COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

JOINT COMMITTEE OF PUBLIC ACCOUNTS AND AUDIT

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

THURSDAY, 12 OCTOBER 2006

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JOINT STATUTORY COMMITTEE OF

PUBLIC ACCOUNTS AND AUDIT

Thursday, 12 October 2006

Members: Mr Anthony Smith *(Chair)*, Ms Grierson *(Deputy Chair)*, Senators Bishop, Hogg, Humphries, Murray, Nash 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 Bishop, Hogg and Watson and Mr Broadbent, Dr Jensen, Miss Jackie Kelly, Mr Anthony Smith and Mr Tanner

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

Committee met at 11.38 am

CHAIR (Mr Anthony Smith)—I welcome everyone to this morning's public hearing for the committee's inquiry into financial management and equipment acquisition at the Department of Defence and the Defence Materiel Organisation.

We are waiting for the witnesses from ADI Ltd; I am told they are not far away. We will commence the inquiry and we will start with a presentation from the Australian National Audit Office on the audit report that they have already done. We have had several public hearings for this inquiry already, focusing primarily on the financial management reforms being undertaken by Defence and the DMO. Today we are conducting a case study as part of that inquiry into the fast frigate guided upgrade project. The Audit Office reported on the project last year as part of a broader report on project management offices within the DMO. The project has been subject to significant delays. Of particular concern to the committee is the Audit Office report that more than 80 per cent of the contract price has been paid, yet only one upgraded ship has been delivered to the Navy thus far. The focus of this inquiry is on contributing to the best way forward for ongoing Defence financial reform and improving the acquisitions process.

Today we would like to hear about what lessons have been learnt on the project, which we will get to when our witnesses arrive and we hear from DMO a bit later. We will take evidence from both of those. Before beginning, I advise all the witnesses who are here that today's hearings, as always, are a legal proceeding of parliament and warrant the same respect as 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.

BAGHAEI, Mr Ali, Vice President, Thales Naval Australia; Director, Naval, ADI Ltd

SIPPEL, Mr David Paul, Program Manager, FFG Upgrade Project, ADI Ltd

TACEY, Mr Harley, Project Director, FFG Upgrade Project, ADI Ltd

CRONIN, Mr Colin, Executive Director, Performance Audit Services Group, Australian National Audit Office

McNALLY, Dr Ray, Senior Director, Performance Audit Services Group, Australian National Audit Office

McPHEE, Mr Ian, Auditor-General, Australian National Audit Office

MEERT, Mr John, Group Executive Director, Performance Audit Services Group, Australian National Audit Office

CHAIR—I welcome witnesses from the ANAO. I invite you to make an opening presentation on the audit report that you conducted, some of the findings and the concerns.

Mr McPhee—The FFG upgrade is a large-scale procurement of military capability. The FFG upgrade and the Tiger armed helicopter procurement, which the committee has indicated it will also inquire into, are projects that have a combined funding approval of some $A3.5 billion. Given the scale of investment in these projects, the ANAO audits have reported on whether the acquisitions under these contracts conform to the scheduled delivery program, the prescribed quality, so that they are fit for ADF purposes, and finally to accord with the cost parameters of the contract. The audit report on the FFG upgrade, the subject of today's inquiry, was tabled in May last year. We would be pleased to provide some further overview of the report, and I will ask Mr Cronin to do that for us.

Mr Cronin—The FFG upgrade contract was signed in June 1999. It was for the upgrade of six vessels. In 2002 the DMO estimated that the unit cost of the upgraded FFGs would be $235 million each for six upgraded FFGs or $353 million for four FFGs if they were upgraded. Given that there has been a de-scope from six FFGs down to four, and it was mentioned prior that there have been some savings, that figure of $353 million each will have dropped somewhat. But that gives you an order of magnitude.

In the period June 1999 to June 2003, the Commonwealth paid $790 million to ADI as part of the contract, which led to the buying of six ship sets, and work commenced in terms of upgrading the FFGs. At the time the ANAO did the audit, the project was running late. The delay is related to the design development integration of the upgraded combat system. The ANAO considered that progress to date cast doubt on the contractor's ability to deliver upgraded FFGs capable of meeting the contracted specifications within the agreed price or schedule.

In April 2004 the project was rebaselined and the schedule extended. Under the initial schedule, which was determined in July 2002, by December 2006 all six FFGs would have been

upgraded. Under the April 2004 schedule, by August 2006 three FFGs would have been upgraded. At the time that we completed our audit in May 2005, there had been no FFGs upgraded or accepted by the DMO. In terms of schedule delay, financial management, the ANAO found the FFG records financial from 1999 to mid-2003. During this period, if we exclude the advance payment of $126 million, there was $663 million paid. Much of this was in terms of earned value payments.

The earned value management system did not receive specification compliance certification until November 2001, by which time more than $200 million had been paid in earned value payments. The other aspects relate to the software build strategy. The fist release, known as baseline build 1, was to be delivered with HMAS *Sydney* and is to provide no lesser a capability than the original FFG naval combat data system it replaced. The following build systems will be progressive, leading to the third build, which is scheduled for delivery with the third upgrade FFG, which was, under the April 2004 schedule, to be done n August 2006. That will provide the entire combat system software functionality as specified in the contract. These audits are essentially answering this question: does the major capital equipment meet the contractual requirements? That is what the audit reports on.

Senator WATSON—On what date did you decide to decommission *Adelaide* and *Canberra* and how much money has been spent on that? I notice that the specialised equipment you bought included six items. That means that two go into storage.

Mr Cronin—The government announced in November 2003 that it was reducing the number of FFGs from six to four. I cannot tell you the amount that has been spent as of November. What I can tell you is that as of June 2003 we had spent $789.97 million, and that is just in payments to—

Senator WATSON—But on six of them.

Mr Cronin—We would have bought equipment for outfitting six ships.

Senator WATSON—So effectively one-third of that specialised equipment is just going into storage.

Mr Cronin—That would be our understanding.

Mr TANNER—Could the Audit Office explain the earned value payment system and how that is supposed to work?

Mr Cronin—Payments are made under two systems. There are milestone payments. A milestone payment might be for signing the contract, where you get a mobilisation payment. Then you have an earned value payment. The contract is a mixture of milestone and earned value payments.

Dr McNally—The project is broken down into a work breakdown structure, which has thousands of work packages. Each of those work packages are costed and scheduled and the combined cost and schedule of all those packages go to make up a performance measurement baseline. We use that baseline to measure the contract's schedule performance and cost

performance. At the same time, you can use that performance to determine payments based on the earned value of each of those thousands of work packages.

Mr TANNER—Sorry, but I am still not quite clear. Does it mean that in the initial contract there is a clause that says, 'When you have reached this stage and completed stages 1 and 2 then the Department of Defence is liable to pay you X million dollars'? If so, is that purely with respect to the completion of the work or does it involve time clauses as well?

Dr McNally—That would be more like a milestone payment. In the earned value system, you measure performance or progress in dollar terms and in schedule terms monthly. Each month, there is an earned value claim and the Department of Defence does an assessment of whether that claim is valid. If it is valid, then that earned value money is paid.

Mr TANNER—In effect, by the sound of it, it is simply the contractor saying, 'We did X amount of work this month and so many work components were completed and they were valued at so many dollars, so cough up the dollars, please.'

Dr McNally—Exactly.

CHAIR—I now welcome witnesses from ADI. I advise you that the hearings today are legal proceedings of the parliament and warrant the same respect as proceedings in 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 is being recorded by Hansard and will attract parliamentary privilege. Before we move to questions, I invite you to make an opening statement if you would like.

Mr Baghaei—Thank you for the opportunity to appear before you today on behalf of ADI Ltd to discuss the FFG upgrade project. Before my colleagues and I answer your questions, I would like to take this opportunity to provide an overview of the project, its benefits to Australia, its challenges and recent achievements.

The FFG upgrade program is the most sophisticated naval systems engineering project ever undertaken in Australia. It involves the integration of new technologies and legacy equipment into an existing platform. ADI believes this project will pay enduring dividends for Australia—not only in terms of the enhanced capability that it will provide the Royal Australian Navy but also in key skills areas such as advanced software and systems engineering developed by ADI in order to execute the project. We believe this lasting skills legacy must be nurtured to benefit future Defence projects.

An example of this skill development is the development of the FFG combat management system: the Australian Distributed Architecture Combat System or, as we call it, ADACS. Designing and developing ADACS required us to invest in establishing new facilities and to recruit new staff in western and eastern Australia. As a result of this investment, ADI is now the only Australian company to have designed, developed and installed its own indigenous naval combat system. The ADACS is now operating on HMAS *Sydney*, with more advanced software versions being readied for installation into later ships in the upgrade project. This major achievement is not only a testament to the hard work and skills of ADI's engineers; it also represents a coming of age for Australia in the world of naval combat systems.

In common with many defence projects around the world of similar complexity, there have been challenges associated with ADACS's implementation, including system development and integration. ADI acknowledges these challenges and the areas of improvement identified by the Australian National Audit Office. Since the ANAO report of May 2005, ADI has made considerable efforts to overcome these challenges. ADI has learnt from experience and implemented several key changes to improve its performance including: (1) instilling a culture of disciplined project management which includes more stringent application of processes, supplementation of the team with more experienced project management resources, investment in project management training with universities and professional bodies, such as the Australian Institute of Project management, and refocusing personnel on complying with the contracted scope; (2) adopting a system based approach, which has enabled the project to focus on the 'true' integration role and deliver specified product outcomes; (3) implementing a new delivery strategy, with the agreement of DMO—the lead ship, HMAS *Sydney*, was handed back to the Navy ahead of provisional acceptance. This has allowed her to be used by the maritime commander for training and other fleet tasks while simultaneously serving as the demonstrator through which software system upgrades could be tested and lessons learnt for the benefit of the follow-on ships.

ADI also recognised the need to work more collaboratively with the DMO to deliver the project for our shared customer, the RAN. The focus of this work was the deed of settlement and release signed in May 2006. This deed formalised the Commonwealth's decision to reduce the FFG upgrade project scope from six ships to four and resolved all outstanding commercial and contractual issues. It provided a robust baseline for the execution of the project and addressed key issues such as the acceptance criteria and processes. Building on the deed has enabled the project to move forward successfully since May with the achievement of the following key milestones: hand-back of HMAS *Sydney* in April 2006 with the majority of its sea trials having been completed successfully; HMAS *Melbourne* entering the upgrade program and completion of the first stage of the installation work ahead of schedule; early delivery of equipment that was to be installed in ships 5 and 6 for use as the Commonwealth chooses; and ADACS being extensively tested and delivering the frigate's pre-upgrade capabilities plus new and enhanced capabilities in the areas of anti-surface warfare, improved command and control and an onboard training system.

In summary, ADI acknowledges that the FFG upgrade project has been challenging, with all parties involved learning valuable lessons. ADI is committed to its successful completion and has applied a considerable amount of management effort and resources to improve and assure its performance and processes. We look forward to continuing our close working relationship with DMO to execute the project and provide a superior capability to the Royal Australian Navy and a lasting legacy of world-class prime contracting, marine and systems engineering and systems integration expertise that will benefit future projects. Thank you very much. My colleagues and I are ready to take any questions.

CHAIR—That is good, because we have some. I would like to clarify a few things at the outset. You mentioned that the *Sydney* had been handed back. That is public knowledge. Has it been accepted under the contract by DMO?

Mr Baghaei—We have tried to employ the best method and way of effectively handing back as much capability as early as possible to the end user. Hand-back has been a mechanism for

delivering that. Hand-back was not meant to deliver all the capability which was anticipated at provisional acceptance. It is not a substitution for provisional acceptance, but a stage towards that. It enabled the fleet commander to use that ship and optimise the utilisation of a capability which was available and ready on site, rather than sitting there for another few months until we achieved the provisional acceptance. It is a staged acceptance, in a sense.

CHAIR—When do you anticipate that it will be fully accepted into service by the Navy and accepted under the contract?

Mr Tacey—Our current schedule has provisional acceptance on 15 December this year.

CHAIR—What has to be done before 15 December this year?

Mr Tacey—Largely, it is a paper exercise. As Mr Baghaei has already said, we have installed the equipment and tested it on *Sydney*. We have found some defects and deficiencies. We have worked on those defects and deficiencies. The acceptance process allows for a baselining of the capability of the ship with a listing of defects and deficiencies and the plan that will rectify those defects. The testing has been completed. While there are some additional tests that may be undertaken in the future, as it stands, the ship is currently in dry dock. We are not able to conduct those tests between now and 15 December, so those tests will have to be parked until the ship is available to do those tests. But as I said, the mechanism—

CHAIR—But you are rectifying a list of deficiencies at the moment, are you?

Mr Tacey—That is correct. But it would not be uncommon to go to provisional acceptance with some things still outstanding, provided that there is a plan in place to rectify those.

CHAIR—Are you able to take us through some of those?

Mr Tacey—Through some of the defects and deficiencies?

CHAIR—Yes.

Mr Tacey—Certainly. The three primary areas where there have been defects and deficiencies are largely in the command and control system, in the underwater warfare system and in the electronic support or electronic surveillance systems. I will take those three in order. The command and control system is a newly developed system. As with major software developmental programs, problems have been identified along the way. These problems are tracked, categorised and rated. With agreement with the customer, we can then prioritise the fixing of those problems. We are working through the fixing of those problems. In the command and control system, we have something in the order of 15 high-problem reports, a number of mediums and a number of lows. That is a progressive activity.

Generally, the process is that, if you cannot fix the problem immediately, you see whether there is a work-around so that the ship can still use the system and find out what it is that they have to do. We note what that work-around might be and we also note the need for longer term fixes and testing that will verify that those problems have been fixed. As the system sits at the moment, it is usable. It is being used at sea and was used at sea before the ship went into dock.

There are some problem reports that still need to be rectified but that does not stop the ship operating.

In the underwater warfare system, we had some test results that were less than satisfactory. We found some problems that contributed to those test results. Some were related to the equipment itself and some were related to the environment it was in—that is, the ship. The ship itself had some noisy equipment that was contributing to the poor performance. Those things, quite outside the upgrade, had to be fixed before we could continue our testing. We have worked through fixing a number of things in the underwater warfare area and we are now waiting for the ship to go to sea again for those tests to be completed.

In the electronic surveillance area, we have a system that was developed in Israel. Historically, it was slow to coming to test in Israel. It has been installed in the ship. The initial performance was noted. It needed some improvements. We again prioritised those things that needed to be improved, and steadily the subcontractor has worked on those and improved them. He has not completed all of those things. They are the three major areas within the ship.

Mr Baghaei—But these are not unusual with this type of program, which is usually driven by software development. I will put that in the right context. Significant elements of this program are based on software development, which is at the heart of this capability. That is the bit that accommodates all the uncertainties and the majority of the risks. From my experience in the past on similar complex programs, it is usual that this sort of development takes almost the length of the program before the problems are totally eradicated and developed. It is probably unreasonable to expect that at the outset anyone could have visibility of what it takes to get to the end of that capability which has never been developed in that format or configuration.

CHAIR—Dr Jensen, you are first on the list.

Dr JENSEN—It is very common knowledge that software development problems are at heart with many defence acquisitions. A concern is that this is now three years down the track from when the upgrade was originally supposed to have been in service with the first ship, and it is still not there. Evidently there are still problems. What do you think has led to such a slippage? Essentially, what you have is a three-year project that has become a six-year project. Do you think that part of it is that the original timescale that was put there was too optimistic?

Mr Baghaei—I think that is a very valid question and a valid concern. I will try to shed some light on that if I may. I was not here during that period, at the outset of this contract, and I suppose not many of us were. From the outset we have to be very clear of what the criteria are for the measurement of lateness of a program of this complexity. If we cast our minds back to June 1999—this was even before the establishment of DMO and before Dr Gumley and his predecessors appeared on the scene—we had a lot of constraints on the processes and procedures that were in place at the time. There were a lot of constraints on government and what types of contracts they could put in place for this type of program. There was a lack of understanding on behalf of all parties about what it actually takes to deliver this type of program, which had a huge software development and technology component, which had not been experienced in this configuration elsewhere in the world.

As a result of that we ended up with the scenario we have, where the schedule and the contract are based on criteria which have been fixed and firmed before knowing the uncertainties and what it takes to overcome them. As a result of that, we had these unreasonable milestones we were being measured against hanging above us like a dark cloud through the life of this program, regardless of the significant progress made by all parties. Yes, there have been complexities and uncertainties. Based on my 31 years personal experience in both the civil and defence sectors, I have not come across one program that has not had that level of uncertainty. As to whether the types of contracts and methods we put in place at that time were appropriate for dealing with this type of program—of course they were not. But hindsight is a good thing. We have hindsight, and that is why we got together with our customer in April of this year around the table to try to rebaseline the program, to ensure that we could at least do away with some of the constraints and inflexibilities of the bureaucratic systems.

Dr JENSEN—Something that concerns me a little is that we seem to go through these processes again and again and we do not really have a feedback mechanism that goes into it to make sure that we do have these problems again. Collins class is an example. The combat system was problematic, and yet when the program was initiated that was seen as something that would not constitute a problem. The integrated computerised ship management system was seen as being high risk. So that was seen as the risky element and yet that has performed brilliantly. The concern I have is that those systems are not as complicated as what you are dealing with with the FFG—in fact, the combat system with the submarine is fairly complex—but there is some hindsight there and lessons that should have been learnt from that process. Yet it appears that we just say, 'Yes, but this is a bigger project,' and therefore we have these problems again. But the fact is the fundamentals are predominantly the same.

Mr Baghaei—I think you are right. Generally, not just in Australia but all around the world, we are very slow in learning lessons when it comes to complexity and complex programs. But I am pleased to say two things—I could of course spend hours on this subject alone because it is my passion. First, over the past 20 months, or year and a half, there have been significant lessons learnt from experience that have been implemented in this program. So it has not all gone unnoticed.

That is what brought us to the table: to practically look at the processes of acceptance and the procedures on how we deliver and accept the capability. A whole host of issues were grey or unquantifiable or they were not tangible enough to be identified and clarified. Now we have a huge amount of clarity, because of those experiences that we have learned elsewhere. We did not have a significant software capability in the system. We have significant capability in system engineering and we have significant capability in integration, but we did lack some of the complex project management capabilities. We accept that. We put our hands up and, since the beginning of last year, we have brought those capabilities in as well.

One of the reasons that I was brought in—and please do not misunderstand this—was based on my experience. I am not a miracle man nor am I a magician, but the Thales and ADIs of this world recognised that there was a weakness in the system and they asked me to come and help and contribute my two-penny worth of effort. I in turn brought in managers—one of them I believe is one of the best managers we have on this program and in the country. Together, with the help of Dr Gumley—who has put in a similar effort with respect to restructuring his management structure, the procedures he has put in place, the initiative that he has instigated

through the complex project management initiative, or Skilling Australia—we are taking all those efforts in parallel and trying to apply them to these legacy programs. It is not true to say that we are not getting any benefits or that we are not applying lessons learnt from experience, because if you look at the elements of this program you see that, since October last year, almost all of them have been met. This itself is evidence of what I have just explained.

Dr JENSEN—Another problem that we have with companies and with Defence itself is that, as you said, none of you were there at the start of the project. The problem is that people do shift positions a lot. Are you sure that what has been learned from this program will be there in terms of procedures and so on that are followed in the future so that, when you gentlemen have other positions and other people have come in on another project, those lessons will be known and it will not be like starting off at ground zero again?

Mr Baghaei—I will try to give you a brief answer to that. It is a very important question. Kim Gillis leads on one of those initiatives. He has introduced to the world the competencies of recognition of what constitutes complexity when it comes to this type of program both in Defence and outside Defence. That initiative, which was instigated by DMO in this country, is actually unique and has the support of the Ministry of Defence in the United Kingdom and, I believe, other governments. Kim and I, being two members of the Fellows of the College of Complex Program Management, are advocates of a feedback system and also how to recognise complexity, how to capture the issues and how to feed back lessons learned into our future programs not only in Defence and what DMO is handling but also into governments in Australia and their programs. This is a significant initiative, and we are gaining a lot of momentum across the world. If you read the booklet from the Conference of Program Management, it was issued and officialised two weeks ago in Sydney.

Mr Tacey—I would like to make two very brief points in relation to Dr Jensen's question. If you look at the complex programs that have been implemented over the last few years you will find that most of them have been implemented by a different company. One was Boeing, one was Rockwell, one was someone else, one was Saab et cetera. So the lessons may reside in those companies but those companies are competitors and are not necessarily going to share with their competitors all that they have learned from their lessons.

The second point to note is that many of these programs are essentially one-offs. You cannot necessarily equate the Anzac combat system to the Collins combat system, nor can you equate a brand-new ship build to one like the FFG, where part is new, part is upgraded and there are a lot of legacy systems that you are integrating. So it is a bit of a mix. The contractors are not necessarily going to share their secrets. Secondly, not all of the programs can be considered equivalent.

Mr TANNER—I have several questions. First, could you outline the nature of the problems with respect to the mine avoidance sonar capability?

Mr Tacey—Are you referring to the state of the mine avoidance sonar in Sydney at the moment?

Mr TANNER—Yes: where you are at with the development, what the nature of the problems is and how soon you anticipate that they will be completely rectified.

Mr Tacey—During the preliminary trials, we conducted tests on the mine avoidance sonar and got very encouraging results. Quite often we do what could be considered confidence-building tests, which are not formal and not witnessed by the project authority. Then we go into a formal series of tests. So we had a high level of confidence going into the formal tests that they would be successful. We did suffer equipment defects that precluded us from finishing the test. We only had a certain slot of time available for the test, so that had to be put on the backburner for subsequent tests. We had an opportunity between the period of hand-back and provisional acceptance to conduct tests again. Unfortunately we discovered another fault during that test. We traced that fault to ingress of water, which had got into the compartment and into the equipment. Therefore, we had to find out how the water had got in, ensure that water would not get into the compartment in the future and then cleanse the system. That is the process that is being undertaken at the moment. I am confident that when the ship goes to sea again that MOAS will pass its tests.

Mr TANNER—Roughly when will that be?

Mr Tacey—Whenever the ship is available to go to sea.

Mr TANNER—So it is once it is out of dry-dock.

CHAIR—How was the water getting in?

Mr TANNER—They do not know, by the sound of it.

Mr Tacey—There is still investigation into that, but the preliminary investigation suggests that there is a ventilation trunk up on the forecastle. In very rough seas the forecastle gets submerged and, if the flaps do not stop the water getting in, water can get into the ventilation system and flow down the trunking. It eventually finds a low point in the ship and can come out of an air conditioning vent and spill into a compartment.

CHAIR—DMO have indicated that if we do not have time to get to them today they will happily come back and take questions at our scheduled hearing next week. We will press through until 1.30 pm. If we get all of our questions done before then, we might get to DMO. If we do not, we will keep our questioning going until 1.30 pm.

Mr TANNER—I will try and keep my questions as quick and sharp as possible. I understand there was a total of something like 15 problems identified with the command and control system. Could you give me an indication—not an itemisation of each one—of the generic categories into which these problems fell?

Mr Baghaei—Can I just put a proviso on that? Some of them are naturally restricted information, and we have to be careful that we do it in a context of nonclassified information. Harley will do that.

Mr TANNER—I understand. Whenever there is information that cannot not be released, as long as you just indicate that is the case, that is fine.

Mr Tacey—As a preamble, I would ask you to understand that when you develop new software you have problems throughout that software. As you undertake your testing, the deeper you go the more you discover new and further problems. You are constantly finding new problems over a period of time. So the 15 problems we may have had yesterday might have been associated with one area. We might have put fixes in, and then subsequently we find new problems. We are continuing to test the software in the shore based facility. Examples of the sorts of results we might get during a week's testing might be that we close 15 problems this week but then open another seven. The types of problems change on a regular basis. I am not sure that you could say, 'There's definitely this category or that category of problem'. Having said that, there was one general category that stood out early on in our trials and that was associated with the stability of the system. That was not one single problem but an amalgamation of a number of problems. As each of those has been solved, the stability has gotten much better.

Mr TANNER—What exactly do you mean by stability?

Mr Tacey—The stability and robustness of the system: whether the system will stay up and operate at optimal performance for 20 hours. It might start having problems after three hours or four hours or something like that. Can I categorically say that all the stability problems have been fixed? No, I cannot because there are probably some a little lower in the bucket that we have not yet tested. Other than that, I do not know that I could pick out other major categories.

Mr TANNER—I have a final specific question on the problems. I understand that with the electronic surveillance system the high and medium bands were cleared as okay, but there were problems with the low band—that it was not working. Could you elaborate on that for me?

Mr Tacey—I have to be careful from a security point of view that I do not say too much but the problems that we have experienced with our subcontractor have been a mixture of both hardware and software. What we have done jointly—again, not just us with the subcontractor but also the DMO—is to have three-party meetings to identify what we have observed as the issues during testing. We have prioritised those issues and progressively they are working through them. We asked them to focus initially on the upper and medium bands because of particular threats that one sees in those bands. We asked them to work on the lower bands towards the end. That is currently where they are at. We have further testing that we are witnessing in Israel in November of this year where they claim they have moved on further and rectified further defects.

Mr TANNER—I have a final question. I take on board your observations about the inherent uncertainties in a project of this nature, but could you set out the original specified delivery dates in the contract for each of the four, as it now is. Also, if there is now an amended delivery time could you tell me what that is for each of the four vessels? Could you also clarify the difference between provisional acceptance and final acceptance?

Mr Baghaei—Let me start by giving you an overview of what the new schedule which resulted from the rebaselineing includes. It is important to put it in the right context first. Notwithstanding the original schedule and some of the issues, as I explained before, which got us to where we are, we remain committed to delivering the capability which was specified in the original scope. But we have to find a much better and a more innovative way of doing that. That underpinned the new schedule that we came to after the renegotiation and rebaselining of the

program during April this year. What it does is reflect a more practical way of approaching test and acceptance criteria and a much better way of doing the job in the most efficient way. That has also, as I said, put more focus on understanding what it takes to do the job, rather than what they thought would be the case back in 1999. It became much more focused and effective in that case. That in itself developed a significant relationship between all the parties involved—those on the customer side and those in the contractor and supply chain.

It also allows and enables innovative measures to be put in place. The fact is that, for instance, HMAS *Sydney* is a complex project. If you cast your mind back to the original schedule, each ship was supposed to have a certain amount of capability delivered at certain times. When you wanted to test the next set of capability, you had to use the second platform or the third platform and so forth in a very simple form. What we did during rebaselining is said: 'No, we've got here a worked up ship and we have trained officers who have been working for a number of years on HMAS *Sydney* trying to test and accomplish these capabilities. Wouldn't it be nice to deliver all the capabilities using this ship as the demonstrator; as a test platform? The officers and crew are trained; they are worked up. They know exactly what to expect.' By the way, the capability that ultimately we would be delivering by ship 4 would be exactly the same thing that we have to install on ship 1. There would be consistency and continuity in that methodology. Hence, when we are talking about the problem reports, PRs—high-level PRs, medium-level PRs or low-level PRs—we must put it in the right context. We revamped the program in a way that made it effective. *Sydney*, for instance, has already been used to demonstrate some of the capability which was not supposed to be demonstrated on *Sydney* in the original contract. I will get David to give you the specific dates for when we expect to deliver the four ships.

Mr TANNER—So in effect you are saying that it is not exactly an apples and apples comparison?

Mr Baghaei—It is not apples and apples.

Mr Sippel—Interestingly regarding the schedule, not looking at the past but taking us to the future is what we have basically been about since early last year. We took a new approach. You have to remember that this is not just about delivering the platforms; this is about delivering the software, which is another product—and that is a three-build part product—delivering a team trainer at HMAS *Watson*, and delivering a software support centre to support the software through life at the Garden Island facility. We broke those away from the traditional linkages in the early schedule and came up with what was an agreed, reasonable and realistic schedule for the installation of each of the upgraded platforms. That also had to take into account the maritime commander's requirement to not have any more than two FFGs out of service and being upgraded at any one particular time. That put some new challenges in and also caused them to delay the program. Each ship upgrade is of an 18-month duration, which includes a 12-month installation and test phase. That goes into a hand-back phase to provisional acceptance.

You asked about the difference between provisional acceptance and final acceptance. Provisional acceptance is where that platform is upgraded; it has the software developed to that period. Final acceptance occurs after final acceptance of the BB3 software. That is not in the program now until November 2008, and that is when all the acceptance of the vessels come into line, because when software is finally accepted the actual upgraded vessels will be accepted.

Mr TANNER—I still have not got any dates. I am not pursuing this question from the point of view of saying that you guys have done anything in particular wrong. I take on board your points about the fact that, in a sense, you have reconfigured the time mechanisms for the project. I just want to get some basic facts here. The original contract presumably said that there is a delivery date—

Mr Sippel—Finishing in 2006, yes—

Mr TANNER—and you have now got a reconfigured arrangement, and I am not sure there is a delivery date in it as yet. I would like to know: are there specified delivery dates for each one?

Mr Sippel—There are specified delivery dates against each platform and the WSSC and the team trainer. The completion of the fourth ship going through upgrade now has a provisional acceptance date of March 2009. Then you go to final acceptance on that vessel, and that is the close-out of the contract. Close-out of the whole contract is, at the moment, December 2009.

Mr TANNER—So you have moved away from an individual vessel date target to a collective date—

Mr Sippel—Provisional acceptance for each vessel is aimed for 18 months after upgrade commences. So, for argument's sake, *Melbourne* started in February of this year, and her provisional acceptance date is October 2007. Her hand-back date is April of 2007. *Darwin* starts in January 2007 and her provisional acceptance date is in October 2008. *Newcastle* starts in October 2007 and completes in March 2009.

Mr TANNER—And just for completeness, *Sydney*—

Mr Sippel—The *Sydney* provisional acceptance is aimed at 15 December this year, but final acceptance of all vessels coincides, with the exception of the fourth one, with the acceptance of final software, which is a milestone at November 2008.

Mr TANNER—My absolute last question for the time being is: what did the original contract specify with respect to delivery dates?

Mr Baghaei—I think that, again, that is not a right measure.

Mr TANNER—The point about this is: I am not trying to measure your performance; I am trying to measure how realistic Defence were in going into a contract with those dates. My interest is that if your experience in undertaking this work has been that those original dates were extremely unrealistic, then I would like to be able to ask DMO: how did you come to those dates?

Mr Baghaei—I think the truth is that the totality of the program was able to be completed—

CHAIR—If I could interrupt you there, we have got a lot of questions to get through. There was a specific question on the dates. Does the Audit Office have the answer to Mr Tanner's question?

Mr Cronin—We can tell you the initial dates.

CHAIR—We just want the dates, yes, thank you.

Mr Cronin—The initial dates are spelled out in table 7.1 on page 72. Mr Tanner, you want the dates as of the rebaselining in April 2006. So it is putting a date against the lead—

Mr TANNER—I am just asking—

CHAIR—He wants the initial contract dates.

Mr Cronin—That is the initial contract date, in table 7.1 on page 72. Lead FFG was 17 May 2003. The second FFG—

Mr TANNER—That is fine. It is not clear in this document that those dates are the original dates. So you have identified there that those are the original dates.

Mr Cronin—Yes. The July 2000 date is the original schedule date.

CHAIR—All right. We have got lots of other questions. The Senate has a series of divisions anticipated, so we will go to Senator Bishop.

Senator MARK BISHOP—I think Mr Tanner asked most of my questions, but I do have one question that follows on from Mr Tanner's question. The *Sydney* has been out for trial and it was identified at Senate estimates back in May that there were problems in three areas. Some of the problems have been rectified and some are going to require significant degrees of further work. You have advised us that *Sydney* is now in dry dock. How long will she remain in dry dock? When do you anticipate that she will go out for the next set of trials? Is it unrealistic to expect that you will be able to adhere to the December 2006 provisional delivery date?

Mr Baghaei—I will start and then I will defer to Harley. First of all, I do not recall having said, or Harley having said, that some of these problems are significant problems. He did identify what the problems and the issues are and I followed by saying that not all of these are as per originally expected. We are using *Sydney* as the platform for continuity.

Senator MARK BISHOP—With respect, you said in respect of the command and control system that there were 15 high-problem reports.

Mr Baghaei—Yes, but we did not say that some of these are significant. They are high-problem reports.

Senator MARK BISHOP—I also said in my comments that we were told at Senate estimates that there were high-problem areas—two sets.

Mr Baghaei—The high-problem areas are related to the totality of the capability under the contract. Equally, it is important to note that we are still aiming for 15 December. We have a high level of confidence that we will deliver the provisional acceptance of the ship on 15

December this year. Naturally, some of the developing issues will continue, as Harley explained before.

Senator MARK BISHOP—When does *Sydney* come out of dry dock?

Mr Sippel—Currently, it is scheduled to come out of dry dock on 14 December.

Senator MARK BISHOP—Out of dry dock on 14 December?

Mr Sippel—Yes.

Senator MARK BISHOP—So it is not anticipated that there will be any further at-sea trialling?

Mr Sippel—There will be no further at-sea trials for the provisional acceptance. As Mr Tacey explained, the process between her entering dock and the provisional acceptance is largely a paperwork evolution. There is a mechanism in the process going to provisional acceptance of striking a document called a TI338, where you note—and the parties agree—that there may be deficiencies in the capability or the requirements that have been contracted. Those deficiencies would have a work-around or mitigating circumstances that have been agreed to allow the vessel to progress with initial operational release.

Senator MARK BISHOP—Let me just get the net of this. There were problems identified in the command and control system, the underwater system and the electronic surveillance system. She was out for sea trials in the early part of this year and further problems were identified. She is in dry dock now and will remain in dry dock until 14 December, and provisional acceptance is 15 December. Provisional acceptance can be an agreement between the parties, with identification of a range of faults that affect capability. When do you anticipate that *Sydney* will be a ship largely operational not in the sense that it sails or that the engines work but in the sense that it is capable of delivering the force projection and the like that it needs to deliver? How long will that take?

Mr Sippel—That is sort of outside the scope of what our contract allows. We deliver the requirements as contracted. The actual capability in getting to the initial operation release is a set of testing that is done by the Commonwealth post the delivery by ADI. Some of the issues will have mitigations that may stay in force for up to 12 months or it could be a lot less. It depends on how they are tackled and achieved.

Senator MARK BISHOP—So is provisional acceptance delivery of a ship that sails out into the ocean but does not necessarily have a fully functioning command and control or a functioning sonar system and is not necessarily capable of firing missiles at enemy targets if it happens to be in operations? Is that what we have?

Mr Sippel—No. The capability has been demonstrated. That is what we are doing at the moment with this paperwork exercise. It shows that we have met all those capability requirements. There are some deficiencies within those requirements that have mitigation work-arounds but the vessel still can go to—

CHAIR—On that issue, you have explained what provisional acceptance is, but could you perhaps explain the difference between provisional acceptance and when it is accepted into service by the Navy?

Mr Sippel—That is when the Navy assessing trials unit conducts a number of operational tests of the capability.

CHAIR—Which will happen, I presume, through next year.

Mr Sippel—For the first six months. It is normally planned they go through that round of processes after provisional acceptance.

Senator MARK BISHOP—Thank you, Chair. That was a good question. Provisional acceptance will happen in mid-December of this year. There is further trialling of those three problem areas you have identified. It appears likely that it is going to take at least 12 months for Navy to bed down those problems and to sign off that the ship is fully functional in terms of capability delivery. Is it likely that it is going to blow out to longer than that 12 months?

Mr Baghaei—I think that is a question that we cannot answer in full because it is outside our scope of contract, if you like. When you are talking about capability you are talking about something that is not necessarily inside the scope of the contractor's obligation. We would deliver our obligation under provisional acceptance of the totality of the capability requirement that we have signed up to under the contract by the date we have highlighted previously in relation to the totality of the four ships. But during the interim period there are a lot of other factors—the availability of the resources, assets, targets and infrastructure. All of that is outside the remit of the contractor. The synchronisation and management of that is very much with the customer.

CHAIR—The senators have a division so I will go to Ms Kelly.

Miss JACKIE KELLY—I have been in parliament for 10 years but, prior to that, I was a legal officer in the defence forces, so I have some knowledge of contracting. With that view, my line of questioning will be different from the others. Way back then in the dim, dark ages there was, as you correctly described, Ali, this lack of corporate knowledge. I think you were referring to it as inexperience on behalf of Australians trying to manage these contracts, but it was a sort of lack of corporate knowledge. It seems that in the 16 years since then, from Defence's side, we are still failing. So it is not ADI that is on trial here; it is really Defence. I think the frustration that you feel from the other members is a frustration from, 'Here we go again.' There has been 80 per cent of the contract price paid and no capability gained by Defence. We are just trying to get to the heart of that. Were any of you with the project when the contract was signed in July 1999? Whose signature from ADI was on the contract in June 1999?

Mr Baghaei—Most certainly none of the people here.

Miss JACKIE KELLY—Are they still with the company?

Mr Baghaei—Can I go back to one of the comments you just made with respect to the 75 per cent paid for whatever capability that is perceived to be the case? In a complex program like FFG, and it is not unique—

Miss JACKIE KELLY—Ali, can we just stick with this because I am going to run out of time for my questions. I just want to know whose signature was on the contract.

Mr Baghaei—I could not answer that question.

Miss JACKIE KELLY—What about from the Department of Defence? Whose signature was on it from there? Could you get back to this committee with those answers? I want to know whose signature was on it and where those people are now—so whether that person is still with the company in terms of their knowledge of—

Mr Baghaei—I will certainly find out and respond to that.

Miss JACKIE KELLY—what the scope of the contract was. Obviously people felt the contract was getting into trouble and they have called you—with considerable experience—in to get things running. When did you join the project, Ali?

Mr Baghaei—February last year.

Miss JACKIE KELLY—So you have been there 12 months. Harley?

Mr Tacey—I came into the project in April of last year.

Mr Sippel—And I came in May of last year.

Miss JACKIE KELLY—Have you been dealing with the same people within Defence the whole time that you have been with the project?

Mr Baghaei—Not necessarily. I know most of the Defence people because of different responsibilities I have across naval activities in the country.

Miss JACKIE KELLY—Is there anyone within ADI who has been dealing with Defence the whole time through this project? Have you any corporate knowledge on your side? It is something I will ask on our side, on the Defence side.

Mr Sippel—Some of our design engineers have been with the program since 1999, but nobody in senior management or in leadership.

Miss JACKIE KELLY—Who would that be?

Mr Sippel—Damian Elford.

Mr Baghaei—Hundreds of people have been on this program and dozens of people now on the program were the original people on this program. They are in the software area, system

engineering, system integration, middle management and junior management. Those people are still in the program.

Miss JACKIE KELLY—What about the person who did the monthly earned value system? Is that person still there?

Mr Baghaei—Some of those people are there. It is not just one person; it is a group of people.

Miss JACKIE KELLY—How many put together the earned value system?

Mr Sippel—We have a team of six people involved on that.

Miss JACKIE KELLY—So, when the contract was signed, that system had to be in place within six months?

Mr Baghaei—Can I come back to the question you asked before? The person from the ADI side who signed the contract was Kenneth Arthur Harris. He was the managing director of ADI Ltd at the time.

Miss JACKIE KELLY—Do you know who the person was from Defence?

Mr Baghaei—Garry Jones, in his capacity as Deputy Secretary, Acquisition, in the presence of Richard Cooper, Director-General, Surface Warfare System B Branch.

Miss JACKIE KELLY—So none of those were uniform people; they all civilians?

Mr Baghaei—Yes.

Miss JACKIE KELLY—Obviously there was a team with Kenneth. Was he aware of the department's instruction 5655 that went to the cost and control system that Defence requires? Was there an in-depth knowledge of that before signing this contract?

Mr Baghaei—I will take that question on notice and come back to you. I was not here, so I cannot answer that now. I will get back to you.

Miss JACKIE KELLY—That would be helpful, because that seems to have caused a lot of problems. The ANAO has indicated that there were a couple of milestone payments—particularly one in July 2000 and another in August 2000—which were before that earned value management system had been put in place. On top of that, there are 23 earned value payment totalling $200,000 that had been paid before that system had been put in place. These are numerous and complex, but Defence obviously stepped in and helped ADI get their head around this and get it in place. Do you have any comment on how that worked for ADI in the early ages?

Mr Baghaei—I am not quite sure what you are getting at. I do not know what the question is.

Miss JACKIE KELLY—The critical thing about the ongoing payments was this earned value management system. I will read you an excerpt from the report—which you have

obviously read. It basically says that six months after the signing of the contract the contractor was to come up with how the earned value management system was to work. That was delayed and a lot of these payments were made. Presumably someone within your department prepared the invoices for Defence to pay. Do you know who that was?

Mr Baghaei—No.

Miss JACKIE KELLY—Do you know who it was in Defence who signed off on those invoices and paid them?

Mr Baghaei—No.

Miss JACKIE KELLY—Did they have anything to do with the project? Do you know whether these people had anything to do with the project or whether it was just, 'I am just in finance and I am paying a bill'?

Mr Baghaei—I do not know, but I will find out and come back to you.

Miss JACKIE KELLY—What I am trying to get at is project supervision. The report says:

By August 2000, the Contractor had validated and accepted all its major sub-contractor EVMS, with assistance from FFGSPO and DMO's EVMS specialist personnel—

presumably from Defence or DMO. Can you get back to me on that corporate history, particularly who was dealing with this back then? The report continues:

In July and August 2000, the Contractor received a $1 million milestone payment for the FFGSPO's acceptance of the Contractor's Contract Master Schedule—

and we will get back to the contract master schedule in a minute—

and a further $1 million milestone payment for the completion of its Integrated Baseline Review—

which we have seen changed three times, so I will get back to that in a moment as well. The report continues:

The validity of these milestone payments is placed in doubt by the Contractor's EVMS not receiving compliance certification by DMO until November 2001.

These documents are really compendiums and you need a defence specialist. Most civilian contractors struggle to find their way around these sorts of things. But it is a Defence requirement, so someone in Defence must have known this, someone in Defence must have been signing off these invoices and someone in Defence must be making these payments. I am just trying to get to who that was—what level, what rank and what experience they had with this on the contractor side. Can you get back to me with that?

Mr Baghaei—I will get back to you.

Miss JACKIE KELLY—The report continues:

By this time, FFGSPO had made 23 earned value payments to the Contractor that totalled over $200 million.

So we finally get the earned value management system into play, very late. Earlier, Ali, you mentioned four milestones, including the hand-back of the *Sydney* in April 2006 and the hand-back of the *Melbourne*, plus instalment work. I can go through the *Hansard* to find those four milestones. Are you talking about the same milestones that are on the contract master schedule? Are they payment milestones or are they just milestones for you?

Mr Baghaei—No.

Mr Sippel—They are the contract master schedule milestones that we were referring to before, in the revised contract master schedule that is associated with the rebaselining of the project from the deed negotiations, then CCP-255 was implemented in May of this year. In that negotiation we negotiated a number of new milestones to give certainty of product delivery for the Commonwealth.

Miss JACKIE KELLY—When you are so far down a contract you do want to get it finished, but it does seem that the values run out. At the moment it seems we get a 10-year extension of the ship's life, don't we? We have canned two projects. Two are extended for five years and the upgraded life of the others is not changed. The *Melbourne* and the *Newcastle* have no changed upgraded life. The *Darwin* gets an extra five years and the *Sydney* gets an extra five years. But that is beside the point. Let us go back to the contract master schedule with the milestone payments. It would be helpful for this committee to have a copy of that contract master schedule, including the original contract, the changes in 2004 and the latest change, in April 2006, showing when these payments are to be made. Is it a fairly complex document, David?

Mr Sippel—It is in a particular tool, but there is an attachment to the contract that defines the milestones, their scheduled dates and the precursors for our activation of those milestones. That is under attachment AG of the contract.

Miss JACKIE KELLY—So who is the person at the moment who is going through this compendium and signing off that they have been paid?

Mr Sippel—There is a process to submit milestones. There is the early advice that the milestone is about to be claimed, then there is the submission of the claim.

Miss JACKIE KELLY—Who do you put that in to?

Mr Sippel—We put that in to the FFGSPO director.

Miss JACKIE KELLY—Who is that?

Mr Sippel—Mr Mal Adams.

Miss JACKIE KELLY—So Mal Adams gets the invoice. You do not know what he does with it?

Mr Sippel—He gets the claim, then he assesses the claim against the precursor conditions of the milestone and attests that they have been met or not met.

Miss JACKIE KELLY—Does he come out and view the ship or does he do it from Canberra?

Mr Sippel—It depends on the milestone. It may be the large documentation that supports that milestone. It may be just a precursor that triggered that milestone. It may be delivery of a fixed product and he has an SG 1 delivery certificate to show that that product was delivered.

Miss JACKIE KELLY—That is something that this committee really needs to delve into, big though it is. The committee really needs to go into who is across those milestones within Defence and who is paying them to end up in the situation that they do.

Mr Baghaei—If I understand your question correctly, it may be helpful for you to know that Mr Adams, Harley and David are the guys that are very close to this program and they have the authority to sign receipt invoices or issue invoices—and this has been the case for at least as long as I have been there. These guys live with the platforms—they are actually next to them. Every day of their life is spent on those platforms. They have a high level of visibility and transparency. They can physically see what is happening. They can measure that against the paperwork.

Miss JACKIE KELLY—So Mal was there when you arrived in April last year?

Mr Baghaei—Yes.

Mr Sippel—Yes.

Miss JACKIE KELLY—So you do not know how long Mal had been with the project?

Mr Sippel—I believe it was from 2003—that sort of time frame.

Miss JACKIE KELLY—You do not know his background before that?

Mr Sippel—Yes, I do. I worked for him at one stage before that.

Miss JACKIE KELLY—You worked for him where?

Mr Sippel—Back in 1997 through 1999.

Miss JACKIE KELLY—You were in the military, obviously.

Mr Sippel—Yes.

Miss JACKIE KELLY—Harley, were you in the military too? That is interesting. See how Defence's corporate knowledge gets depleted quite frequently? Ali, you are in an excellent spot.

I worked with excellent people in Defence. Companies do work with excellent people on Defence's side. We often find them subsequently—

Mr Baghaei—You will be glad to know that I am not from a military background.

Miss JACKIE KELLY—No, but you have some excellent people working for you.

Mr Baghaei—We have a balance.

Miss JACKIE KELLY—It would be interesting to know Mal's background. David, how long have you been with ADI?

Mr Sippel—I have been with ADI since February of last year.

Miss JACKIE KELLY—Before then?

Mr Sippel—I was chief of staff of engineering for the fleet commander.

Miss JACKIE KELLY—Right. Before then?

Mr Sippel—I was in the UK as the assistant naval attache in London.

Miss JACKIE KELLY—Before then? In saying Defence was your role with the chief of staff, were you dealing with this project?

Mr Sippel—Yes, I was.

Miss JACKIE KELLY—What was your rank?

Mr Sippel—Captain.

Miss JACKIE KELLY—What were the key things that you were doing with this project from Defence's side?

Mr Sippel—The assurance of the technical regulatory framework of the platform as it came into tests and trials.

Miss JACKIE KELLY—So you were not really dealing with the paperwork. You had never seen this compendium; you had never seen these attachments?

Mr Sippel—No. I was purely an external auditor to ensure that the ship was in a safe state to proceed to sea so that the maritime commander could give approval to go to sea.

Miss JACKIE KELLY—So you were at the sharp end of things?

Mr Sippel—Yes.

Miss JACKIE KELLY—'It works; it does not work. I like it; I do not like it.'

Mr Sippel—'This documentation supports that it works; there is an accepted quality of evidence'—those sorts of things.

Miss JACKIE KELLY—Prior to your history in the Navy, did you have any time on the FFG?

Mr Sippel—I have served on three FFGs in my career. I have been the engineer of *Newcastle*. I was the test and trials manager for the delivery of *Melbourne* when she was built at Williamstown.

Miss JACKIE KELLY—With that background, were you ever approached by anyone when it was suggested that an upgrade should occur? Before this contract was signed, in your time in the military did anyone canvass you on what was required?

Mr Sippel—A support study went out in the mid 1990s while I was the engineer of *Newcastle*. We put in a minor contribution to that study under our ship's signature.

Miss JACKIE KELLY—So it would have gone under the captain's signature at that time?

Mr Sippel—That is correct.

Miss JACKIE KELLY—Who was that? Did they subsequently have any role to play in the management of this contract?

Mr Sippel—No.

Miss JACKIE KELLY—So you have the sharp end defining the capability and what they want and need and how to get there. Who wrote up the contract? How did this contract get written up? How did the scope occur? Clearly, we are now coming back to a better way of scoping it. From your experience in Defence, what is a better way of scoping?

Mr Sippel—The scope comes from the Maritime Development Organisation. They pass it across to the DMO to then go and acquire that scope. Then they go through a requirements process and develop requirements to match that scope statement. They put that into a contract and go out and tender for it. Tender submissions are made. They assess the tender against the requirements.

Miss JACKIE KELLY—Do they use in-house lawyers to come up with that scoping or do they contract that out?

Mr Sippel—It would have been a mixture, I suppose, of in-house and contract lawyers that Defence has used over the last 10 to 15 years.

Miss JACKIE KELLY—It would generally be contracted out, I would suggest, to large external contracted firms, who have the same churn.

Mr Sippel—Having not run a tender of that size, I could not—

Miss JACKIE KELLY—But there are a number of these Defence contracts, and it seems that it is very closed. Would you have any objection to that contract being submitted in evidence to this committee?

Mr Baghaei—I would have to check that with my customer and have their approval before doing so. Could I take that request and come back to you?

CHAIR—Yes.

Miss JACKIE KELLY—Sure, delete out the capability. We are not really interested in the capability. You can pick up *Jane's Defence Weekly* and get that. We are interested in when those payments were supposed to be made and the management clauses in the contract, which would be generic to most Defence contracts. It is the type of generic stuff that would be pretty standard in every Defence contract. We are interested in those sorts of contract management things, so we can start building a body of corporate knowledge for Defence through this committee if we have to. This will not be the first contract we look at it. We will be looking at several and hopefully getting a compendium together for the future so that even our in-house engineers can cut and paste something together and, from experience, identify these problems early on.

We leave it to the contractor to come up with their own earned value system. That has failed to be ticked off by Defence. Defence is woefully tardy in getting their head around this. It seems to have just made payments. So something went wrong there. It would be helpful if you could give me the names of people who were there at the time and I could have a chat to them about that period in time—what was happening and the difficulties that were encountered.

Mr Sippel—In a general sense, all earned value payments are auditable and made against some objective evidence: that progress was achieved or product was delivered, depending on the earned value technique applied at the time.

Miss JACKIE KELLY—I have no doubt about that. This is no allegation whatsoever about ADI. I am sure about that. But it is about whether Defence properly put together a contract which could deliver the capability that they told government they were going to get for the price that they told government they were going to get it for. It really is about Defence's ability to be honest, I suppose. If it is going to cost more, it costs more. No, that is wrong. It is not about being honest. It is about having the corporate knowledge to be accurate. I think that is the key thing. Often it may seem like a cheap price—$1.2 billion to extend ship life by 10 years. That sounds like a bargain, but if we had known it was going to cost so much to get just five years I do not know if government would have made the same decision in 1999.

CHAIR—And four ships.

Miss JACKIE KELLY—With the six ships we had a 20-year life extension and now we only have a 10-year life extension.

Mr Baghaei—Jackie, thank you very much. You have covered significant ground. Because I was not here, unfortunately, I cannot answer your question precisely. But using my own very

limited experience, as opposed to yours, with respect to the contract management, value management and complex nature of these programs, I would like to make a couple of observations. One is that these complex programs are unique. There is no way that anybody on earth at the outset could define clearly—

CHAIR—I will stop you there. We have another division. We are going on into extra time for extra questioning. We have parliamentary duties ourselves. There will be an opportunity at the end to make some observations. Let us continue with the questions, because I want to give Jackie and Dennis the chance to ask any further questions they have.

Mr Baghaei—The answers I was going to give in observation are actually related to some of the questions asked.

CHAIR—Okay. Why don't you do that briefly.

Mr Baghaei—The complex platforms, regardless of whether they are sea, air or whatever, generally demand somewhere around 70 per cent or 80 per cent of the value at the very early stages of the contract. That is a general experience right across the world, in civil or defence. That is because a significant amount is related to equipment and material costs. Using the economy of scale, you have to purchase that upfront. You have to make the commitment to the supply chain and the other industry SMEs and deliver on that commitment.

The other aspect which is a significant chunk is to do with non-recurring costs and engineering. These are totally unrelated to the number of ships or platforms or whatever the end product may be. Generally, that is why a significant consumption of the cost and price occurs at very early stages of this complex program.

Miss JACKIE KELLY—That is interesting, because at page 81 of this report it says that $1.3 million was an increase as a result of annual labour and materials indexation. So it would be nice to have the breakdown between what was labour—and obviously materials blow-out, as you say. Materials get expensive. Another one was foreign exchange adjustments, and another one was a reduction due to the project scope reduction, which is irrelevant. But the other interesting one—and this is a very recurrent one—is a $100 million increase as a result of 54 contract changes. Defence keeps redefining what it wants.

Mr Sippel—You have to contextualise those contract changes.

Miss JACKIE KELLY—Okay. Go ahead.

Mr Sippel—In this project it also incorporates the routine maintenance during the upgrade. In the routine maintenance process there is a main work that is submitted, and that is probably one contract change. Then growth work occurs out of that—legacy system routine maintenance—that gets incorporated in this head contract. The number of CPs is not a measure of performance and should not be regarded—

Miss JACKIE KELLY—Obviously in this contract it was not, because the $100 million is so tiny compared with foreign exchange, labour, blow-outs of material et cetera. Compared with other ones that we have seen, $100 million is pretty good. If you could itemise those 54 contract

changes, David, and to what you think they were—whether you think they were just run-of-the-mills or whether they were definitely Defence widening the scope, diminishing the scope, or whatever they were doing. I will probably have to come back to you as to the genesis of those. How does the scope of what the contractor has to deliver get changed? Who is talking with whom in Defence, and who is ticking off on these things? I have just a few issues about the invoicing and the paying out of the invoice from Defence's side. I would like to have it from you, because I never seem to get it from Defence—sorry, Dr Gumley.

Mr Baghaei—Are you also interested to know how that is happening today? At least that is something that we can talk about, and I can give you the answers—at least for the past several months and today.

Miss JACKIE KELLY—I think that would make you feel better—

Mr Baghaei—No, it is not for me. I would just like to inform you and, through that, inform the public of what is the genuine case and the way forward—which actually matters to the taxpayer today, so that if there are some perceptions that there are some areas and issues in this program, at least we can allay those concerns and give them confidence that both us and the customer are on the right track to meet those. Or maybe we have not learned something that we ought to learn, and we learn from this process. Would you like us to brief you on what is happening today?

Miss JACKIE KELLY—Yes.

CHAIR—Before you do that, how many more questions have you got, Jackie?

Miss JACKIE KELLY—I want to get to the integrated baseline review. We have done the EVMS, we have done the contract master schedule, and I want to do the integrated baseline review, and that might be it for now, until I get the information back—

CHAIR—What I would prefer to do is for you to provide that to us in writing—take that as a question on notice, even though you suggested it—in a detailed way about what occurs today. You could submit that to the committee. That forms a formal part of the evidence, just like the evidence you are giving today.

Mr Baghaei—Thank you.

CHAIR—We can take that as soon as you give it to the secretariat—

Miss JACKIE KELLY—What I would really like is names, because then I can ask Defence. I can get those people and say: 'What's your role? What's your background?'

Mr Baghaei—Sure. Absolutely.

Miss JACKIE KELLY—It really starts to crystallise.

CHAIR—I think you have mentioned that a few times.

Miss JACKIE KELLY—It just has to be the position holds.

Mr Baghaei—Yes, I understand. You have to appreciate that we are all relatively new on the scene, and we can talk about what we are responsible for—

Miss JACKIE KELLY—It is a very common theme, that tune.

CHAIR—I think you are both in heated agreement about what you are asking, and perhaps we should move on to the next set of questions.

Mr Sippel—Jackie, just to assist on that, the way this project works, with project directors on both sides of the contractual boundaries, is that both PDs have that financial delegation to deal with payments, assessment and signatory. Those are the two names that really go with Mr Tacey and Mr Adams.

Miss JACKIE KELLY—Is there any sort of annual document that is just checking up these chits and presented to the minister or parliament or anything?

Mr Sippel—I am not sure about the Commonwealth side and what they do with their accounts.

Miss JACKIE KELLY—I am sure ADI is checking up and that it would be on your annual returns and be declared to the company and the shareholders.

Mr Baghaei—We have internal and external auditors because of the obligation on the governance side of the corporate. These are regularly audited.

Miss JACKIE KELLY—In England they have a system where all of these defence payments are annually chitted up and publicly tabled every year. Do you think that is a system that Australia would benefit from?

Mr Baghaei—I could not answer that.

Miss JACKIE KELLY—I will leave that one for Defence. It would force Defence to have a document in existence—

CHAIR—And continuous disclosure.

Miss JACKIE KELLY—And would allow closer supervision by the public—who seem to get very outraged with these things.

Mr Baghaei—From my experience in Defence in government and now on the other side of the table, what I believe you could benefit from is having a high degree of transparency and a high degree of collaboration and cooperation, either in the form of a partnership or through an alliance type of behaviour. That is significantly important. At the end of the day, everything boils down to trust. The most significant issue underpinning the accounts, the delivery, the capability and the program management is trust.

Miss JACKIE KELLY—We are dealing with fabulous companies and fabulous people on both sides. I think you are right. We are trying to establish here a transparency within Defence. It is very hard to even get a look at a contract. How do you feel happy to hand your copy of the contract over when even your Defence partner is not happy to hand it over? It is that type of transparency that the public needs and it builds corporate knowledge. Often people walking in to write one of these things for the first time are coming from ground zero, because they were not around the last time that one was written. It would be helpful if you were able to pull out the public accounts committee and say, 'Here's a bunch of examples of what has gone before and what went wrong and some clauses that just did not work for either party,' instead of relying on personnel—who are often poached, changed, moved or posted. I think you are right—transparency is the key to this.

Mr Baghaei—I think one of the concerns clients or contractors would normally have would be about how the information is going to be used. One of the biggest dangers on complex programs like this is taking information out of context, which then begs the question: how much information do you supply to ensure that it will never be taken out of context, no matter what happens to it? Of course, establishing those boundaries is very difficult.

Miss JACKIE KELLY—The integrated baseline review was one of the milestone payments. I think $1 million was paid at the completion of that. It was the first one in 2000. In July 2000, $1 million was paid for the integrated baseline review. Evidence shows that, by April 2004, it just was not working. So $1 million was paid for it. Why didn't it work? Why was the first integrated baseline review such a difficult one to scope?

Mr Sippel—That does not mean to say that it failed. It did what it was meant to do—run its course. Throughout running a program of this complexity, corrective action happens on a very frequent basis to keep the program on that original plan that forms the contract master schedule. That payment would have been made, I dare say—from a review of what we are doing now—based on the fact that the whole tool had been established and it had demonstrated over a two-month reporting period to be accurate and reliable. Those are the fundamentals in IBR output.

As a program goes along and the uncertainties come onto the table and people deal with those uncertainties, there is a rejigging of the schedule in linkages and in terms of times to complete, and you are actually monitoring and measuring schedule variances and cost variances along the plan. If you get a lot of variances for a multiple number of sources, that makes the plan unworkable and you have to restart and re-baseline to go with a new ETC to completion for the scope you know. Because there were uncertainties in 2004—and we have not cleared all of the uncertainties for the program—we catered for them in the revised schedule that we are up to now. So you factor that in and you do another re-baseline to measure the performance from May 2006 through until the completion of the program.

Miss JACKIE KELLY—You were not there between 2000 and 2004. I would like to drill down into the 2000 and 2004 slippages; that is all. The ANAO always do a great impartial job but I do not think that they really tracked down into that corporate knowledge—getting back to that. There are changes in personnel. People go on long service leave. I intend to drill down to that. There was clearly a 12-month delay in some things before Defence took any remedial action, and they had some rights under the contract to do so but waived them. That could be personnel related.

Mr Sippel—But that depends on what was happening at the time, and we can only suppose. There were effective actions.

Miss JACKIE KELLY—But you cannot give any examples of that because you were not there.

Mr Sippel—We deal with them every week. At the end of every month we do an audit.

Miss JACKIE KELLY—Give me a recent example.

Mr Sippel—For example, the estimate from a company to deliver a product in a subcomponent schedule is set at a fixed date. If they slip their date, that has a flow-on linkage impact on the rest of the schedule, so you get schedule variance because of that activity. That may have a greater impact on the overall program if it is a key sub element.

Miss JACKIE KELLY—There was a mention of one subcontractor who was late—

Mr Tacey—Much of the discussion on the earned value management system that we have had to date seems to be framed around it being a payment system. It is really a management system. It does support payment, but it is really a management system. The problem with the EVM system is that if you drift away from your contract master schedule then it makes it much more difficult to use that as a sound management tool because the deltas from where you should actually be and the impact of any management action that you take to try and get back on track are very hard to track. We have to put these questions in balance and remember that it really is a management tool. It does support payment. Regarding your statement about it going wrong, actual performance had drifted away from the contract master schedule to a point where it was difficult to see the impact of management action in bringing the program back on track.

Miss JACKIE KELLY—We do not have anyone who is—

Mr Baghaei—The other issue is that the system has to be self-sustaining, so the rotation of personnel or the people who were in charge should not have been a dictating factor—although it is good to have optimum conditions apply, whatever that period might be.

CHAIR—This discussion and the question session has been very fruitful. We appreciate the fact that you have stayed longer than the scheduled time. As I indicated earlier, DMO were happy for us to come to them later on. Following the questions that Jackie has put forward—and she has some more—you are going to take some detailed things on notice. In fairness to her, she has asked these generically a number of times. It will take you some time to answer. What we will do is wrap it up now. You have some questions to answer on notice and I and other members, particularly Jackie, will probably submit some more. We will forward those to you through the secretariat. By closing the hearing now, that will enable the *Hansard* transcript to be prepared for you over the next week, which will help you with all of this—you will not have to go from notes. We will be in a position to then move to the next phase of this. As I said, this is a case study of a wider inquiry, but it is nevertheless a very important one. Given that the senators have other duties, I do not want to lock anyone out of the entire hearing. They can put some other questions on notice. We will wrap up for today. Thank you for appearing. We will be

spending more time on this than we originally scheduled, and you will be sending more detailed information to us.

Resolved (on motion by **Miss Kelly**):

That this committee authorises publication, including publication on the parliamentary database, of the transcript of the evidence given before it at public hearing this day.

Committee adjourned at 1.20 pm