved in these sorts of issues. We have workshopped our way through what we think the issues are, and have presented those issues to a three star group: Dr Gumley, myself, Dr Lough. They filled my room up, so there were a few.

Dr Lough—Yes, there was a full room.

Lt Gen. Hurley—We were looking at where that path might take us. We are waiting for the report from that now. I have already been in loose contact with DOFA about this, and I will then formally approach DOFA. I have spoken to the policy coordination people in our organisation about the best way to take this forward. We will build the business case or the proposal, which will need to go to the minister for his approval for it to go forward. If we get that, we will take it forward. The best place to beat it around before we go anywhere near the government formally would be through the secretaries' committee for national security, because there is a vested interest in all those departments about how we process these sorts of decisions. Then it would go forward to NSC as an amendment to the cabinet handbook. So in my proposal to the minister I would note your interest in it.

CHAIR—This review, without going into the detail of it, will take into consideration some of the issues that we raised here this morning regarding the different nature of some projects, which don't lend themselves to going right through to second pass.

Lt Gen. Hurley—It is not only pure IT projects; if you look at major platforms these days, they really are an amalgamation of systems, and some of those systems need refreshing at different rates, so it is how do you do that in the construct of taking the project forward, how we set up another decision making process with government on that.

Dr Lough—It is manifest most commonly in projects that are very information and communications technology intensive, which is not just software but it is that whole area of electronics and computing.

CHAIR—Do you do any commercial work at all?

Dr Lough—It depends on what you mean by commercial work, Mr Chair.

CHAIR—Well, you outsource people to you. Do you provide service to others?

Dr Lough—Yes we do, in a number of areas. Firstly, we are the industry of last resort for elements of Australian industry that need to source some of our equipment or skills that they cannot source from elsewhere. We also provide generally commercial support to defence industry. It is under a particular arrangement when they are supporting a DCP project or some other project, but it is full commercial if they are flogging it on the open market. We generally favour the SMEs in that activity. Thirdly, we do commercial work, for want of a better phrase, for the non-government agencies that are concerned in national security, the non-defence areas of national security like the AFP, Emergency Management Australia and Customs and things like that.

CHAIR—What kind of revenue do you get from that sort of work? Is it growing over the years?

Dr Lough—It has grown over the years, yes. In terms of commercial revenue which we get from licences as well as actually doing work, it is about \$4 million a year. For service work, it is probably about another \$2 million a year and from the work for the national security agencies, it is probably about another \$2-3 million a year, but that is growing significantly.

CHAIR—Are you under pressure, because of the ability to receive revenue from commercial sources, to divert resources from some of your project teams that would otherwise be used for your standard service with the government projects? What kind of pressure are you under there? You only have 2,500 people with 35 PhDs.

Dr Lough—Our No. 1 priority is, and always will be, to service the needs of the Defence organisation. In terms of where the revenue comes in, we can usually prioritise to be able to provide that service, mainly because it is extra revenue coming in, so you can buy staff. We do risk manage the fact that we know that we are going to get \$4-6 million of additional work, and we resource ourselves to do that as part of the budget planning process. Short-term issues always come up and you have to do this or that, but I re-emphasise that our No. 1 priority is that, when a defence need comes along, it gets done.

CHAIR—How much of the work that you do is actually original research, as opposed to simply supporting research that has been done overseas or by the suppliers?

Dr Lough—It is all original. It depends on—

CHAIR—Looking at it in terms of whether you are adapting something that has already been purchased versus something that—

Dr Lough—That is still research.

CHAIR—you are creating from scratch.

Dr Lough—If you are talking about new widgets, we do about —

CHAIR—New widgets versus improving the widget from imperial to metric, for example.

Dr Lough—About 20 to 25 per cent of our effort is in the generation of niche technologies. That is where we get the over-the-horizon radars, the laser airborne depth sounders—the new projects. That is not to say that all the other stuff we do is not research intensive; it is.

CHAIR—I appreciate that.

Dr Lough—It is really not just about understanding the technology in terms of research into how that technology will be applied in the Australian environment and how it will be used. These days a lot of the research is what we would call high-level systems research, which means there is that requirement to conceptualise and analyse material involving humans and software. It

is that whole concept of how you make systems out of subsystems; that is systems research of the highest order.

Lt Gen. Hurley—In terms of emerging technology—nanotechnologies and the biometrics side of the house and so forth—we have a lot of interest in what DSTO are doing in that area, and we help try to shape it, challenging them with the question of where we will be on these sorts of things. This covers hypersonics and that kind of thing—while we did not necessarily invent that technology, we certainly want to know how to use it better than anyone else.

Dr Lough—And we apply research skills to build that up.

Senator MARK BISHOP—BAE Systems made a submission to the inquiry, and I will quote what they said:

The allocation of a technical assessment role to DSTO has slowed the process between first and second pass, and from second pass to contact—

contract—

award with little demonstrable reduction in risk. It also diverts DSTO from its core capability of applied research and development.

Do you have a comment to make in response to BAE Systems?

Dr Lough—I do not agree with their assessment. In absolute terms of doing the technical risk assessment, the actual resource that is used to put the risk assessment together is quite small. You do not actually go out and do new research for the risk assessment—

Senator MARK BISHOP—You can analyse existing—

Dr Lough—You take what is there. I would go entirely the other way and say that the technical risk assessment has highlighted some of the risks that are noted in the risk mitigation process that goes between first and second pass—risks that would probably otherwise not be visible.

Senator MARK BISHOP—You could probably in fact argue that it is a timesaver.

Dr Lough—I would say it is a timesaver and will help to increase the chance of the project being delivered on time.

Lt Gen. Hurley—I can say that I have not had one of my director-generals or the head of capability systems come up to me and say, ‘We have to slow down the project for approval because DSTO is dragging the chain on the TRA,’ or, ‘The TRA is taking too long to get—’

Senator MARK BISHOP—So you reject their submission as well?

Lt Gen. Hurley—I would love to see the data they based that on.

Senator MARK BISHOP—They have not made any formal approach or complaint to either—

Dr Lough—They have not spoken to me about it.

Lt Gen. Hurley—No, they certainly have not raised it with me, and I talk with them fairly frequently.

Senator MARK BISHOP—I know also from other committees that these days Dr Gumley is always on about risk profile, risk assessment and mitigation of risk, so it has become a central activity, one suspects, in the last two or three years—or more so than it was.

CHAIR—Dr Lough and General Hurley, thank you very much for coming in. We appreciate your evidence today. There may be other questions that we may need to put to you. If we do, we will do so in writing.

Committee adjourned at 12.25 pm