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Performance Audit

Defence Estate Project Delivery

Department of Defence

Australian National Audit Office

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Australian National
Audit Office

Canberra ACT
4 April 2000

Dear Madam President
Dear Mr Speaker

The Australian National Audit Office has undertaken a performance audit in the Department of Defence in accordance with the authority contained in the *Auditor-General Act 1997.* I present this report of this audit, and the accompanying brochure, to the Parliament. The report is titled *Defence Estate Project Delivery.*

Following its tabling in Parliament, the report will be placed on the Australian National Audit Office's Homepage—http://www.anao.gov.au.

Yours sincerely

P. J. Barrett
Auditor-General

The Honourable the President of the Senate
The Honourable the Speaker of the House of Representatives
Parliament House
Canberra ACT

AUDITING FOR AUSTRALIA

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The Publications Manager
Australian National Audit Office
GPO Box 707 Canberra ACT 2601

Telephone **(02) 6203 7505**
Fax **(02) 6203 7798**
Email **webmaster@anao.gov.au**

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Audit Team

Peter Johnson

Nicola Thatcher

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Abbreviations

ACS	Australian Construction Services
AEM	Australian Estate Management
ANAO	Australian National Audit Office
APIN	Army Presence in the North
DAO	Defence Acquisition Organisation
EASTROC	Eastern Region Operations Centre
FAS	Facilities Acquisition Strategy
FMA Act	*Financial Management & Accountability Act 1997*
IT	Information Technology
PCG	Project Control Group
POE	Past-Occupancy Evaluation
PM/CA	Project Manager/Contracts Administrator
PWC	Public Works Committee
Russell	Russell Hill Redevelopment Project

Summary and Recommendations

Summary

Background

1. The Defence Estate Organisation (DEO) arranges construction of facilities for the Australian Defence Force and the Department of Defence. It outlays some $400 million a year on construction projects to meet the needs of these users. The objective of the audit was to assess the efficiency and administrative effectiveness of the Project Delivery function, with a view to highlighting effective practice and, where appropriate, making practical recommendations to enhance facilities project management. The audit examined two major projects as case studies. These were the facilities required for the increased Army Presence in the North (APIN) and the Russell Hill Redevelopment (Russell). Three smaller projects were also reviewed.

Overall conclusion

2. DEO's Project Delivery Branch is client-focused and generally performing well in meeting the needs of intended users. Facilities built for the APIN and Russell Projects under the Branch's management are regarded well by the Defence users of those facilities. To achieve this, the Project Delivery Branch made a considerable effort to identify users' needs and to meet them efficiently and effectively. These projects are nearing completion and are expected to be finished on time and within budget.

3. DEO introduced a number of innovations that contributed to cost-effective management of its construction projects. The innovations include: development and use of a suite of standard contracts; selection of the most appropriate project delivery methods; judicious use of consultant expertise; use of consultant cost planners and managers; and a strategic approach to design philosophy, particularly on the APIN project.

4. Financial management, however, should be improved. The audit disclosed significant breakdowns in internal controls over payment of Commonwealth funds. On the APIN Project, $37 million was paid to contractors as prepayments for materials that were neither listed in invoices nor verified before payment. This was part of a strategy to expend funds before relevant appropriations lapsed. The payments were made without gaining any demonstrable advantage to the Commonwealth, such as discounted prices. On the Russell Project, a bank account established to pay subcontractors was also used as a way of retaining $20 million in Commonwealth funds before appropriations lapsed. These transactions reflect poor practice being contrary to the Chief Executive’s Instructions and inconsistent with proper management of Commonwealth funds.

Key findings

Meeting users' needs (Chapter 2)

5. DEO's use of Project Control Groups has been generally effective in providing guidance and maintaining accountability for the Project Director, as well as providing authority for decisions made in relation to facilities projects.

6. DEO has been effective in involving the users of the proposed facilities at an early stage in each of the projects examined, thereby increasing the likelihood that user needs are satisfied. The extent of user involvement in the Russell Project was a significant factor in the successful delivery of the facilities.

7. Post-occupancy evaluations in the APIN Project have been particularly effective in ensuring timely handling of warranty issues and in giving users 'ownership' of the final state of the facility.

Managing projects cost-effectively (Chapter 3)

8. The ANAO considers that a number of innovations have contributed to the cost-effective management of DEO's construction projects. These include: development and use of a suite of standard contracts; selection of the most appropriate project delivery methods; judicious use of consultant expertise; use of consultant cost planners and managers; and a strategic approach to design philosophy, particularly on the APIN project. DEO as an organisation is making a significant and determined effort to improve its project delivery to meet users' needs.

9. Development and introduction of a suite of standard contracts was a major innovation in management of Defence's construction projects and could be successfully adapted to other areas of Defence that manage contracts. The standard suite of contracts has provided Defence Project Directors with a well-considered legal framework for their contracting activities with the construction industry.

10. DEO has also been effective in selecting and managing consultants. The expertise that it has acquired has generally been appropriate, timely and cost-effective.

11. The ANAO notes the important contribution of expert cost planners and managers and considers that most projects, particularly major projects, could benefit from using such experts in the cost control role. Use of this expertise on the major projects reviewed has proved to be highly beneficial for all parties.

12. A consistent design philosophy on the APIN facilities has been sensible and effective. It has provided a cost-effective solution to the facilities requirement, while allowing sufficient flexibility for many of the more specific needs of individual units to be met.

13. Risk analyses reviewed by the ANAO indicate that due consideration was given to selection of the most appropriate form of delivery for each project.

14. The use of pre-select tender panels has been cost-effective in enabling timely tendering of construction works. The ANAO considers that tender panels have been used effectively in the projects reviewed.

Administering projects (Chapter 4)

15. Financial management should be improved. The audit disclosed significant breakdowns in internal control over payment of Commonwealth funds. DEO used a variety of methods to accelerate expenditure to ensure that spending targets were met, even when such early expenditure was not in the Commonwealth's interest. Its purpose has been to circumvent the lapsing of departmental budgetary allocations and parliamentary appropriations before they lapsed at 30 June. This is contrary to the Chief Executive's Instructions. Financial management reforms since the late 1980s have sought to provide appropriate incentives for departments to act in the Commonwealth's interest and to strongly discourage accelerated payments made without any apparent Commonwealth benefit. Several cases of prepayments were reviewed in the audit but generally the contractor did not provide any benefit to the Commonwealth in exchange for early payment.

16. Over a three-year period, $37 million was paid to contractors on the APIN Project for materials that were not identified in invoices and were not verified by personnel responsible for validating progress claims. As security for the prepayments, the contractors provided bank guarantees, but these are not of themselves justification for making such payments. Smaller, but similar, payments were made on the Russell Project.

17. The Russell Project contract provided for Defence to pay funds into a commercial trust account at a bank from which the Managing Contractor would pay subcontractors. But Defence paid as much as $20 million into the account well before the funds were needed to pay subcontractors and used the interest (around $635 000) to offset future expenditure on the Project. These practices are not consistent with the contract or with good management of Commonwealth funds. They bypass normal appropriation, scrutiny, accounting and financial reporting procedures. The interest should also have been included as revenue in Defence's annual financial statements, and the value of the work recorded as an asset.

18. In relation to contract management, Defence's scrutiny of contract variation estimates submitted by the Consultant Project Manager on the APIN Project may have allowed the contractor to claim more than was justifiable. Defence reviewed the approved variations and noted that five would be examined further and, where appropriate, remedial action would be taken.

19. DEO's practice is not to claim liquidated damages from contractors for delay in completing work. Legal and management issues that arise from this DEO practice need to be reviewed and formulated into a policy on liquidated damages and guidance/instructions provided to staff.

Defence response

20. The ANAO made eight recommendations aimed at improving the efficiency and administrative effectiveness of Defence Estate Project Delivery. Defence agreed to the recommendations and made the following general comment:

> *The report has made useful suggestions for improvement and has identified some areas of concern. The main area of concern relates to prepayments to avoid lapsing of appropriation, which were inadequately justified or documented. The recommendations relating to this aspect are accepted. Without detracting from the nature of findings in this area, the general findings of the audit are very positive.*

Recommendations

Set out below are the ANAO's recommendations with report paragraph references and an indication of Defence's response. The ANAO considers that Defence should give priority to recommendations 3, 4 and 6, indicated below with an asterisk.

Recommendation No.1 Para. 2.24	The ANAO *recommends* that, as many users responsible for accepting facilities have no experience of doing this, DEO develop clear procedures to be followed by users in accepting facilities, including detailed guidance on the conduct of post-occupancy evaluations. ***Defence response:*** Agreed
Recommendation No.2 Para. 3.23	The ANAO *recommends* that DEO require its Project Directors to incorporate life-cycle costing analysis in the development of facility designs and to take account of maintenance considerations raised in that analysis in the design and construction process. ***Defence response:*** Agreed
***Recommendation No.3 Para. 4.7**	The ANAO *recommends* that, to promote effective practice in DEO management, the forthcoming Defence Estate Management Guide sets out mandatory requirements on fraud control, ethical conduct and probity. ***Defence response:*** Agreed
***Recommendation No.4 Para. 4.30**	The ANAO *recommends* that Defence reinforce the Chief Executive's Instructions against expending excess funds at the end of the year without commensurate advantage to the Commonwealth, by re-assessing budgetary incentives (internal and external) and clearly articulating better practice in this area so that Defence's staff fully understand their responsibility for acting in the Commonwealth's interest. ***Defence response:*** Agreed

Recommendation No.5 Para. 4.38

The ANAO *recommends* that DEO promote efficient and effective use of resources in the context of performance assessment of managers and key indicators for DEO by revising its criteria and indicators to focus on achieving value for money within an agreed budget and remove undue emphasis on achieving budget forecasts.

Defence response: Agreed

***Recommendation No.6 Para. 4.50**

The ANAO *recommends* that Defence review its training program for personnel involved in the approval, certification and payment of accounts to ensure that all such personnel are aware of their responsibilities in the making of such payments and in the proper management of Commonwealth funds.

Defence response: Agreed

Recommendation No.7 Para. 4.61

The ANAO *recommends* that DEO include in the forthcoming Defence Estate Management Guide clear appropriate guidance to Project Directors on project scope changes that should be notified to the Public Works Committee.

Defence response: Agreed

Recommendation No.8 Para. 4.76

The ANAO *recommends* that DEO review and clarify its practices regarding liquidated damages and formalise them into a policy that takes account of the legal and management issues involved.

Defence response: Agreed

Audit Findings and Conclusions

1. Introduction

This chapter provides background information on the Defence Estate Organisation and DEO project delivery. It also sets out the reasons for conducting the audit, and the audit objective and criteria.

Background

1.1 The Defence Efficiency Review report (1997) formed the basis of the Defence Reform Program, which involved extensive re-structuring of Defence.[1] As part of that Program, Defence's Facilities and Property Division was re-established as the Defence Estate Organisation (DEO). DEO comprises four branches within the Canberra-based head office and nine Regional Estate Centres.

1.2 DEO is responsible for all Defence land, buildings and infrastructure assets and manages the estate functions of investment, reinvestment, repair and maintenance, acquisition, leasing and divestment. DEO develops strategic planning and business policy on estate functions and delivers capital facilities projects. It also undertakes corporate estate management, and provides planning and facilities operations maintenance support to client Defence bases and establishments throughout Australia. DEO's organisation chart is at Appendix 2.

Project Delivery Branch

1.3 DEO's Project Delivery (PD) Branch is responsible for delivery of major and medium works identified in the Defence Facilities program, including the carriage of major works through the parliamentary Public Works Committee (PWC) process. PD Branch is responsible for detailed user definition and delivery after Defence approval of the works project. Major works are any capital works to cost in excess of $6 million. Medium works are works to cost between $250 000 and $6 million.

1.4 The Project Delivery function incorporates acquisition of facilities once it has been decided what facilities are needed, what the basic requirements are and where the facilities should be located. The Project Delivery function translates the broad strategic requirement into a specific facility outcome and then proceeds to achieve that outcome.

1.5 Defence spends in excess of $400 million each year on the delivery of major (capital) facility works.

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[1] 'Defence' comprises the Department of Defence and the Australian Defence Force. The latter consists of the three Services: Navy, Army and Air Force.

Project delivery process

1.6 The decision process for major Defence facility work consists of three phases:

- inception and financial programming phase—where levels of need and orders of investment are set. Consultants and contractors may be asked to contribute to feasibility studies two to five years ahead of a project's formal Government approval point;
- definition and development phase—where project solutions are examined and one is developed to a ceiling cost for Defence endorsement and Government decision. Industry will be involved in developing options and costing details usually one to two years before Government approval; and
- detailed design, documentation and construction phase—all are performed through industry involvement after Government and Parliamentary approval through the Public Works Committee.

Inception and financial programming

1.7 Proposals are included in the "Green Book"[2] during the inception phase if they are shown to have the necessary priority for further development as a project, and if higher Defence committees, in a program context, confirm this. The Green Book outlines proposed new facilities projects and property divestment over the following five years and alerts industry to proposals in which they may wish to become involved.

1.8 The forward capital facilities program is a result of Defence's resource programming process. There is no guarantee that a particular project will be undertaken at a particular time. As individual projects develop, the priority for them, and their scope, timing and progression, are reviewed against overall Defence needs and available resources.

1.9 A variation in the capital facilities program is usually attributed to one or more of the following reasons:

- a change in the Government's overall financial guidance for Defence;
- the influence of outstanding commitments for on-going projects; and
- changes in priority, scope and the emergence of other higher priority requirements.

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[2] Defence has been publishing details of its forward capital facilities program, commonly known as the "Green Book", since January 1993 as part of on-going initiatives to improve communications with industry.

Definition and development

1.10 Once outcomes and investments are agreed, alternative solutions or options are evaluated and a preferred method of meeting the need is recommended. Detailed analysis of the development and delivery of the project is known as the Facilities Acquisition Strategy (FAS). This requires endorsement and approval before further work is undertaken. The development phase results in approved project scope, timing and budget. This phase is undertaken by the Estate Operations and Planning Branch (for re-investment proposals) and by the Project Delivery Branch (for capability proposals).

Design, documentation and construction

1.11 The delivery phase is essentially the development and documentation of the design for the works, and construction of the works. Some preliminary work will usually have been done to set a ceiling cost. Key stages in the delivery phase are: Public Works Committee endorsement for works over $6 million; tender approval; award of contract; practical completion of the works; and overall project completion. Project Delivery Branch is responsible for the execution of this phase.

The audit

1.12 This audit was conducted because of the amount of expenditure involved ($400 million each year on major (capital) facility works) and this area of activity had not been audited for some time. In addition, audits of Defence Acquisition Organisation's management of particular major equipment acquisition projects over recent years have disclosed significant problems, such as poor contract management and substantial schedule and budget slippage. This is an indication of the potential risks associated with management of other Defence projects.

1.13 The objective of the audit was to assess the efficiency and administrative effectiveness of the Project Delivery function, with a view to highlighting effective practice and, where appropriate, making practical recommendations to enhance facilities project management. The scope of the audit extended from approval of the project to completion of the post-occupancy evaluation. Defence's Management Audit Branch (internal audit) reported on one of the projects selected for the ANAO audit but there has been no other recent audit coverage of Project Delivery or of the other major projects covered in this audit.

1.14 This audit reviewed the Project Delivery function with particular reference to two major projects that were nearing completion—the development of facilities associated with the increased Army Presence in the North (APIN) and the Redevelopment of the Russell Hill Office Complex (Russell). These projects involve different contracting and management structures. For a better understanding of Project Delivery, the ANAO also covered three smaller Defence projects under construction or recently completed at RAAF Base Williamtown in New South Wales. These were the Eastern Region Operations Centre (EASTROC) project, the Lead-in Fighter training facilities project and the Accommodation Amenities project.

1.15 The following criteria were used in conducting this audit:

- Defence facilities construction projects are designed to meet the specified needs of users.
- Construction of facilities is in accordance with agreed design.
- Facilities are delivered in a cost-effective manner using generally-accepted project management methods.
- Relevant Commonwealth legislation and Defence policies and procedures have been complied with.

1.16 Audit fieldwork was conducted substantively from September to November 1999. The audit encompassed fieldwork at Robertson Barracks near Darwin, RAAF Base Williamtown and Russell Offices ACT, as well as at DEO's head office.

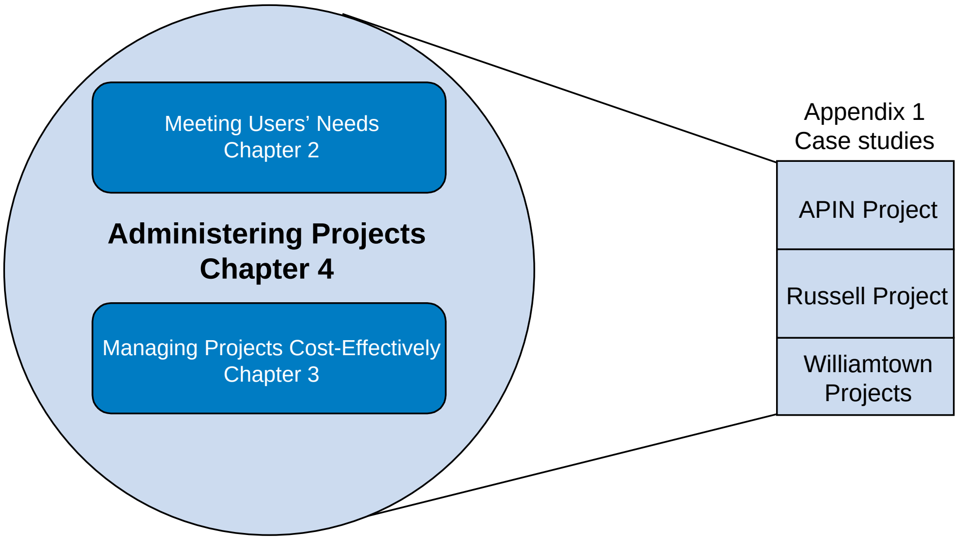
1.17 The proposed report on the audit was provided to Defence in January 2000 and revised after considering Defence's comments. Relevant extracts were also provided to building contractors referred to in the report, and their comments were considered in completing the report. The audit was conducted in conformance with ANAO auditing standards and cost $270 000.

Report structure

1.18 The report focuses on the objective of meeting the needs of Defence users of facilities in a cost-effective manner but also covers some key aspects of project management. The main part of the audit report is organised into three chapters and an appendix containing details of case studies as shown in Figure 1.

Figure 1

Report structure



1.19 Appendix 1 sets out particulars of case studies obtained from audit fieldwork on the selected projects. That Appendix does not duplicate references to those projects used to support conclusions earlier in the report.

2. Meeting Users' Needs

This chapter discusses the ability of the Defence Estate Organisation to meet the needs of users through the project delivery process.

Defining the users needs

2.1 In assessing the success of the Defence Estate Organisation (DEO) in performing the Project Delivery function, the main critical success factor is DEO's ability to meet the needs of the end-user of the facility. Broadly speaking, the end-user is the Australian Defence Force and/or the Department of Defence, but the particular end-user may be an individual Defence base or unit occupying and using the facilities or individual soldiers, sailors or aircrew living in on-base accommodation. During the audit the ANAO reviewed Defence's procedures for converting an abstract concept based on an identified strategic need into a working facility. These procedures range from defining a particular solution, to a strategic need for facilities through specification, tendering, contracting, project management and hand-over of completed facilities.

2.2 The definition of the user needs for a facility is an iterative process involving successive levels of refining and narrowing of specification. It can start with a decision to move units of Navy, Army or Air Force to another location in Australia and the need for new facilities for those units. It ends with a myriad of decisions on specific matters at a very low level; for instance, decisions whether a work bench should be on the east wall or the north wall of a small room.

Strategic planning

2.3 The strategic planning process was not within the scope of this audit. It is discussed here for the sake of completeness as the starting point for the Project Delivery function. Defence property strategic planning, based on identified strategic needs, is promulgated through the Strategic Plan for the Defence Estate. Endorsed by the Defence Executive (Defence's senior committee) in December 1998, the Plan puts forward a top-down approach for management reform within the DEO. It provides a link between Defence Estate strategic planning and overall Defence strategic policy.

2.4 The Plan was made available to the ANAO but will not be available publicly until endorsed by the Minister for Defence. This has not yet occurred.

Defining facility requirements

2.5 The Resources and Policy Branch—Strategic Planning and Analysis Section is responsible for Defence Estate strategic planning and for DEO guidance and advice to Defence planning and infrastructure studies. The Section is responsible for coordination of the progression and the provision of planning inputs to the development and analysis of Defence Estate proposals, initiated by client programs or from within the DEO, through to departmental approval.

2.6 The Estate Operations and Planning Branch is responsible for identifying and initiating capital facilities projects of a reinvestment nature. They are also responsible for processing siting approvals and facilities usage requests.

Facilities Acquisition Strategy

2.7 A Facilities Acquisition Strategy (FAS) is required for each facilities project proposal before final submission for higher Defence approval. It sets out the way a project is to be managed for the remainder of the project. Its purpose is to:

- identify the way the project will be managed to maximise value for money;
- provide confidence that Defence policy, and time, cost, quality and functional objectives, will be met;
- provide an audit trail;
- demonstrate how program flexibility will be provided by allowing for phasing of the project if required;
- demonstrate how probity and integrity will be ensured in the delivery process;
- obtain management support for the project; and
- provide an assessment of risk and opportunity.

2.8 The FAS provides the higher-level timetable and milestones, and is to be complemented by a project management plan that shows detailed timings of approved action and the action officers.

From concept to reality

2.9 The main role of the Project Delivery Branch, and the key function in delivering the facilities required by Defence, involves specifying, designing and constructing the new facilities and is carried out by that Branch.

Role of the Project Director

2.10 Once the general requirement for a facility has been decided and a Facilities Acquisition Strategy prepared, it is the responsibility of a DEO Project Director to organise the design and construction of the facility and to shepherd it through the various approval stages. The Project Director is the principal authority for the overall management of the project and, according to the Project Director's Handbook '*is accountable for conversion of an operational requirement into a commissioned system that meets the goals, objectives and policies of the Department.*' In managing the construction of the facility, the Project Director is to ensure that the required function and quality of the project are achieved, costs are controlled within the ceiling out-turn cost and required schedules are met. The Project Director is also to ensure that all relevant legislation, polices and procedures are complied with.

Involvement of Project Control Group

2.11 Each major project must have a Project Control Group (PCG). An early responsibility of the Project Director is to form a PCG to take collective management responsibility for the project. Membership includes sponsors, users and other key personnel. At the early stage of the project the PCG will act as a steering committee and ensure all interested parties have input. As the project progresses, the PCG is responsible for directing the Project Director and making key decisions in relation to the project. PCG membership may change from the Inception to the Development and Delivery Phases of the project. For major projects the Director General Project Delivery is chair of the PCG.

Brigade Headquarters, Robertson Barracks, Darwin—APIN Project

2.12 The involvement of the PCG enhances the legitimacy of decisions made in relation to the project as well as providing guidance and accountability for the Project Director. The ANAO considers that the PCG has generally been effective in achieving these aims in the projects reviewed for this audit.

Matching the outcome to the requirement

2.13 The design and construction of facilities can involve significant changes from the initial specification, particularly as practical difficulties in construction often arise or a more intense focus on the detailed design identifies impracticalities or scope for improvements. The redesign of Russell Offices, moving from the three buildings initially proposed to two buildings, without a reduced capacity, is a good example of this. It demonstrates how the end-product can evolve from an initial concept and the ability of DEO to be sufficiently flexible within the constraints of the users' requirements.[3]

User involvement in design

2.14 The main objective of the Project Delivery process is to meet the needs of the user. To do this it is necessary to understand what the user wants. Users may refine their needs over the course of a project. This makes it necessary to involve them throughout the delivery process, from design to delivery. DEO has become adept at involving a high level of user input. For example, DEO involved prospective users of the APIN[4] facilities extensively in the detailed design process. This included meeting with Army units at their current establishments to gain an understanding of facilities usage before relocation to the north, as well as taking relevant unit personnel to the project site to review plans and allow them to see how the facility could meet their needs.

2.15 On the EASTROC[5] project at Williamtown, there was extensive consultation with end-user representatives. It was apparent that prospective users were not fully aware of the contractual timetable imposed on the Defence project team. They did not seem aware that changes to floor layouts and requirements after the agreed date required the Commonwealth to pay additional amounts to the contractor for the delay and work caused by these late changes.

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3 Construction costs on the Russell Project were within the indicative building costs per square metre for 4–7 storey offices and fitting-out of offices in *Rawlinsons Australian Construction Handbook 1998* Rawlhouse Publishing Pty Ltd, Perth WA.

4 Army Presence in the North facilities project.

5 Eastern Region Operations Centre facilities project.

2.16 User involvement helps to make the end product satisfactory in meeting client requirements. User representatives need to be made fully aware of project timeframes so that sufficient consultation can occur within the agreed time, and to avoid the resulting repercussions if these timeframes are not met. DEO has been effective in involving users from an early stage in each of the projects examined.

User Group at Russell

2.17 A User Group, with representatives from all of Defence's Program areas and staff associations, ensured that there was staff consultation on the Russell Offices Redevelopment Project as the design was developed. Meetings were held regularly, with frequency increasing when the Project fit-out design was being completed. A mock set-up of the open-plan fit-out workstation was available in the site office for staff to inspect and gain an appreciation of their new accommodation. Approximately 300– 400 staff viewed the set-up, and this seemed to assist in the transition from enclosed offices.

2.18 The ANAO considers that the extent of user involvement in the Russell Project was a significant factor in the successful delivery of the facility. The level of user satisfaction with the buildings seems to be high.

Russell Hill Redevelopment showing new buildings R1 and R2 (background, left and right respectively) and the refurbished R4 and R3 (foreground, left and right respectively)

Project handover

2.19 There needs to be appropriate planning before formal handover of facilities from the construction contractor to Defence. Handover is critical as it initiates a certificate of Practical Completion and includes the contractor's agreement regarding work on any defects and uncompleted works in the building at the time of handover. A building should not be occupied until formal handover from contractor to client.

2.20 The handover of facilities at both APIN and Russell appears to have been satisfactory. On the Lead-in Fighter facilities project at Williamtown, however, a building was handed over in contravention of procedures agreed between the Consultant Project Manager and Defence. The matter has since been rectified.

2.21 There seem to be no clear DEO procedures to be followed on the handover of a facility. DEO's Project Director's Handbook does not mention a handover process at all. The draft Defence Estate Management Guide also does not set out a process to be followed, although there is a reference to handover in the title of a chapter yet to be written.[6] Currently it appears the efficacy of handover procedures depend on the experience of the Project Director. The ANAO considers that more guidance is needed in this area.

Post-occupancy evaluation

2.22 A post-occupancy evaluation (POE) is to be undertaken on a project after the end-user has had sufficient time to settle into the facility. The evaluation is generally in two stages: an in-use evaluation of a completed project after defects are rectified and a report for disseminating findings to help on later projects. The POE of 1st Armoured Regiment's facilities in the APIN Project at Darwin highlighted that end-users did not have sufficient input in the early stages of the design for the layout of functional work spaces. Defence advised that this project was one of the first major packages of work let in APIN Stage 1 and many lessons were learned from it. There were also significant changes in the key staff of the unit between the scope definition and the completion of the facilities. Other Army units involved in APIN were given more input to design development, and this helped to minimise post-occupancy modifications. Defence also advised that the adoption of a Generic Design Brief helped to prevent the recurrence of some of the problems associated with this project.

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[6] See paragraph 4.6.

2.23 The use made of the post-occupancy evaluations in APIN has been effective. They have ensured that warranty issues were dealt with in good time and that users had 'ownership' of the final state of the facility. There is little guidance available, however, for post-occupancy evaluation. If appropriately experienced staff from DEO were not available to assist, users could be at a disadvantage.

Recommendation No.1

2.24 The ANAO *recommends* that, as many users responsible for accepting facilities have no experience of doing this, DEO develop clear procedures to be followed by users in accepting facilities, including detailed guidance on the conduct of post-occupancy evaluations.

Defence response

2.25 Agreed.

Conclusion

2.26 DEO's use of Project Control Groups has been generally effective in providing guidance and accountability to the Project Director, as well as enhancing the legitimacy of decisions made in relation to facilities projects.

2.27 DEO's Project Delivery Branch is client-focused and generally performing well in meeting the needs of users. Facilities built for the APIN and Russell Projects appear to be highly regarded by the Defence users of those facilities and DEO seems to have met the needs of users with a high degree of user satisfaction.

2.28 To achieve this, the Project Delivery Branch made a considerable effort to identify users' needs and address them. DEO has been effective in involving the users of the proposed facilities from an early stage in each of the projects examined, thereby assisting in ensuring that user needs are satisfied. The extent of user involvement in the Russell Project was a significant factor in the successful delivery of the facilities.

Hangar with reinforced paving, for armoured vehicles at Robertson Barracks

2.29 Post-occupancy evaluations in the APIN Project have been particularly effective in ensuring timely handling of warranty issues and in giving users 'ownership' of the final state of the facility.

3. Managing Projects Cost-effectively

This chapter examines issues associated with cost-effective project management. It focuses on matters raised in audit case studies that were either particularly effective or where improvements could be made.

Protecting Commonwealth interests

3.1 Within the overall objective of meeting end-users' requirements it is important that delivery of facilities projects be cost-effective. This report does not comment on all aspects of cost-effectiveness but focuses on those areas where DEO has introduced innovative practices that may be useful in other areas responsible for delivery of major Commonwealth construction or acquisition projects or in areas where practices could be improved.

3.2 To make the most cost-effective use of project delivery funds, DEO needs to take practical steps to protect the Commonwealth's interests. The ANAO considers that three aspects of DEO project delivery have been particularly effective in protecting the Commonwealth's interests. These are: the development and use of a suite of standard contracts; the judicious use of consultants; and the use of independent cost-planners and managers. Although DEO has achieved considerable success to date with each of these initiatives, there is still room for improvement. DEO needs to ensure that they continue to evolve from lessons learned, although each already appears to be moving in a direction that can only improve the ability to protect the Commonwealth's interests.

Standard contracts

3.3 In 1992 Defence, with the aid of consultant legal advice, developed a suite of five Standard Form General Conditions of Contract for use when contracting for construction of Defence facilities. The standard forms represent alternative contract strategies to achieve DEO's objectives when contracting. As no one contract strategy suits all projects, standard forms have been developed to allow flexibility in delivering projects. The standard forms of contract are as follows:

- Head Contract;
- Design and Construct;
- Document and Construct;
- Trade Contract; and
- Managing Contractor.

The documentation includes guidance on the use of the contracts as well as a standard Consultant's Agreement and a standard Adjudication Agreement.

3.4 The contracts reflect DEO's primary objectives in containment of out-turn cost within budgetary constraints and fairness in allocation of risks between Defence and contractors. The standard contracts have been used on all the projects reviewed in this audit. This seems to have eliminated many of the problems reported in other audits of Defence contract management, where risk that the contractor could more appropriately have managed was transferred to the Commonwealth. DEO Project Directors are not to alter the clauses in the standard contracts without appropriate legal advice. DEO is reviewing the standard contracts to identify areas for improvement. DEO's introduction of the standard contracts has been a worthwhile innovation in management of Defence construction projects and could be successfully adapted to other areas that manage contracts.

Use of consultants

3.5 DEO does not seek to develop in-house the skills available in industry, as possession of these skills is not seen to be a core requirement of DEO business. Rather, the practice is to use consultant support by contracting-in specialist skills and resources when and where required. The required consultants vary according to the type of project, its value, preliminary investigations required and the selected delivery method.

3.6 Consultants used for facilities projects can be classified into three groups:

- management support consultants (organisations specialising in provision of management support to the construction industry);
- design consultants (organisations specialising in design, documentation and technical supervision in the major technical disciplines commonly required for building projects such as architecture, structural engineering or cost planning); and
- specialist consultants (for special expertise in particular fields such as materials handling or geotechnical expertise).

3.7 DEO's standard consultant's agreement can be used to engage consultants for all facilities-related activities. Engagement may be for the whole project, a project phase or a specific study.

3.8 Judicious use of consultants is a positive feature of DEO's management of project delivery. It does, however, require appropriate management to ensure that the use of consultants is effective and that

DEO receives value for money. Extensive use of consultants has also made DEO reliant on the skills, experience and professional integrity of individuals within the industry. DEO's Project Director's Handbook acknowledges that '*industry organisations are motivated by profit and must be managed.*'[7] DEO requires sufficient skills in-house to manage consultants and contractors effectively.

3.9 The audit showed that DEO has been effective in selecting and managing consultants and generally has acquired appropriate expertise in a timely and cost-effective manner. Administrative procedures should ensure, however, that DEO receives the service that it pays for. As noted in Chapter 4, some administrative procedures associated with management of the Consultant Project Manager on the APIN Project have not been effective.

Cost planners and managers

3.10 A cost planner is essential in a project management team. In practice, the cost planner is often a consultant on DEO projects. In each project reviewed by the ANAO, DEO used a different approach in the engagement of a cost planner.

3.11 The cost planner on the APIN project was a subcontractor to the Consultant Project Manager. This arrangement worked well on the management of the construction contractors. Such an arrangement does mean that there is no general requirement for the Defence project team to have its own costing expertise.

3.12 On the EASTROC project, in addition to the Project Manager's own cost planner, DEO employed a quantity surveying firm as cost control auditors on DEO's behalf. The firm advised on cost issues for the project and could provide independent variation review should the Project Manager/Contracts Administrator and Construction Contractor negotiations stagnate. This additional accountability cost less than 0.3 per cent of the total EASTROC budget and was cost-effective. Defence advised that the independent cost planner was commissioned directly because early indications were that the design was not well documented, raising concerns about the accuracy of cost estimates and the potential for a large number of variations.

3.13 The ANAO notes the important contribution of expert or specialist cost planners and managers. Most projects, particularly major projects, could benefit from such expert advice in the cost control role, since it enables Defence to have expert cost advice as and when required. The

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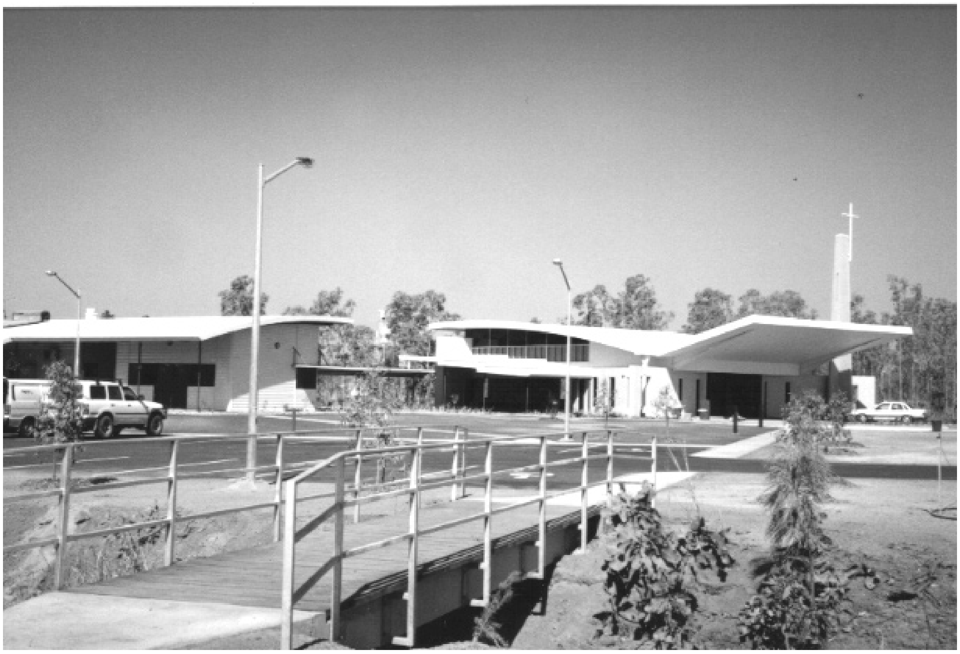
[7] *Project Director's Handbook*, Volume 1, Part 4.3, p. 4.

use of this expertise on the major projects reviewed has been beneficial. Since the use of a consultant cost expert avoids the need for DEO's Project Office to have its own cost controller, the Project Office does not have an ongoing requirement to develop expertise in this area. This may make it difficult to verify variations and invoices submitted by the consultant project manager or project consultant. Although Defence advised that these are generally straightforward, the ANAO found that on the APIN project the reasoning behind variations submitted by the Consultant Project Manager was often quite complex and that Defence could have benefited from the input of specialist costing expertise. For this reason the ANAO considers it is important that costing expertise should be available to Defence to protect the Commonwealth's interests.



Chapel and Administration Building at Robertson Barracks

3.14 The Consultant Project Manager for the APIN project advised the ANAO that '*The Cost Planner has not been engaged by DEO to provide independent advice on Project Management claims. … The Cost Planner is either contracted to the Project Manager or to DEO; he cannot be contracted to both. For the APIN Project he is contracted to the Project Manager.*' The Consultant Project Manager also advised that '*It is DEO's responsibility to vet the Project Manager's claims, to seek assistance from third parties, and to query claims with the Project Manager if deemed necessary.*'

3.15 If the Commonwealth's interests are to be protected and contract risks effectively managed, DEO needs to ensure that it has relevant costing expertise available to review contract variations and invoices proposed by any contractor, including contracted project managers. Defence advised that the APIN project was unusually complex; that this complexity is unlikely to be repeated in future projects; and that it has adequate costing expertise available.

Planning

3.16 Major construction projects have a relatively long lead-time and there are numerous logistical and scheduling difficulties to be overcome. This is exacerbated in the Defence environment where the customer may change every two or three years. A Defence base or unit may have two or three successive commanders over the life of a project. The commander to whom the facility is handed over may have expectations and needs different from those of the commander who had input into the design process. DEO has been effective in ensuring the designs of APIN and Russell are relevant to the needs of the user while controlling the extent of user-initiated change. Different mechanisms have been used to achieve this.

APIN design philosophy

3.17 From the outset of the APIN Project it was decided to maintain a consistent design philosophy, based on the design for the 2nd Cavalry Regiment buildings. Agreement was obtained for this and the philosophy was maintained throughout both stages of the APIN Project. This meant that design and materials were consistent across successive unit commanders for 1st Brigade. Commanders of individual regiments were effectively able to influence only the design of their facilities where the design directly affected the work of the regiment and did not depart from the overall design philosophy.

3.18 This consistency also meant that the project team developed a sound understanding of the construction process. Difficulties that arose on earlier APIN buildings where easily dealt with on later buildings. Consistent design on the APIN facilities was a sensible and effective measure to provide a cost-effective solution to the facilities requirement, while allowing sufficient flexibility for many of the more specific needs of individual units to be met. It could serve as a model for any similar project in the future.

Improving the design at Russell

3.19 The Russell Redevelopment Project was significantly different from APIN in that different Defence Program areas or client organisations were to be housed in one multi-storey complex. Unlike APIN, Russell also involved use or demolition of existing buildings. Stacking the multiple Program areas into the building complex proved challenging. Once formed, the design and construction team reviewed the proposed design and changed the building solution from three buildings to two larger buildings with more efficient floor plans.

Planning for ongoing operations

3.20 It is important in planning the construction of major facilities to consider the ongoing maintenance and whole-of-life cost of those facilities. In the design development stage, it is desirable to have input from the areas within Defence that will have responsibility for maintaining the completed facilities. On the APIN project, involvement of the Regional Estate Centre's predecessor commenced with the start of the project and increased after construction of the first buildings, and modifications were made for technicians to gain better access to maintain components of the facilities.

3.21 In September 1996 a significant amount of work went into preparing a maintenance strategy and Building and Maintenance Contract for the Russell Redevelopment Project. Due to other priorities and the absence of a central point of contact for the future management of the complex, no further work was done on this matter. The Regional Estate Centre had not been formed at the time the building was being developed and therefore had no input into this process. This has led to a continuity failure between the construction phase and the actual operation of the facility. As a result, preventative-maintenance issues that could have been addressed early in the project will not become apparent until the building complex has been in service for some time. Rectification at this later stage is likely to be more costly.

3.22 The relatively seamless handovers of facilities on the APIN Project and the relatively smooth ongoing maintenance operations demonstrate the value of planning for the operation of a facility rather than just its delivery. Although DEO's Project Director's Handbook makes brief reference to life-cycle costing, the concept of planning and designing a facility with a particular emphasis on the maintenance requirements and costs is not stressed. The ANAO considers that planning for the ongoing operation of a facility and consideration of life-cycle costs in the project delivery process are important to overall project cost-effectiveness. As such, they should be required procedures. An ANAO report on life-cycle costing in Defence[8] recommended that Defence make more use of life-cycle costing in the acquisition process. Defence largely agreed. The ANAO report was supported by the Joint Committee of Public Accounts and Audit.[9]

Recommendation No.2

3.23 The ANAO *recommends* that DEO require its Project Directors to incorporate life-cycle costing analysis in the development of facility designs and to take account of maintenance considerations raised in that analysis in the design and construction process.

Defence response

3.24 Agreed. Life-cycle costing is an evolving feature of the Generic Functional Design Brief developed by the APIN Project and will be incorporated through hyperlink to the Defence Estate Management Guide.

Tendering and contracting

3.25 The core principles and policies in the *Commonwealth Procurement Guidelines*[10] relate to: achieving value for money; open and effective competition; ethics and fair dealing; and accountability.

3.26 The ANAO reviewed the tendering process for a number of APIN Project contracts and for the Managing Contractor contract on the Russell Project. The methodology for engaging contractors to design and construct facilities emphasises open and effective competition. Standard tendering and contracting techniques are used, although the structure of contractual arrangements varies according to the needs of the project. Although a few minor anomalies were found, it appears that competitive tendering on those contracts has provided good results for the Commonwealth.

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8 Audit Report No.43 1997–98 *Life-cycle costing in Defence*.

9 Report 370 *Defence life-cycle costing* etc, Joint Committee of Public Accounts and Audit, November 1999.

10 The Financial Management and Accountability Regulations provide that officials must have regard to the *Commonwealth Procurement Guidelines*. The Joint Committee of Public Accounts and Audit has recommended instead that officers must act in accordance with the Guidelines. JCPAA Report 369 *Australian Government Procurement*, June 1999, p. 36.

Sole sourcing—The APIN Project Manager Contract vs Campbell Park

3.27 Defence initially engaged a firm as Consultant Project Manager at APIN only for Stage 1 of the project. This meant that, when a contract was to be let for Stage 2 Project Management (valued at some $5 million), Defence had to decide whether to engage the same firm on a sole-source basis or to re-tender the role that the incumbent Project Manager firm had been successfully performing on Stage 1 for some years. It was decided to call for tenders. Several firms tendered, including the incumbent Project Manager firm.

3.28 That firm had some commercial advantage over other tenderers from its involvement in preparation of attachments to tender documentation for the Stage 2 contract and from the firm's working knowledge of Defence's procedures. Defence advised that all Stage 2 tenderers were well aware of the management situation and the firm's involvement in developing tender documentation. Defence acknowledged that it was unlikely that any other firm could have won the contract, and that the call for tenders would put tenderers to some expense in preparing them. Nevertheless, it was considered desirable to call for tenderers in the interests of open competition. Defence advised that this was a deliberate decision made by the DEO Executive. The incumbent Project Manager won the Stage 2 contract.

3.29 A different situation arose on the Russell Redevelopment Project. Part way through the Project, Defence found it necessary to refurbish its Campbell Park Offices nearby to provide a consistent standard of accommodation for its Canberra staff. Rather than initiate a new project, DEO sought approval from the parliamentary Public Works Committee for an exemption from Committee scrutiny under section 18(8A) of the *Public Works Committee Act 1969* (exemption on the grounds of repetitive work). The DEO submission stated that:

> *…the work proposed for Campbell Park, although fairly large in a total costs sense, is not complex, it is the minimum work necessary on one floor and repeated until the 32 floors in the four buildings are complete. Client fit-out of the floors is also repetitive in nature and follows the philosophy established for the Russell Redevelopment Project.*

3.30 The submission said that the refurbishment was to be added to the Russell Project contract '*so that Defence can obtain maximum time and cost benefits from starting the work quickly and in the use of an established team to apply lessons learnt on the Russell Redevelopment.*' The Committee granted approval in May 1999.

3.31 DEO saw an opportunity to streamline the contracting process for Campbell Park. It considered that the Campbell Park work was similar in nature to the refurbishment work at Russell and that the managing contractor could be contracted as a variation of the Russell contract. DEO informed the ANAO that:

> *Whilst the total value of Campbell Park is now $44 million, the only component that won't be tendered, either as a new package or by the use of rates tendered at Russell, will be the management fees of the Managing Contractor and Project Consultant. These are at the same percentages as tendered for Russell some four years previously, and are less then $3 million of the total project costs.*

3.32 DEO advised the ANAO that at the time it let the initial Stage 1 contract for APIN it did not establish the contract in a such a way as to facilitate letting the Stage 2 contract without tendering. DEO indicated that this was a mistake that provided valuable 'lessons learned' experience. The ANAO considers that, in circumstances where DEO decides that it is not practicable to conduct separate competitive selection exercises for subsequent phases of construction, it is particularly important that DEO's procurement approach maximises the level of effective competition in the initial selection exercise. Terms and conditions of the later phases should be agreed in a timely and transparent manner. Defence advised that, where appropriate, incremental contracts are now being used, whereby satisfactory performance of one phase of a project leads to an offer to the consultant to undertake the next phase, against previously agreed criteria.

Project delivery methods

3.33 The choice of delivery system to be implemented in the contract strategy is a matter to be decided within the budget allocated to the project. The different contract strategies have varying degrees of cost rigour and flexibility control.

3.34 The desired risk allocation determines the choice of delivery system. The risk allocation also determines, in part, the contract price and final project out-turn cost and impacts on the attitudes of the contracting parties. A risk analysis of the project and resulting delivery system selection is undertaken in developing the Facilities Acquisition Strategy. The delivery system selected in turn dictates which of the standard construction form of contract (or combination of standard forms) would be the most appropriate in that case. The delivery system also sets up a matrix of contractual relationships within which the standard form operates to regulate the rights and obligations of Defence and the contractor.

3.35 An additional factor that affects selection of a delivery system is the expertise in Defence personnel assigned to the project.

3.36 Depending on the selected delivery system, the actions of Defence and its consultants can lead to contractors being entitled to substantial additional payments.

3.37 Various delivery methods allocate design risk differently between Defence and the contractor. With the Head Contract method, the design is undertaken by Defence's consultant and provided to the contractor at the time of tender. Defence is fully responsible for performance, delivery and coordination of the design. The lowest design risk for Defence is with the Design and Construct method and the Document and Construct method. Here the contractor is responsible for both design and construction with a fit-for-purpose design performance risk.

3.38 The Managing Contractor delivery method is a form of contractual arrangement developed by Defence for construction projects. It is a method for Defence to share with the building contractor some of the risks associated with a major construction project. This method of delivery provides flexibility within the project without incurring cost penalties associated with fixed-price contracts, such as the Project Manager delivery method. It also gives Defence maximum control throughout the project to achieve cost, time and quality objectives. This method was used for the delivery of the Russell Hill Redevelopment Project.[11]

Rear view of Russell Hill Redevelopment

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[11] The Managing Contractor delivery method is similar to the 'Project Alliancing' delivery method being used in the construction of the new Museum of Australia and Australian Institute of Aboriginal and Torres Strait Islander Studies facilities on Acton Peninsula in Canberra. Audit Report No.34 1999–2000 *Construction of the National Museum of Australia* and *Australian Institute of Aboriginal and Torres Strait Islander Studies* discusses the Project Alliancing method. DEO has not used this method.

3.39 The Project Management delivery system (using the Consultant's Agreement standard form contract) was selected for both APIN Stages 1 and 2, with each project broken into its component elements. This delivery method allowed for management of the contract packages and provided flexibility needed to manage changes in the APIN Movement Plan, budget and timeframes.

3.40 Individual elements within APIN utilised various forms of delivery but Design and Construct contracts and Document and Construct contracts were selected more often than Head Contractor contracts. This enabled Defence to have closer control over and input into the initial design process.

3.41 The EASTROC project was delivered with the assistance of a Consultant Project Manager and separate Consultant Cost Planner. The construction of the facility is through the use of the traditional Head Contract standard contract.

3.42 The standard suite of contracts has provided Defence Project Directors with a well-considered legal framework for their contracting activities with the construction industry. Risk analyses reviewed by the ANAO indicate that due consideration is given to selection of the appropriate form of delivery for the individual project. Regardless of the delivery system selected, diligent and competent administration of the contracts on Defence's behalf is still required to ensure that the Commonwealth's interests are protected. This issue is discussed further in Chapter 4.

Panels

3.43 A Project Services Consultancy panel of 15 pre-qualified consultants has been established to support Defence in the acquisition of capital works across Australia. Services to be provided by the panel range from project definition and development, to more significant support during the construction phase of a project. Design consultancies are not included in this panel and are tendered separately.

3.44 Additional to this panel arrangement, the APIN project established its own select tender list in October 1992 for the following categories:

- architects—total package to $10 million;
- architects—total package to $2 million;
- architects—total package to $1 million;
- engineers—total package;
- engineers—other;

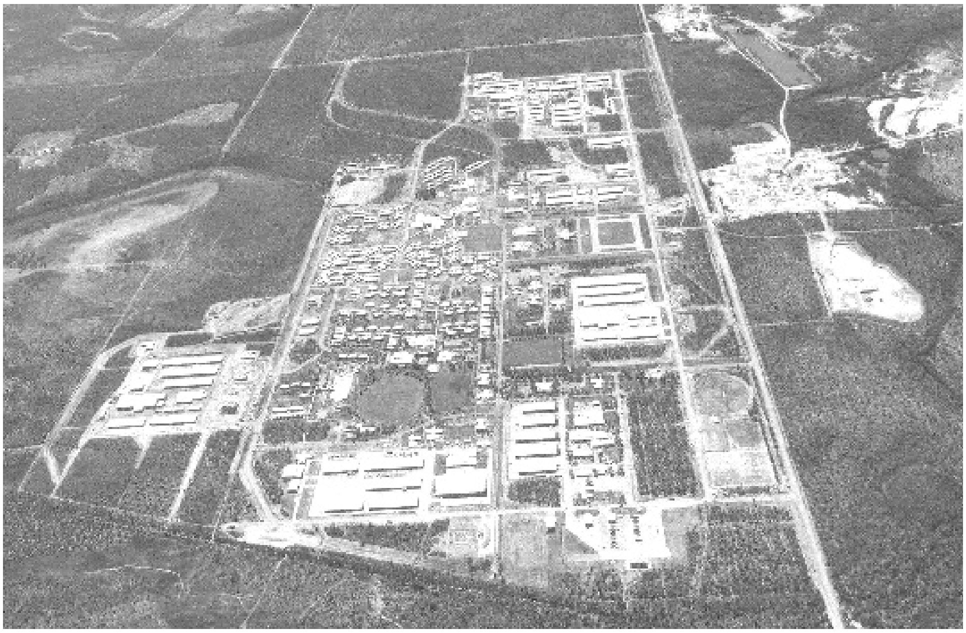
- construction agencies—total engineer services packages to $20 million;
- construction contractors—total package to $20 million;
- construction contractors—total package to $2 million;
- design and construct—total packages $2 million to $10 million; and
- refurbishment packages.

3.45 Generally, five companies (and two reserves) were selected for each category. The reserves may be invited to tender if appointed members withdraw from panel membership or if competition is limited when some members do not tender for packages. The aim was to develop work packages (and associated monetary value) so that work would be distributed among categories in accordance with government policy (such as policy on small and medium enterprises) and Defence requirements.

3.46 These monetary brackets were reviewed with effect from April 1997 for both APIN Stage 1 and 2 Projects to reflect reviewed government policy. Select tender lists were established in the following categories:

- construction contracts estimated to cost in excess of $4 million;
- construction contracts estimated to cost less than $4 million;
- architectural design for building projects estimated to cost in excess of $4 million;
- architectural design for building projects to cost less than $4 million; and
- design of civil engineering/sub-divisional projects estimated to cost less than $10 million.

3.47 The pre-select tender panel arrangements, once established, enable timely tendering of works and reduces tendering costs. Regular review of such arrangements helps ensure that the selected firms do not become complacent and that they continue to provide a cost-effective service to Defence. Regular review also allows other firms an opportunity to share in Commonwealth business. The ANAO considers that tender panels have been used effectively in the projects reviewed.



Aerial view of Robertson Barracks showing the extent of the facilities constructed for the move of 1 Brigade to the Northern Territory

Conclusion

3.48 DEO has introduced a number of innovations that have contributed to cost-effective management of construction projects. These include: development and use of a suite of standard contracts; selection of the most appropriate project delivery methods; judicious use of consultant expertise; use of consultant cost planners and managers; and a strategic approach to design philosophy, particularly on the APIN project. DEO as an organisation is making a significant and persistent effort to improve its project delivery to meet users' needs.

4. Administering Projects

This chapter examines Defence Estate Organisation's success administering the contracts and services used in project delivery. It focuses on those areas where internal administrative controls could be enhanced.

Guidance

4.1 To obtain maximum benefit from outsourcing project delivery processes, administration of projects and contracts needs to be competent and to accord with relevant legislation, policy and administrative requirements. The audit brought to notice a number of instances where this was not the case. Better guidance for personnel would have helped in these instances.

4.2 Guidance available to DEO personnel includes two important documents that they must understand and adhere to if project administration is to be effective. These are the Project Director's Handbook and the Chief Executive's Instructions.

Project Director's Handbook

4.3 DEO's predecessor, Facilities and Property Division, developed the main procedural guide, the Project Director's Handbook, early in the 1990s. It was developed as an overview for new Project Directors and as '*a reference source and aid to Project Directors in the day to day management of projects.*' It highlights common problems and gives tips to overcome them. It provides checklists to assist Project Directors in quality assurance of their own management. The Handbook consists of two volumes and is structured in three main sections:

- Part A—Policy and Application;
- Part B—The Project Director's Role; and
- Part C—Technique Summaries.

Volume 2 contains key Defence publications included as Appendices.

4.4 The Handbook provides detailed and comprehensive guidance for Project Directors and covers most aspects of project management. It uses a 'P' marking to indicate those areas of the manual which are mandatory; for example, the key principles adopted by Defence in relation to environmental management. These principles give high-level guidance for concepts such as sustainable land use and the provision of appropriate training for land managers.

4.5 There is a section on Fraud, Ethics and Probity in the Handbook but none of this section is marked as mandatory. This appears to be an oversight that could be rectified in the forthcoming Defence Estate Management Guide.

Defence Estate Management Guide

4.6 The Handbook is to be replaced by the Defence Estate Management Guide, which is to be an electronic guide accessible through the Internet and the Defence Intranet. Sections of the Guide relating to Project Delivery are presently in draft form.

Recommendation No.3

4.7 The ANAO *recommends* that, to promote effective practice in DEO management, the forthcoming Defence Estate Management Guide sets out mandatory requirements on fraud control, ethical conduct and probity.

Defence response

4.8 Agreed.

Payments

Chief Executive's Instructions

4.9 On payment of accounts, the Defence Chief Executive's Instructions[12] state that:

> *...the standard terms of trade are that the due date for payment of accounts is 30 days from the acceptance of goods* ***and*** *services and the receipt of a request for payment from the vendor.*[13]

4.10 The Instructions provide for six exceptions to this rule but, for payments made under construction contracts, only two of these exceptions apply. These provide that the 30 day rule may be bypassed if there is a '*clearly demonstrable financial benefit to Defence to accept a discount for payment earlier than the 30 day rule*' or '*where contractual arrangements specify payment arrangements.*'

[12] Chief Executive's Instructions are issued by the chief executive of each Commonwealth agency on matters of agency financial management and administration under the *Financial Management and Accountability Act 1997* and the FMA Regulations.

[13] (Defence) Chief Executive Instructions, Part 6, Chapter 1, Annex A, paragraph 1.

4.11 The Instructions do not allow any other departures from the 30 day rule for payments and go on to say that:

> *Under no circumstances are due dates to be brought forward or otherwise contrived to expend excess funds on hand at the end of the financial year.*[14]

4.12 The Instructions set out requirements on certification of accounts and the role of the Certifying Officer in ensuring that accounts can be paid.[15] Some of the practices observed in the APIN and Russell Projects indicate that personnel are not sufficiently aware of the requirements of the Chief Executive's Instructions to protect the interests of the Commonwealth in their dealings with contractors and consultants.[16] This was particularly the case with regard to prepayments on the APIN and Russell Projects and with regard to a commercial trust account on the Russell Project, as indicated below.

4.13 The audit brought to notice a continuing breakdown in internal administrative controls regarding payments. This involved the use of various mechanisms to spend appropriations of money before they lapsed at the end of the financial year. The problem in Defence arises due to a combination of a culture that encourages annual appropriations to be fully expended and the long lead-time associated with organising new major expenditure.[17] In seeking to modify current practice so that it conforms with the Chief Executive's Instructions, Defence should re-inforce the Instructions by reassessing budgetary incentives (internal and external) and clearly articulating better practice in this area so that Defence's staff fully understand their responsibilities to act in the Commonwealth's interest. Recommendations Nos 4, 5 and 6 are directed to addressing these issues.[18]

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14 (Defence) Chief Executive Instructions, Part 6, Chapter 1, Annex A, paragraph 2.

15 The Chief Executive's Instruction state: *'Payment of public money is not to be made without the approval of a duly appointed Certifying Officer.'*

16 At the time of audit, DEO was unclear who were the Certifying Officers for payments on the APIN and Russell projects.

17 The ANAO commented previously on the pressure applied to managers in the Defence Acquisition Organisation to spend annual budget allocations, most recently in Audit Report No.13 1999–2000 *Management of Major Equipment Acquisition Projects* paragraph 5.29 et seq.

18 See also ANAO Better Practice Guide *Cash Management in the Commonwealth Public Sector* (March 1999).

Project Directors' Handbook—Funding and Cash Management

4.14 Contrary to the Instructions noted at paragraph 4.10 in this audit report, the section *'Funding and Cash Management'* in the Project Director's Handbook focuses in part on ensuring that appropriated funds are fully expended. It notes that:

> *As cash is allocated on a financial year basis, any underexpenditure cannot be retained in the coming financial year and the underexpenditure must be provided from within the subsequent year's allocation.*

4.15 It also gives a number of tips:

> *If you are prepared to react in time and you have PCG [Project Control Group] approval, you can adjust cash flow by:*
>
> - *amending contract payment conditions*
> - *providing advance payment on materials*
> - *expediting settlement of claims or disputes*
> - *advancing contract letting*
> - *arranging separate contractor financing*
> - *accelerating progress payments processing.*

4.16 In the ANAO's view, the first three of these techniques could be seen as devices to ensure that money is spent even if no other benefit is received. Unless the Commonwealth is to receive a clearly demonstrable financial advantage from such adjustments to cash flow, those adjustments should not be considered as an option.[19] This section of the Handbook should be made consistent with the Chief Executive's Instructions cited above.

4.17 The concept of amending contract payment conditions for the purpose of adjusting cashflow seems undesirable. Contracts are presumably negotiated in a competitive commercial environment and include payment conditions that have been taken into account in the negotiations. These conditions will, among other things, determine the amount of working capital the contractor has to fund. If, after contract

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[19] The definition of fraud in DEO's Project Director's Handbook refers to early payment:

> ***fraud is the use of deceit to obtain an advantage or to avoid an obligation.***
>
> *This definition includes two parts. The first is the use of deceit, which could involve providing false information, leaving out relevant information, changing records or not following proper procedure. The second is the gaining of advantage or the avoidance of an obligation, which could include gaining money, use of equipment, early payment, avoiding paying fees or taxes, or avoiding fulfilling a contractual requirement.*

signature, the Commonwealth wishes to alter the payment conditions to defer cashflow, the contractor would demand some *quid pro quo* to ensure that it is not out of pocket. If, however, Defence wishes to accelerate expenditure, the contractor will be quite willing to accept payment earlier. Several cases of prepayments were reviewed in the audit but generally the contractor did not provide any benefit to the Commonwealth (such as discounted prices) in exchange for early payment.

4.18 Likewise paying for materials in advance, a technique used frequently on the APIN Project, provides no benefit for the Commonwealth. The ANAO was told that these payments ensure that materials are available when they are needed. But, under a fixed-price contract, the contractor is paid to accept any risk associated with delivery of materials and also to accept the risk of late completion and the payment of the associated liquidated damages. Having paid the contractor to accept these risks, it is unnecessary to alleviate the risks by paying in advance for materials.

End-of-year payments

4.19 Expediting settlement of claims, or accelerating the payment of progress payments, are also techniques that do not have commercial validity. The Chief Executive’s Instructions provide for payments to be made 30 days after provision of the goods or services and submission of an invoice. Payments may be made in a shorter time period if a contract requires it. Defence advised that, because of the special needs of the building industry, all DEO contracts provide for payment within 14 days. In effect this is about 17 to 21 days after the end of the month by the time the supplier has submitted an invoice. Payment before it is due involves an opportunity cost in interest forgone. One million dollars paid a month early has an opportunity cost of around $5000 even when estimated conservatively.[20] If the payment of June accounts (which, under the 14 day provision, would normally be paid around the third week of July) is accelerated to the third week of June, as has been the case with some accounts examined during the audit, the opportunity cost becomes significant.

4.20 On the Russell Project, the monthly payment to the Managing Contractor for June is always made in June. In 1996 the May claim was submitted on 6 June and paid on 12 June but the claim for June was submitted on 18 June and paid on 25 June. The next claim was not submitted until 5 August. This pattern was repeated in each of the next

[20] Interest on $1 000 000 at six per cent pa amounts to $60 000 pa or $5000 a month.

two years, with the claim for June being submitted and paid in June. A fax from the Managing Contractor to five subcontractors on 2 June 1997 stated that:

> *Due to end of financial year constraints the June progress claim is to be submitted by 6 June…Claims are to be projected to the 30/6/97 …Remember to include all the associated documentation with claims. Particularly any off-site claim schedules with B/G [bank guarantees] for same where applicable.*

Clearly the payments were to be in respect of amounts not paid and were for the purpose of spending appropriations before they lapsed on 30 June 1997.

4.21 Acceleration of expenditure to ensure that appropriations are spent may meet the perceived needs of Defence but is to the disadvantage of the Commonwealth and the taxpayer. Accelerated expenditure has an opportunity cost equivalent to the Commonwealth's marginal cost of capital and should not be considered unless it has an equivalent benefit to the Commonwealth. This is the reason that the Chief Executive's Instructions are specific on the 30 day rule. The ANAO found evidence that Project Directors often follow the advice in the Handbook in advancing cash flow, ignoring the opportunity cost of making payments before they are necessary. Different techniques were used on the APIN and Russell Projects. Aside from paying June accounts in June, these techniques included prepayments on projects and the use of a commercial trust account[21] to accelerate payments on the Russell Project.

Prepayments

4.22 In 1996–97, 1997–98 and 1998–99 Defence's APIN Project Office approved payments in June for '*materials ordered but not delivered*' totalling $37 million. Defence Estate requested invoices for these amounts as part of a strategy to spend as much of their budget allocation as possible before parliamentary appropriations of funds lapsed on 30 June. Relevant payments noted by the ANAO are listed in Table 1.

4.23 The ANAO saw no evidence that the invoiced materials existed at the time they were paid for. The Project Cost Manager advised the ANAO that he did not validate the claims, because '*there was no risk to the Commonwealth as Bank Guarantees were provided.*'

[21] This trust account was established by the Managing Contractor at a bank in accordance with the conditions of the contract to ensure that payments made by the Commonwealth for subcontracted work could only be paid to the subcontractors and monies from the account could not be paid to the Managing Contractor.

Table 1

Prepayments for undelivered materials on the APIN Project

Year	*Package*	*$m*
1996–97	72 1 Combat Support Services Battalion	5.0
1997–98	76 Senior NCOs Mess Expansion	1.0
1997–98	79 5/7 Royal Aust Regt (Mech.)	3.0
1997–98	84 Logistics Facilities Stage 1	6.0
1997–98	85 Logistics Facilities Stage 2	3.0
1997–98	88 Other Ranks Accommodation Stage 2	9.0
1998–99	86 1 Combat Engineers Regt.	8.5
1998–99	90 Ovals, Church etc;	1.5

Source: Prepared by the ANAO from DEO records.

4.24 In one case, on an APIN accommodation project costing some $14 million, $3 million had already been paid in monthly progress amounts and a further $9 million (package 88 in Table 1) was paid in June 1998 for '*materials stored off-site*', leaving only $2 million to be paid for completion of the building. Information available to the ANAO indicates that a materials content of at least $9 million in a building costing $14 million would represent a disproportionately large amount of materials for such a building. Even assuming that the materials did exist, Defence had no obligation under the contract to pay for 'unfixed materials' and there is no indication that the $9 million payment provided the Commonwealth with any benefit. The Cost Manager informed the ANAO that Defence received a bank guarantee to secure the funds and indicated that this was a benefit to the Commonwealth (the Consultant Project Manager has since indicated that this belief was incorrect). The ANAO notes, however, that, if the money had not been paid, no security would have been necessary.

4.25 Evidence indicates that the 'prepayments' in Table 1 were initiated by Defence and approved by the APIN Project Control Group. They were made in accordance with the 'tips' provided in the Handbook. However, they appear to be contrary to the Chief Executive's Instructions and represent a significant cost to the Commonwealth. There is no evidence that the invoices against which these payments were made were based on fact and that the materials existed or were on order. Nor is there evidence that proper procedure was followed by verifying progress claimed on the invoices prior to payment. The Consultant Project Manager advised the ANAO that '*As part of DEO's strategy to maximise its expenditure for the financial year, it directed [the Consultant Project Manager] to arrange with certain contractors for pre-payments.*'

4.26 Prepayments were also used to accelerate end-of-year expenditure on the Russell Project. A letter from the Managing Contractor on 4 June 1997 to a contractor clarified an arrangement whereby the contractor would submit an invoice for June on 6 June 1997 for an amount of $2 089 833. If the value of executed works, forecast to the end of June, was less than that amount, the contractor was to supply bank guarantees for the difference. In the event the contractor claimed and received that amount, comprising $654 446 for work done and $1 435 387 covered by a bank guarantee for work yet to be done. Of the latter amount, the invoice indicated that $439 481 was for work to be done in October and $128 786 was for work scheduled in November. These amounts were, in effect, interest free loans to the contractor for five and six months respectively.

4.27 Defence advised that the particular payment made in response to the invoice of 6 June 1997 was made to the contractor to purchase fibre data cabling for Russell Building R2 from the US at a time when the exchange rate was moving quickly against the Australian dollar. ANAO analysis of $A / $US exchange rates in May and June 1997, however, does not support this comment about the exchange rate. If Defence was concerned to manage its exchange rate exposure effectively, it should have entered into a forward exchange hedge contract through the Reserve Bank of Australia to secure a lower financing cost rather than merely making an advance payment by which the Commonwealth lost the time value of money.[22]

Opportunity cost

4.28 There is an opportunity cost associated with making payments before they need to be paid and, of course, added risk. These advance payments could have been used to repay Commonwealth debt or alternatively to gain interest income for the Commonwealth. It is clear that these payments were to help DEO avoid having to report an underspending of its allocation of the Defence budget appropriations allocated to DEO. Payments made to contractors earlier than required are not in the Commonwealth's budgetary or contractual best interests. In the years in which these prepayments were made, Defence did not use any of the $150 million funds carryover facility available to it.[23] The reluctance to advise of an underspending, even with an adequate budget

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[22] The ANAO is currently conducting an audit on Commonwealth foreign exchange risk management practices which is expected to be tabled in the Winter 2000 Sittings.

[23] See Audit Report No.13 1999–2000 *Management of Major Equipment Acquisition Projects*, paragraphs 5.31 and 5.32.

carryover facility, indicates that barriers (real or imagined) among Defence's functional areas have precluded efficient funds management.[24] The supporting papers for the Defence Efficiency Review (1997) noted that '*use of a carryover would effectively constitute a demonstration that Defence was over-resourced.*'[25]

Interest-free loans to contractors

4.29 Prepayments of the kind reported above represent inefficient business practice as the money paid for materials did not have to be paid at that time. They become in effect interest-free loans to contractors until they have performed the work covered by the payments; in some cases this was a period of several months. Prepayments of that kind reflect poor cash management and are of doubtful legal authority. Internal review mechanisms did not detect these anomalies. As indicated above, there is a need to reinforce the Chief Executive Instructions against expending excess funds at the end of the year consistent with management's responsibility to promote efficient, effective and ethical use of Commonwealth resources.[26]

Recommendation No.4

4.30 The ANAO *recommends* that Defence reinforce the Chief Executive's Instructions against expending excess funds at the end of the year without commensurate advantage to the Commonwealth, by re-assessing budgetary incentives (internal and external) and clearly articulating better practice in this area so that Defence's staff fully understand their responsibility in acting in the Commonwealth's interest.

Defence response

4.31 Agreed.

[24] Such barriers are often referred to as 'stovepiping'.

[25] Department of Defence, *Future Directions for the Management of Australia's Defence, Addendum to the Report of the Defence Efficiency Review—Secretariat Papers*, 1997, p. 29.

[26] Section 44 of the *Financial Management and Accountability Act 1997* provides that a Chief Executive must manage the affairs of the Agency in a way that promotes efficient, effective and ethical use of the Commonwealth resources for which the Chief Executive is responsible.

Validation of invoices

4.32 In the cases reported above, the Consultant Project Manager on APIN and the Project Consultant on the Russell Project validated invoices without checking that the contractor had ordered or received the specified materials or that work had been done, despite the obligation under their respective contracts to do so. They relied instead on bank guarantees provided by the contractors for the amounts involved. Both companies certified that progress had been achieved although it was clear that it had not.

Performance assessment of DEO managers

4.33 During the audit DEO indicated that the prompt to spend annual budget allocations was formalised in senior officers' performance agreements. In the context of performance assessment, DEO expects its Branch Heads and Regional Managers to achieve their budget forecast (as adjusted through the additional estimates process) within a range of + or - 5 per cent.[27]

4.34 The ANAO considers that DEO's performance objective for its senior officers makes spending a measure of performance. As an objective this provides a contrary motivation to the objective of achieving cost-effective outcomes or improving efficiency. A DEO manager who achieves savings on a project may be more inclined to spend them on enhancing the product than to handing them back to a central area for use on projects of higher priority.

4.35 The ANAO's inquiries indicate that managers in other organisations are assessed on performance in achieving value for money within an agreed budget, not on performance in achieving budget spending estimates. The ANAO considers that DEO's performance objective for its managers is not consistent with efficient and effective use of Commonwealth resources. It would be timely for DEO to revise the way it assesses its managers' performance to reflect better practice and public-sector needs.

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[27] The Director-General Project Delivery, in DEO confirmed to the ANAO that expenditure achievement is a performance indicator of significance and that two of the five objectives on which his performance is assessed are to: *'deliver projects to meet time, cost and quality objectives to satisfy users' needs'* and *'meet annual program and expenditure targets'.*

Budget achievement

4.36 Consistent with performance assessment of DEO managers, the *Defence Annual Report 1998–99* states that a key performance indicator for DEO is '*Budget management and achievement, including program development (Green Book).'* In respect of this indicator, the report stated:

> ***Achievement as Forecast.*** *Expenditure to 30 June 1999 exceeded guidance by $10.1m, which represents an overspend of 1.3%. The majority of this overspend was associated with increased asset maintenance activities including expenditure on Operations Safe Haven to provide temporary accommodation for Kosovo nationals in military establishments.*[28]

4.37 For reasons indicated above, the ANAO considers it undesirable to regard achievement of budget forecasts as a key indicator of DEO's performance in achieving its main objectives. Defence responded that the ANAO had overstated the importance that Defence places on achieving budget expenditure as a measure of performance and that all efforts are made to achieve savings and to improve efficiency. Notwithstanding Defence's comment, the ANAO considers that it would be better if the indicator focused on achieving value for money within budget allocations.

Recommendation No.5

4.38 The ANAO *recommends* that DEO promote efficient and effective use of resources in the context of performance assessment of managers and key indicators for DEO by revising its criteria and indicators to focus on achieving value for money within an agreed budget and remove undue emphasis on achieving budget forecasts.

Defence response

4.39 Agreed.

Trust account for Russell Project

4.40 The Russell Project has a Managing Contractor to organise and pay subcontractors to do the construction work. Invoices are submitted by the Managing Contractor for its own work and for the work of subcontractors. Under the contract, the Defence's Project Office pays the money claimed for subcontract work into a commercial trust account at a bank, and the Managing Contractor pays the individual subcontractors from the trust account.

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[28] Department of Defence, *Defence Annual Report 1998–99*, p. 291

4.41 The process for paying subcontractors should be as follows. Each month the Managing Contractor submits a progress claim for work done by its subcontractors and consultants. The Project Consultant checks the work for quality and completeness and produces a certificate for payment to proceed. Defence then pays money into the trust account amounts due to the Managing Contractor for authorised subcontractor work performed in accordance with the scope and program. The Managing Contractor then makes payments from the trust account to its subcontractors and design consultants for the work done in the previous month. (Payments due to the Managing Contractor itself are made directly to the Managing Contractor by Defence, and not through the trust account.)

4.42 Under this system the balance of the trust account should fluctuate monthly. Money should be paid into the account to pay the previous month's invoices. As all work is required to be completed and certified before payment, money paid into the account should all be paid out again quickly to pay subcontractors' invoices.

4.43 The contract also requires that each statement submitted by the Managing Contractor for construction work should attach

> *'evidence satisfactory to the Project Consultant that all amount included in previous progress payments to the Managing Contractor in respect of the Consultants and the Subcontractors and then due for payment have been paid or otherwise discharged.'*

Accordingly, the Project Consultant, before accepting a statement by the Managing Contractor, should be satisfied that all money previously paid to the Managing Contractor to pay to subcontractors has been paid.

4.44 Each month the previous month's payment into the trust account is reconciled. This involves specifying those amounts that have been paid into the trust account and not yet paid out, as well as specifying amounts paid out of the account but for which no claim has yet been provided by the Managing Contractor.

'Special Doors' item in trust account

4.45 The account contains a reconciliation item, basically a balancing item, that was to be named Special Contractors but, by a transcription error, was named Special Doors. Special Doors is the difference between any particular monthly claim paid into the trust account and the total of all payments made plus any reconciliation items resulting from timing differences. For example, Claim 43, made in March 1999, was for $10 517 735. Cheques paid totalled $10 041 314, Prescribed Payments Tax paid was $55 381 and reconciliation items totalled $81 856, leaving $339 184 to be added to Special Doors.

4.46 The Special Doors amount has fluctuated throughout the course of the project but it reached its highest peaks in May and June each year.

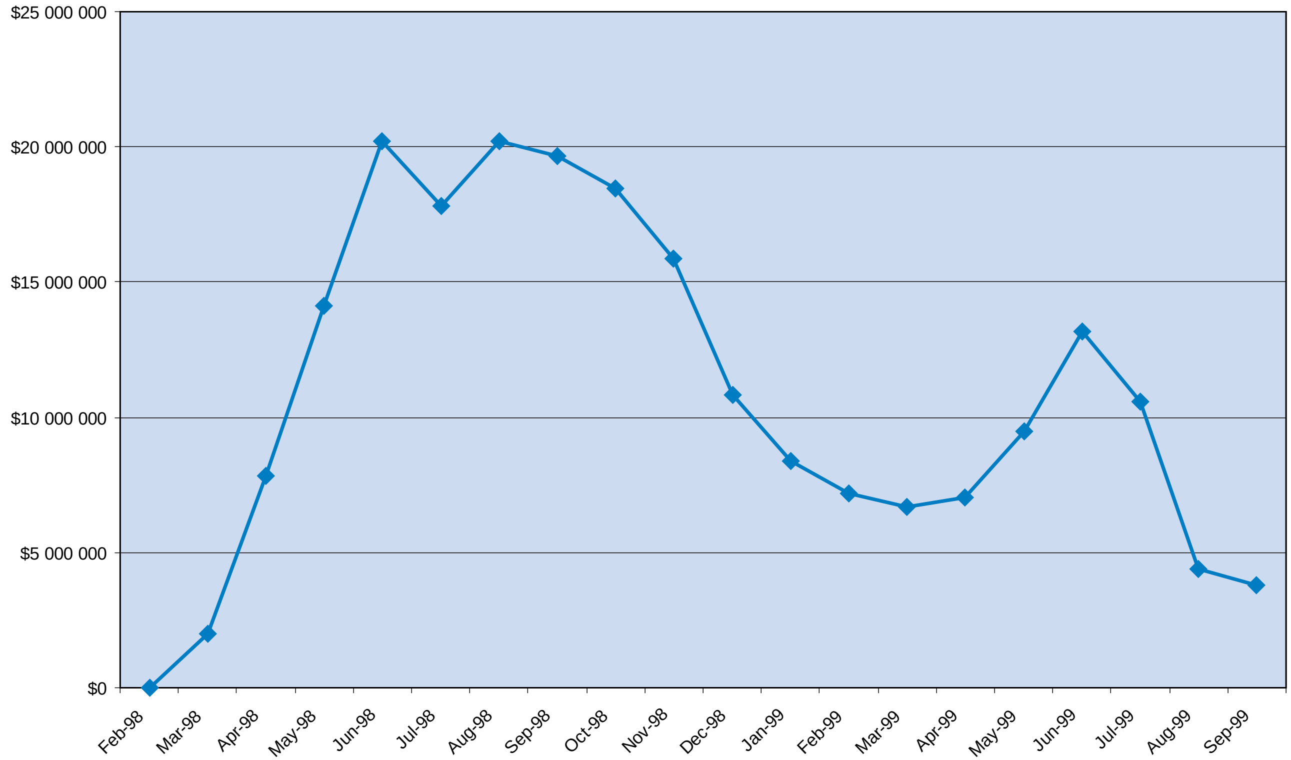
4.47 Any money paid by Defence into the trust account but not needed for payment to subcontractors in the next month was paid into the account unnecessarily. Occasionally there would be differences between the amount claimed by the Managing Contractor and the amount then paid by the Managing Contractor to subcontractors, but this is a risk for the Managing Contractor to manage. It appears that Defence has been over-funding the account; at the end of 1997–98 by as much as $20 million. The money in the account earns interest for the Managing Contractor but, had it remained in the Commonwealth's Consolidated Revenue Fund, it would have offset Commonwealth debt and interest. An agreement between the Managing Contractor and the Project Office provides that any interest earned on the Special Doors component of the account will be used to reduce the amount that Defence pays to the Managing Contractor.

4.48 The average balance of Special Doors in the account reconciliation from February 1998 to September 1999 was $10.9 million. As Figure 2 illustrates, the balance went from nil in February 1998 to peak at $20.2 million in June 1998. It then decreased until its next low point of $6.7 million in March 1999 before peaking again at $13.2 million in June 1999 and tailing off to $3.8 million in September 1999. The fluctuations in Special Doors indicate that it was used to transfer excess funds towards the end of the financial year so that the relevant appropriation would not lapse at that time. A letter from the Project Consultant to the Project Director on 14 May 1998 confirms this:

> *…[the Managing Contractor] will not achieve their projected cashflow target for the 97/98 financial year. We understand that Defence have used the [Managing Contractor's] projections and are seeking methods to achieve the target of $92.7m…*
>
> *The proposal is for advance payments to be made into the trust account. The accrued interest resulting for the advance payments will then be used to offset/ reduce pending [Managing Contractor] variation claims…*
>
> *The extent of the trust account advance payment is likely to be some $15m with the interest accrued being in the order of $400 000.*

Figure 2

Balance of 'Special Doors' in Russell Project Trust Account



Source: ANAO analysis

4.49 The Project Director agreed to this proposal. In the event the advance payments peaked at $20.2 million and the interest earned from the excess money deposited into the trust account was over $635 000. The advance payments were not consistent with good practice, for the reasons indicated above regarding other payments made unnecessarily early. There was also a danger that these funds, which were essentially Commonwealth funds awaiting use for Commonwealth purposes, may have been misapplied, or lost should the contractor have encountered financial difficulties. Application of the interest earned was also not consistent with good practice. Firstly, the interest was effectively treated as Defence income but was not brought to account as such or subject to Parliament's appropriation process. Defence in effect received $635 000 more in appropriations than necessary. Secondly, the interest should have been included as revenue in the Defence annual financial statements, and the value of the work recorded as an asset.[29]

Recommendation No.6

4.50 The ANAO *recommends* that Defence review its training program for personnel involved in the approval, certification and payment of accounts to ensure that all such personnel are aware of their responsibilities in the making of such payments and in the proper management of Commonwealth funds.

Defence response

4.51 Agreed.

Approval processes

4.52 Correct operation of required approval processes is an important adjunct to effective operation of administrative systems. There is some uncertainty in DEO with regard to the requirement to notify changes of work scope to the parliamentary Public Works Committee (PWC). The ANAO also considers that the scrutiny of proposed contract variations before approval was not as diligent as it could be.

Public Works Committee

4.53 The *Public Works Committee Act 1969* requires that all public works for the Commonwealth which are estimated to cost more than $6 million be referred to the PWC by Parliament or the Government.

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29 In its response to the proposed report of this audit, Defence stated that '*action has been taken to reduce the Russell funding allocation by an amount equal to the interest earned.*'

4.54 The Act requires the PWC to report to the Parliament as expeditiously as practicable on:

- the stated purpose of the proposed work and its suitability for that purpose;
- the need for the work;
- the cost-effectiveness of the proposal;
- the amount of revenue it will produce if the work is revenue producing; and
- the current and prospective value of the work.

4.55 The PWC, in effect, approves the work and a project can not commence until it has been 'passed' by the PWC and its recommendations accepted by the Parliament. In some cases this process has taken a significant period of time.

4.56 The ANAO found that the level of detail submitted to the PWC has varied between projects. Depending on the delivery method chosen, the development of the design can be at different stages when submitted for PWC scrutiny. Sufficient preliminary work is to be done to develop a reasonable project budget before seeking PWC endorsement. The PWC process effectively locks in the project out-turn cost.

Budget proposals

4.57 In the case of APIN, the project budget was developed by Australian Construction Services[30] and may have overestimated the cost of developing the facility. In the Russell Redevelopment, however, a tight budget was developed with limited scope for change. Funding for additional requirements, such as CRISP (Defence's Canberra-region IT system project), was not included in the project budget and had to be provided from other Programs within Defence. Although incorporated into the capital works, CRISP is not capital works itself and hence was not part of the PWC process.

4.58 When the PWC 'passed' the proposed Russell Redevelopment Project, it was to consist of construction of three new buildings (54 000m^2 of new office accommodation) and a multi-storey carpark, refurbishment of four buildings (30 000m^2) and demolition of eight buildings at a out-turn cost of $225 million (1999 costs). The design concept was modified to the construction of two new buildings (still at a total of 54 000m^2 of office accommodation) and no multi-storey carpark. The project out-turn cost did not change. It is unclear whether the PWC was notified of these

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30 Part of the former Department of Administrative Services.

changes. Defence advised the ANAO that, as the revised solution did not alter the scope of the project or vary the project cost, it was not considered necessary to seek endorsement formally by the PWC.

Changes of scope

4.59 Defence guidance on its relationship with the PWC explains how to develop project submissions. Comments in documents such as the Project Directors' Directive refer to the need to notify the PWC of changes in scope, but give no guidance on the extent of scope change that requires such notification.

4.60 The ANAO considers that Defence should seek clarification and clearly specify all PWC requirements so that Project Teams are fully aware of, and can comply with, the PWC's requirements.

Recommendation No.7

4.61 The ANAO *recommends* that DEO include in the forthcoming Defence Estate Management Guide clear appropriate guidance to Project Directors on project scope changes that should be notified to the Public Works Committee.

Defence response

4.62 Agreed.

Contract variations

4.63 Contract variations occur when contract documentation is incomplete when a contract is signed, or when changes in user requirements result in project scope changes. The APIN Project Manager contracts for both Stage 1 and 2 were subject to a significant number of variations during the course of the Project. The ANAO considers that DEO's scrutiny of the variation proposals submitted by the Consultant Project Manager was not always sufficient to protect the Commonwealth's interest.

4.64 As at August 1999 there were 47 variations to the Stage 1 Project Management Contract, which increased the contract value by approximately 33 per cent over the initial value. Some of these variations relate to work that was mentioned in the broad original requirements. Actual determination of what was expected under the contract is difficult, especially as only broad planning information was available at the time of going to tender.

Approval of variation estimates

4.65 Under the APIN Project Manager contract the contractor submits quotes for variations that Defence can either accept or reject. The support for variations that Defence has accepted tends to be variable. In a methodology agreed in 1994, a change in project scope that results in an increase in overall project cost increases the project management fee *pro rata*. Thus, a 10 per cent increase in the project cost results in a 10 per cent increase in the project management fee. Other variations contained an estimate based on hourly rates plus an escalation factor.[31]

4.66 On occasion, the rates on which these quotes were based were not as agreed in the contract but the Project Team did not query this discrepancy. A more significant issue is that the rates were used to legitimise the Consultant Project Manager's cost variations when those rates were not necessarily the only rates that could have been appropriate. Estimates were put forward for variations that related solely to the work in the Stage 2 contract but which used the higher Stage 1 variation rate. Acceptance of variations based on these incorrectly quoted rates may have cost the Commonwealth as much as $100 000. When the ANAO advised Defence of these discrepancies it instituted a review of the contract variations.

Management of variations

4.67 No evidence was available to indicate that Defence tracked variations of APIN Project Manager Contracts. Most, but not all, variations were kept on file but there is no overall 'snap-shot' of all variations. Maintaining an ongoing overall picture of all variations would help to identify any 'suspect' variation proposals (for example, inadvertent double counting of work previously claimed) before approval. The ANAO noted that multiple claims for connected tasks did occur.

4.68 There was a period of approximately three years when both APIN Project Manager Contracts overlapped. Defence needed to be diligent in this period to ensure that work was allocated to the correct contract, and only once, and that the appropriate rates were used. As noted above, this did not always happen.

4.69 Overall, Defence's control over variations and scrutiny of variation estimates on the APIN Project leave significant room for improvement. Implementation of Recommendation No.6 of this report would help prevent control breakdowns in this area of contract administration.

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31 The only mention of escalation in the contract concerns the Consultant Project Manager's total fee, which is to be escalated using the Darwin Consumer Price Index. Nowhere else in the contract, or associated correspondence, is there mention of escalation.

Liquidated damages

4.70 The contracts for APIN provide that a contractor who fails to complete the works by the agreed date for Practical Completion is liable to pay a specified amount to the Principal (the Commonwealth) as liquidated damages.[32] Liquidated Damages is a standard clause in the Defence suite of contracts used in the construction of facilities.

4.71 On three of the APIN work packages reviewed by the ANAO, the Consultant Project Manager recommended that Defence claim liquidated damages from the contractor, as Practical Completion was not achieved by the specified date. At the time of audit, however, DEO had not claimed liquidated damages from the contractors. The ANAO understands that DEO rarely claims liquidated damages, and gave various reasons for this: it did not wish to set a precedent; did not want to damage the working relationship with the contractors; and could not prove that it incurred costs as a result of the delayed completion.[33]

4.72 The object of inserting a liquidated damages clause is to

> *'prevent a breach of contract, secure punctual performance of a contract, facilitate an assessment or measurement of damages and enable them to be predicted, instead of leaving their assessment to a court or arbitrator.'*[34]

4.73 By not claiming liquidated damages due, DEO assumes more of the risk of delay than was agreed in the contract. It also effectively subsidises a contractor who factored into the contract price an amount to cover the risk of late completion. In these circumstances, the contract price might well have been negotiated for less than was agreed.

4.74 Moreover, because of DEO's reluctance to claim these amounts, a contractor with a Defence contract and a private-sector contract that both provide for liquidated damages may decide on commercial grounds, in utilising scarce resources, to give priority to the private-sector project because of the greater likelihood that liquidated damages will be claimed.[35]

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32 Liquidated damages are an amount agreed in a contract as representing the cost that the principal would incur if the contractor does not meet specified contract requirements. The contractor is liable to pay the amount if the requirements are not met.

33 Liquidated damages must be a genuine pre-estimate of the cost that the principal would incur if the contractor does not meet contract requirements.

34 Roger J. Kemelfield, *Law for Architects, Builders & Engineers*, Butterworths, 1983, p.160.

35 In response Defence said that DEO does not automatically claim liquidated damages. The ANAO notes, however, that DEO's practice, after considering individual cases, is not to claim liquidated damages. The ANAO is aware of only one claim by DEO—against Australian Construction Services, part of the former Department of Administrative Services, in 1993.

4.75 The ANAO appreciates that instances of delayed completion need to be considered case by case to see whether there are extenuating circumstances that make it inappropriate to claim liquidated damages. Accordingly it may be desirable to change the standard clause on liquidated damages to make claims discretionary. At present, however, the standard clause makes the amount of liquidated damages a debt due to Commonwealth once delay has occurred. (To waive the Commonwealth's right to a payment of an amount owing to the Commonwealth requires approval under the FMA Act.[36]) These legal and management issues need to be reviewed and formulated into a policy regarding liquidated damages and guidance/instructions provided to staff.

Recommendation No.8

4.76 The ANAO *recommends* that DEO review and clarify its practices regarding liquidated damages and formalise them into a policy that takes account of the legal and management issues involved.

Defence response

4.77 Agreed.

Conclusion

4.78 Financial management should be improved. The audit disclosed significant breakdowns in internal control over payment of Commonwealth funds. DEO used a variety of methods to accelerate expenditure to ensure that spending targets are met, even when such early expenditure was not in the Commonwealth's interest. Its purpose has been to circumvent the lapsing of departmental budgetary allocations and parliamentary appropriations before they lapsed at 30 June. This is contrary to the Chief Executive's Instructions. Financial management reforms since the late 1980s have sought to provide the right incentives for departments to act in the Commonwealth's interest and to strongly discourage accelerated expenditure of this kind without any apparent Commonwealth benefit.

4.79 On the APIN Project, $37 million was paid to contractors as prepayments for materials that were neither listed in invoices nor verified before payment. This was part of the strategy to expend funds before

[36] The relevant contract clause (35.7) provides that the amount of liquidated damages shall be a debt due from the Contractor to the Principal [the Commonwealth]. Section 34 of the *Financial Management and Accountability Act 1997* provides that the Finance Minister (or delegate) may waive the Commonwealth's right to payment of an amount owing to the Commonwealth.

relevant appropriations lapsed. Similarly, on the Russell Project, the commercial trust account used as a means of paying subcontractors was also used as a way of retaining $20 million before appropriations lapsed. Interest from the trust account was used to offset amounts due on the project but was not subject to normal appropriation, scrutiny, accounting or financial reporting procedures applicable to public moneys.

An accommodation block at Robertson Barracks

4.80 In relation to contract management, Defence's scrutiny of contract variation estimates submitted by the Consultant Project Manager on the APIN Project may have allowed the contractor to claim more than was justifiable. Defence has reviewed the approved variations and noted that five would be examined further and, where appropriate, remedial action would be taken.

4.81 DEO's practice is not to claim liquidated damages from contractors for delay in completing work. Legal and management issues that arise from this practice need to be reviewed and formulated into a policy on liquidated damages.

Canberra ACT
4 April 2000

P. J. Barrett
Auditor-General

Appendices

Appendix 1

Project delivery case studies

This Appendix describes the projects that the ANAO examined in the course of the audit.

Facilities for the increased Army Presence in the North

Background

A1. The Army Presence in the North (APIN) facility construction projects resulted from a decision by the then Government in its policy statement *Defence of Australia 1987* to undertake a study into the possible relocation of an Army brigade to northern Australia. At this time, it had already been decided that 2nd Cavalry Regiment was to relocate to Darwin by the end of 1992.

A2. By 1990 it had been decided that there was a need for a substantially increased Army presence in northern Australia to meet strategic requirements and Government objectives.

A3. The *Force Structure Review* (1991) stated that:

> *..more regular [Army] units will be based in the north. In addition to 2 Cavalry Regiment (to be deployed in 1993), an armoured regiment with one regular tank squadron, logistic support elements, and an aviation squadron will be moved to Darwin in 1995, to be followed by an infantry battalion in 1998.*[37]

A4. Army developed a three-phase implementation plan in 1994 to achieve the increased presence:

Phase 1—Initial Presence (1992–1993)

- 2nd Cavalry Regiment;
- a tank troop group (collocated with 2nd Cavalry Regiment); and
- enhancement of 7 Logistics Company.

[37] *Force Structure Review*—Report to the Minister for Defence, May 1991 paragraph 2.62.

Phase 2—Interim Presence (1994–1997)

- an armoured regiment (1 Armoured Regiment);
- an aviation squadron (161 Reconnaissance Squadron);
- a brigade HQ (HQ 1 Brigade);
- a signals squadron (104 Signals Squadron);
- enhancement of 2 Cavalry Regiment;
- a military geographic information unit (MGIU); and
- further enhancement of 7 Logistics Company elements (which are to be amalgamated into 1 BASB).

Phase 3—Enhanced Presence (1998–2001)

- a combat engineer regiment (1 CER);
- a mechanised infantry battalion (5/7 RAR);
- a medium artillery battery (103 Mdm Bty); and
- further enhancement of 7 Log Coy, to the status of a brigade administrative support (1 BASB).

A5. Facilities for Phase 1, the Initial Presence, were approved by the parliamentary Standing Committee of Public Works (PWC) in May 1989 and were completed in December 1992 at an out-turn cost of $64.089 million.

A6. The provision of facilities for Phase 2, the Interim Presence (referred to as APIN Stage 1), was approved by the PWC in November 1992 with an estimated out-turn project cost of $199.74 million. APIN Stage 1 was to provide facilities for the units locating to Darwin over the period 1993 to 1997.

A7. The provision of facilities for Phase 3, the Enhanced Presence (referred to as APIN Stage 2), was recommended for consideration by the PWC in December 1994. Approval was granted for the construction of facilities with an estimated out-turn project cost of $264 million in June 1995.

A8. For both APIN Stages 1 and 2 the construction program was dictated by the APIN Movement Plan timetable. Changes to this strategic document could have significant flow-on effects to the construction program and ultimately the delivery of the facilities. The project delivery systems used for the construction of facilities within APIN were required to be flexible enough to accommodate changes in the Movement Plan.

A9. The performance audit of Defence Estate Project Delivery reviewed APIN Stages 1 and 2 as a case study to gain an understanding of the way a large major project, spanning change and reorganisation within Defence, the wider Australian Public Service and also the construction industry, is managed and delivered.[38]

Delivery methodology

A10. APIN Stages 1 and 2 were delivered using the Defence standard contract suite developed in September 1992 by the former Facilities and Property Division (predecessor of Defence Estate Organisation). A Facility Acquisition Strategy was prepared for each Stage of APIN and included an analysis of the perceived risks of the project. From this analysis the Project Management delivery system was selected in both Stages with each project being broken down into its component elements. The delivery method allowed for the management of the contract packages and provided the flexibility required to manage changes in the APIN Movement Plan, budget and timeframes.

A11. The individual elements within APIN utilised various forms of delivery; however, the use of Design and Construct contracts and Document and Construct contracts were selected more often than Head Contractor contracts. The Design and Construct form shifts design risk to the Contractor and can result in a shorter delivery period while the Document and Construct contracts enables Defence to have closer control over and input into the initial design process. The Head Contractor arrangement provides greatest control of the design process.

Defence Management Team

A12. APIN has been managed using a similar mechanism for each Stage. A small Army Project Team (outposted from the former Facilities and Property Division) was originally set up in Darwin to administer APIN Stage 1. This situation continued for Stage 2. Canberra-based project staff worked closely with the Project Team in Darwin, particularly in the development of Work Packages to the Functional Design Brief stage. The Project Director for APIN is based in Canberra.

A13. The Project Team manages and supports the Consultant Project Manager and coordinates actions between involved parties such as Army's Land Command, and 1 Brigade end-user units. The Project Team also provides and administers site-office accommodation and associated services.

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[38] Audit Report No.27 1996–97 *Army Presence in the North* focused on Army's management of the move of 1st Brigade to Darwin, as distinct from construction of facilities.

A14. The Project Team is controlled by, and reports regularly to, a Project Control Group (PCG). The PCG rather than the Army Project Team controls the Project Manager. The PCG consists of the following positions:

- Director General Project Delivery (Chairman);
- Assistant Secretary Resource and Planning;
- APIN Project Director;
- Manager Defence Corporate Support Northern Territory/Kimberley area;
- SO1 Facilities and Training Areas;
- Liaison Officer 1 Brigade;
- Site Project Officer;
- Consultant Project Manager; and
- Invited attendees (including but not limited to the Regional Estate Manager, representation from Force Development (Land), Director of Plans—Army and Functional Commands) as required.

A15. The structure for the management of the APIN project is shown in Figure A1.

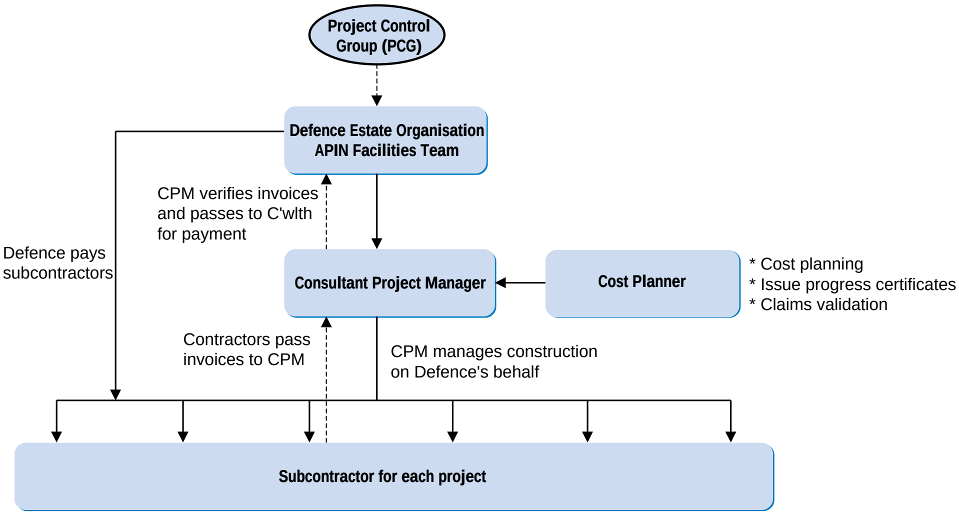
Budget

A16. The PWC approved budget for APIN Stage 1 arose from the estimated total cost of the proposed scope of works, $173.95 million at February 1992 prices, escalated to an out-turn cost of $199.74 million. The 1992 price was provided by the preliminary design estimate developed by Australian Construction Services (ACS).

A17. ACS also developed the APIN Stage 2 PWC approved budget and scope of works. The approved out-turn cost for Stage 2 was $264 million. The incumbent Stage 1 Project Manager developed APIN Stage 2 Master Programming and cash flow modelling which was included in the evidence submitted to PWC.

A18. The PWC approved out-turn costs define the amount of money that will be allocated to a project. Variations to this value and major changes in scope of works (from those provided in the PWC evidence) require further approval from the PWC. PWC were not notified of minor project scope changes in APIN where additional funding was not required to be allocated above the budgeted amount already advised to it. PWC were not advised of any reductions in scope.

Figure A1
Management Structure for the APIN Project



Source: ANAO analysis

A19. The details supplied in the PWC evidence on the proposed scope of work for both Stages are quite broad. Cost estimates only are provided. Detailed cost breakdowns are not available for each work package as limited design work had been undertaken and user requirements were not finalised.[39] The PWC is provided with a Confidential Estimate which details the broad estimate for each major component of a project, as well as management, design acquisition and contingency costs. This breakdown is not a public document. The PWC Report and the subsequent Motion identify the total cost of the project and both documents are available to the public. This process is common to all PWC hearings.

Russell Hill Redevelopment Project

Background

A20. Australian Estate Management (AEM) (an agency of the former Department of Administrative Services) initiated the Russell Hill Redevelopment Project (Russell Project) in response to the need to provide Defence with refurbished and new office accommodation at the Defence site at Russell ACT. Many of the old buildings at Russell had significant occupational health and safety deficiencies and did not meet requirements in the Building Code of Australia. On 1 July 1994 the management

[39] Costing details of APIN Stage 2 were submitted to the PWC in confidence and are not publicly available.

(nominal ownership) of Russell Offices was transferred from AEM to the Department of Defence at a value of $52 million (excluded from the Russell Project budget).

A21. Defence commissioned a study in 1993 to identify its office accommodation requirements in the ACT in 2000 and beyond. The results of this study were incorporated in the development proposal of the Russell Project. The Project's objectives were to replace or upgrade sub-standard facilities, reduce the amount of leased accommodation required and improve organisational efficiencies through the collocation of functions.

A22. The Russell Project used the Managing Contractor delivery method to meet current and forecast requirements for modern and functional office space in the order of 84 000m^2 of useable office space. The need was identified to demolish eight of the older buildings, refurbish four existing buildings and to provide 54 000m^2 of new office space at Russell. Construction of roads and car parks was also included in the PWC approved estimated out-turn cost of $205.3 million in 1994 ($225 million in 1999 prices).

A23. The official 'first sod' ceremony was held on 20 September 1995. In his address on that occasion the then Minister for Defence spoke about the original three-building solution that was detailed in the PWC evidence. He mentioned that the Project had a cost ceiling of $225 million and that the Project would provide employment for the local construction industry until late in 2001.

Design philosophy

A24. The initial design approach detailed in the PWC evidence referred to the construction of three new buildings and a multi-storey car park. These buildings were to accommodate 4250 staff at Russell (excluding Defence Signals Directorate), with the remaining staff to be accommodated nearby at Anzac Park West and Campbell Park Offices. The initial design and construction program was to commence in February 1995 and finish in December 2000**.** Project commencement was delayed by six months because of amendments of the National Capital Plan (Amendment No.12).

A25. The Project was funded to provide cost-effective buildings and fit-out at Russell to commercial standards. No funding was identified for refurbishment and fit-out for the retained leased premises.

A26. The design was reviewed after appointment of the design and construction team in October 1995 and a two-building solution was proposed. This solution, approved by the Secretary of the Department of Defence and the Chief of the Defence Force in December that year, allowed for collocation of Defence's Executive in proposed Russell Building R1. It also provided a more productive use of building space to support Defence objectives, work processes and communication requirements. The two-building solution was to provide approximately the same amount of new office space (54 000m^2) as approved by PWC. The construction program was 15 months shorter than the original program.

A27. The better use of space in the revised solution enabled 420 additional staff to be accommodated in the Russell complex. This increase in capacity avoids the requirement to lease Anzac Park West and allows Defence to reduce its leasing costs by approximately $3 million per year.

A28. In mid-1996 the Project Director, design team members (Architect and Engineer) and the construction Project Manager visited the United Kingdom to research latest developments in the construction of Intelligent Buildings and to consider their relevance to the Russell Redevelopment Project.

Delivery methodology

A29. The Project is being delivered using the Management Contractor delivery system. Russell Redevelopment is referred to as a 'turn key' Project, covering the design, construction and fit-out of buildings and also the relocation of staff to their new office accommodation with computer terminals and associated network requirements.

A30. The Managing Contractor manages the design, construction, cost, programming, and industrial matters, maximising the potential for the private sector to add value. For this the Managing Contractor is paid:

- a management fee for profit and overheads;
- a lump sum fee to cover preliminary site costs; and
- a percentage of the design costs.

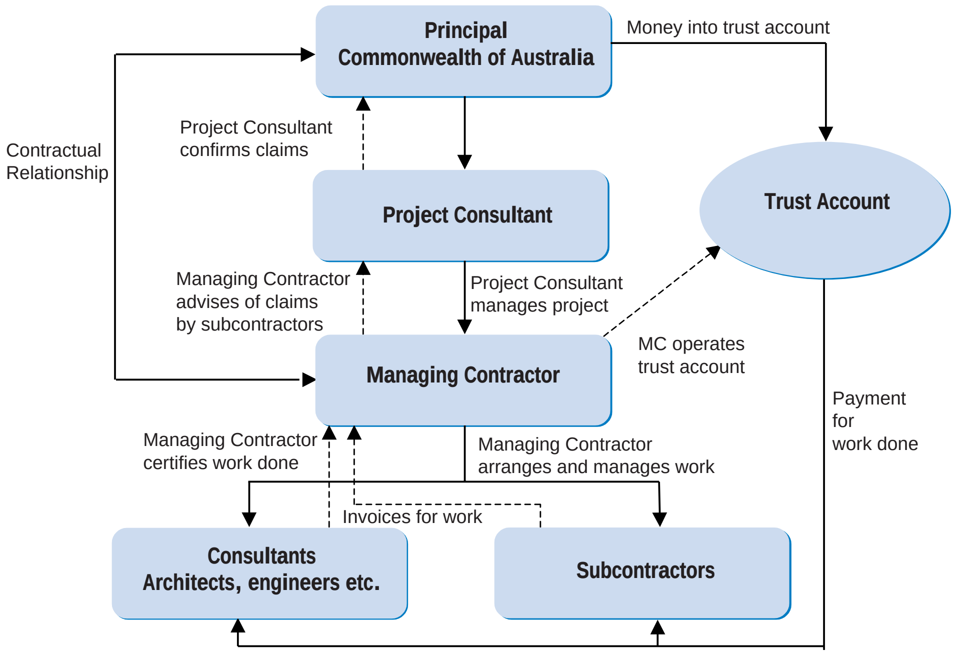
A31. A commercial trust account, administered by the Managing Contractor, was established for payment of design consultants and subcontractors.

A32. Defence also utilises the expertise of a Project Consultant to provide technical expertise on the job. The Project Consultant was contracted to produce and administer the master cost-plan and program, and to manage the Managing Contractor on behalf of Defence.

A33. The structure of the Managing Contractor delivery method is illustrated in Figure A2.

Figure A2

Structure of the Managing Contractor arrangement on the Russell Project



Source: ANAO analysis

Defence Management Team

A34. The size of the Defence team has varied through the duration of the Project according to workload requirements. In addition to the Project Director there have been up to three staff working on construction issues and two focusing on user requirements.

A35. Due to the nature, size and duration of the Project, the Defence Project Team has been collocated with both the Managing Contractor and the Project Consultant. This has resulted in clear communication channels that have assisted the team approach needed for this delivery method.

A36. The Defence members tasked with defining user requirements and ensuring they were met have performed a significant role, particularly in view of changes to Defence arising from the Defence Reform Program initiated in 1997.

A37. The Defence team's achievement in delivering the Project within the tight budget was commendable, particularly in the changing Defence environment that required facilities sufficiently flexible in floor plan to accommodate structural changes.

Financial management

A38. The Managing Contractor is responsible for providing the Project Consultant with an up-to-date Project cost plan. This is contained in monthly reports submitted to the Project Consultant and Defence. The Project had to be contained in the out-turn budget provision. There was to be no additional funding for the shortfall for IT communications cabling, any increased fit-out costs or for any deficiencies in the original budget.

A39. The monthly fees of the Managing Contractor and the Project Consultant were agreed on appointment to the Project. These fees are adjusted from time to time as agreed by variation orders. Monthly payments also vary according to the amount of disbursements claimed as defined under the contract. Defence issues cheques directly to the claimant.

A40. Payment arrangements for design consultants and subcontractors are unique to the Managing Contractor form of delivery and are discussed in Chapter 4.

Williamtown projects

A41. As both APIN and Russell Projects had started some time ago, prior to the inception of DEO in July 1997, the ANAO decided to review the methodology of some projects at RAAF Base Williamtown that started after that time. This was to see how they had been developed and were being delivered and to gain an understanding of the present project delivery process. The projects selected, one smaller major project and two medium projects, were the Eastern Region Operations Centre (EASTROC), the Lead-in Fighter Facilities and Accommodation Amenities (Carpark and Storage Sheds for the on-base accommodation).

EASTROC

A42. This project entails the construction of a new Eastern Region Operations Centre (EASTROC) facility that will provide modern accommodation for local air defence operations as an integral part of the National Air Defence and Air Space Control Systems.

Scope of Works

A43. The proposed facility will accommodate Headquarters Air Defence, Wide Area Surveillance data correlation, redundant sector level operations and Air Defence Ground Environment training. The estimated out-turn cost of the project is $18 million.

A44. The new facility is to meet the technical and accommodation requirements of No.41 Wing Squadron and No.3 Control and Reporting Unit while keeping existing facilities in operation during the construction period. The proposal will provide administrative, operational, technical and training accommodation for the two units, which will have a combined strength of 170 personnel. In broad terms, the functional requirements for EASTROC include, command and control; administrative support; control and reporting operations; software development; personnel training; equipment maintenance; and supply and storage.

Management of project

A45. The approved Facilities Acquisition Strategy, dated February 1997, recommended the Head Contract delivery method as the best approach for managing the risks associated with the project.

A46. An abbreviated two-stage tender assessment process was required to be undertaken for the appointment of a Project Consultant, as the estimated value of the consultancy was in excess of $50 000. Three companies on the Project Services Consultancy Panel were shortlisted and subsequently invited to submit proposals for this role. The successful company was awarded this contract in March 1998.

A47. A quantity surveying company has been employed on the EASTROC project as cost control auditors for DEO, providing advice on cost issues for project and independent variation review should the Project Manager/Contracts Administrator (PM/CA) and Construction Contractor negotiations stagnate.

A48. A two-stage tender process was undertaken for the appointment of the Head Contractor. Tenders were called for the construction contract after Parliamentary endorsement of the project was obtained on 12 November 1998. The contract was awarded in April 1999.

A49. Construction was to commence in August 1998 but was delayed due to the increased time involved in gaining endorsement through the parliamentary Public Works Committee. (Parliamentary proceedings are often delayed in a year of general elections.) Construction began in April 1999. Monthly site meetings are held with all relevant parties invited.

Lead-in Fighter Facilities

A50. This facilities project resulted from Defence Acquisition Organisation (DAO) Project AIR 5376 (Lead-in-Fighter), which provides for acquisition of Hawk 127 aircraft to replace the Macchi aircraft in the Lead-in Fighter role. Introduction of the new aircraft requires a range of improvements to existing facilities at RAAF Base Williamtown.

A51. Within the New Facilities Proposal a risk analysis was undertaken, detailing three risks to the proposal: accuracy of estimate; cost escalation; and disruption to operations. It was stated that

> *'indicative estimates can only be considered to be within an order of accuracy of about plus or minus 15%. Until such time as Functional Design Briefs, sketch plans, and site investigations are undertaken, all part of the design and documentation phase of the project, a more accurate estimate cannot be provided. Nevertheless, the contingency provision indicated [10%] should allow sufficient flexibility.'*[40]

Scope of Work

A52. The project is for construction of new, and refurbishment of existing, facilities at RAAF Base Williamtown to accommodate the new Lead-in Fighter. The new construction will provide specialist training rooms, additional aircraft hangars, increased aircraft taxi pavement and a pop-up fire suppression system in the aircraft maintenance hangar. The aircraft maintenance hanger is also to be refurbished to provide improved amenities for the hangar staff. At the time of tender (June 1999) the Draft Green Book funding provision for the Lead-in Fighter project was $5.5 million.

A53. In addition, an extension was made to the existing building accommodating the Approach Control Section. This work relates to replacement of approach control equipment under Project Air 5186—Australian Defence Air Traffic System. The Approach Control Section facility was a variation to the original proposal with a separate Green Book funding allocation in the order of $0.55 million.

A54. A Cost Estimate Report (by a separate quantity surveying company) provided by the Project Manager came in at $5.14 million, considerably greater than the estimated out-turn cost in the New Facilities Proposal and Facilities Acquisition Strategy of $3.7 million.

Funding issues

A55. Defence funding for this project is sourced from both the DEO Green Book and the DAO White Book. Agreement on the amount of funds to be transferred from the White Book to the Green Book has been an extensive process, particularly as the DAO component of work is to cost significantly more than expected. Due to pressures on Green Book funding, DEO at July 1999 was unable to proceed with the Lead-in Fighter facilities at RAAF Base Williamtown until DAO funding in excess of $4 million was available.

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[40] New Facilities Proposal: Facilities at RAAF Base Williamtown for the Lead-in Fighter paragraph 70.a, p. 14.

Management of project

A56. The project is being delivered using the Head Contract delivery system, using a two-stage tender process for the engagement of the Design Consultant and Construction Contractor based on best value for money and utilising the Medium Works Standard Contract. The Project Manager was engaged from the pre-qualified panel of consultants using a limited tender process.

A57. The Defence team is based in Canberra with appropriate representatives attending the site on a regular basis. A Project Control Group was not established for this project.

A58. The consultant Project Manager is to certify all claims before Defence processes them. The Defence Project Team monitors project expenditure, with regular updates recorded on file. Project completion is expected in April 2000.

Accommodation amenities

A59. Mr Bob Baldwin MP made representations to the then Minister for Science and Personnel in October 1997 on behalf of 115 personnel accommodated in single living-in accommodation at RAAF Base Williamtown. Particular issues raised related to aircraft noise levels, the size of individual rooms, inadequate personal storage and a lack of undercover vehicle parking facilities. There were no short term solutions to the problems of noise and room size, but the Minister directed Defence to investigate the cost and feasibility of providing undercover car parking with integral lock-up storage at RAAF Williamtown.

A60. The Head of Defence Estate Organisation approved the New Facilities Proposal for the provision of undercover car parking with integral storage on 19 May 1998.

Scope of works

A61. The scope of works for this project was to provide 124 carport/ shelters and an additional 101 attached shelters to existing carports within a project budget of $0.675 million.

Management of project

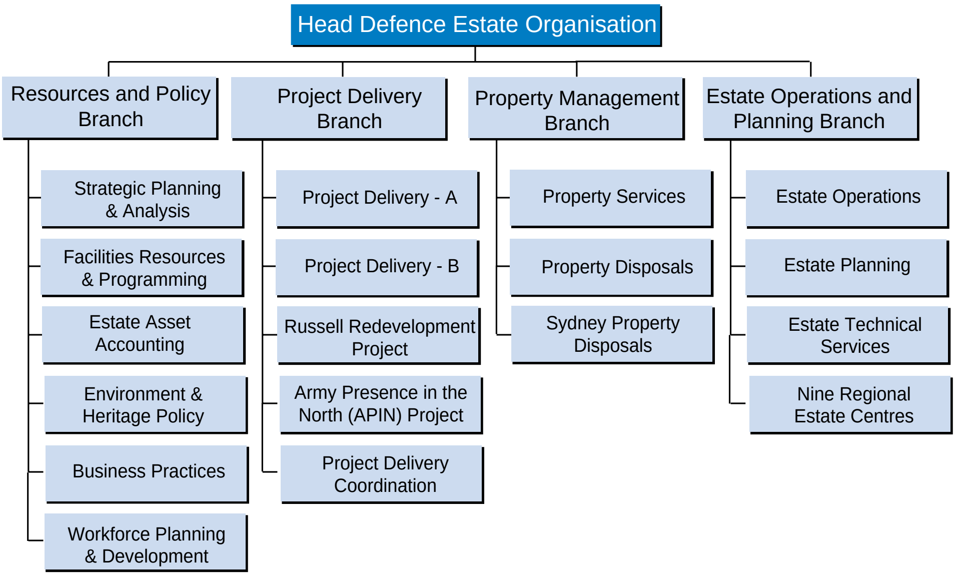
A62. The project utilised the expertise of a consultant Project Manager/ Contracts Administrator (PM/CA) from the DEO Project Services Consultancy Panel to manage the project. As the consultancy fees were expected to be less than $50 000, the PM/CA was engaged using a single select basis. The use of the Design and Construct delivery system was proposed, using the Medium Works Form of Contract.

A63. 132 units were provided. These units consisted of a carport and attached storage room, with an electrical power outlet and lighting. Once the PM/CA was appointed, a cost estimate was sought from a quantity surveyor using the completed user Functional Design Brief as a basis for the price. The resulting cost was significantly higher than the approved project budget. Subsequently the scope of work was significantly amended to remain within the budget.

A64. The scope of work was further amended during construction due to a lack of demand for further carports/storage facilities by the personnel living on-base.

Appendix 2

Defence Estate Organisation



Appendix 3

Performance audits in Defence

Set out below are the titles of the ANAO's previous performance audit reports on the Department of Defence and the Australian Defence Force (ADF) tabled in the Parliament in the last five years.

Audit Report No.2 1994–95
Management of Army Training Areas Acquisition of F–111 Aircraft

Audit Report No.13 1994–95
ADF Housing Assistance

Audit Report No.25 1994–95
ADF Living-in Accommodation

Audit Report No.29 1994–95
Energy Management in Defence ANZAC Ship Project Contract Amendments Overseas Visits by Defence Officers

Audit Report No.31 1994–95
Defence Contracting

Audit Report No.8 1995–96
Explosive Ordnance (follow-up audit)

Audit Report No.11 1995–96
Management Audit

Audit Report No.17 1995–96
Management of ADF Preparedness

Audit Report No.26 1995–96
Defence Export Facilitation and Control

Audit Report No.28 1995–96
Jindalee Operational Radar Network [JORN] Project

Audit Report No.31 1995–96
Environmental Management of Commonwealth Land

Audit Report No.15 1996–97
Food Provisioning in the ADF

Audit Report No.17 1996–97
Workforce Planning in the ADF

Audit Report No.27 1996–97
Army Presence in the North

Audit Report No.34 1996–97
ADF Health Services

Audit Report No.5 1997–98
Performance Management of Defence Inventory

Audit Report No.34 1997–98
New Submarine Project

Audit Report No.43 1997–98
Life-cycle Costing in Defence

Audit Report No.2 1998–99
Commercial Support Program

Audit Report No.17 1998–99
Acquisition of Aerospace Simulators

Audit Report No.41 1998–99
General Service Vehicle Fleet

Audit Report No.44 1998–99
Naval Aviation Force

Audit Report No.46 1998–99
Redress of Grievances in the ADF

Audit Report No.13 1999–2000
Management of Major Equipment Acquisition Projects

Audit Report No.26 1999–2000
Army Individual Readiness Notice

Audit Report No.35 1999–2000
Retention of Military Personnel

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Titles published during the financial year 1999–2000

Audit Report No.34 Performance Audit
Construction of the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies

Audit Report No.33 Performance Audit
Business Entry Program
Department of Immigration and Multicultural Affairs

Audit Report No.32 Performance Audit
Management of Commonwealth Non-primary Industries

Audit Report No.31 Performance Audit
Administration of Tax Penalties
Australian Taxation Office

Audit Report No.30 Examination
Examination of the Federation Cultural and Heritage Projects Program

Audit Report No.29 Performance Audit
The Administration of Veterans' Health Care
Department of Veterans' affairs

Audit Report No.28 Audit Activity Report
Audit Activity Report July to December 1999
Summary of Outcomes

Audit Report No.27 Performance Audit
Risk Management of Individual Taxpayers Refunds
Australian Taxation Office

Audit Report No.26 Performance Audit
Army Individual Readiness

Audit Report No.25 Performance Audit
Commonwealth Electricity Procurement
Australian Greenhouse Office
Commonwealth Scientific and Industrial Research Organisation
Department of Defence
Department of Finance and Administration

Audit Report No.24 Performance Audit
Commonwealth Management and Regulation of Plasma Fractionation
Department of Health and Aged Care

Audit Report No.23 Performance Audit
The Management of Tax Debt Collection
Australian Taxation Office

Audit Report No.22 Performance Audit
Weather Services in the Bureau of Meteorology
Department of the Environment and Heritage

Audit Report No.21 Financial Statement Audit
Audits of the Financial Statements of Commonwealth Government Agencies for the Period Ended 30 June 19999.

Audit Report No.20 Performance Audit
Special Benefits
Department of Family and Community Services
Centrelink

Audit Report No.19 Performance Audit
Aviation Safety Compliance
Civil Aviation Safety Authority

Audit Report No.18 Performance Audit
Electronic Service Delivery, including Internet Use, by Commonwealth Government Agencies

Audit Report No.17 Performance Audit
Commonwealth/State Housing Agreement
Department of Family and Community Services

Audit Report No.16 Performance Audit
Superannuation Guarantee
Australian Taxation Office

Audit Report No.15 Performance Audit
Management of Australian Development Scholarships Scheme
Australian Agency for International Development (AusAID)

Audit Report No.14 Performance Audit
Commonwealth Debt Management

Audit Report No.13 Performance Audit
Management of Major Equipment Acquisition Projects
Department of Defence

Audit Report No.12 Financial Control and Administration Audit
Management of Contracted Business Support Processes

Audit Report No.11 Performance Audit
Financial Aspects of the Conversion to Digital Broadcasting
Australian Broadcasting Corporation
Special Broadcasting Service Corporation

Audit Report No.10 Financial Statement Audit
Control Structures as Part of Audits of Financial Statements of Major Commonwealth Agencies for the Period Ended 30 June 1999

Audit Report No.9 Performance Audit
Managing Pest and Disease Emergencies
Agriculture, Fisheries and Forestry—Australia

Audit Report No.8 Performance Audit
Managing Data Privacy in Centrelink
Centrelink

Audit Report No.7 Financial Control and Administration Audit
Operation of the Classification System for Protecting Sensitive Information

Audit Report No.6 Audit Activity Report
Audit Activity Report January–June 1999
—Summary of Outcomes

Audit Report No.5 Performance Audit
IP Australia—Productivity and Client Service
IP Australia

Audit Report No.4 Performance Audit
Fraud Control Arrangements in Education, Employment, Training and Youth Affairs

Audit Report No.3 Performance Audit
Electronic Travel Authority
Department of Immigration and Multicultural Affairs

Audit Report No.2 Financial Control and Administration Audit
Use of Financial Information in Management Reports

Audit Report No.1 Performance Audit
Implementing Purchaser/Provider Arrangements between Department of Health and Aged Care and Centrelink
Department of Health and Aged Care
Centrelink

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Security and Control for SAP R/3	Oct 1998
Selecting Suppliers: Managing the Risk	Oct 1998
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Controlling Performance and Outcomes	Dec 1997
Management of Accounts Receivable	Dec 1997
Protective Security Principles (in Audit Report No.21 1997–98)	Dec 1997
Public Sector Travel	Dec 1997
Audit Committees	Jul 1997
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Return to Work: Workers Compensation Case Management	Dec 1996
Telephone Call Centres	Dec 1996
Telephone Call Centres Handbook	Dec 1996
Paying Accounts	Nov 1996
Performance Information Principles	Nov 1996
Asset Management	Jun 1996
Asset Management Handbook	Jun 1996
Managing APS Staff Reductions —supplementary Better Practice Principles in Audit Report No.49 1998–99	Jun 1996