

The Auditor-General
Audit Report No.41 2010–11
Performance Audit

Maintenance of the Defence Estate

Department of Defence

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of Australia 2011

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Canberra ACT
17 May 2011

Dear Mr President
Dear Mr Speaker

The Australian National Audit Office has undertaken an independent performance audit in the Department of Defence with the authority contained in the *Auditor-General Act 1997*. Pursuant to *Senate Standing Order 166* relating to the presentation of documents when the Senate is not sitting, I present the report of this audit and the accompanying brochure to the Parliament. The report is titled *Maintenance of the Defence Estate*.

Following its presentation and receipt, the report will be placed on the Australian National Audit Office's Homepage—<http://www.anao.gov.au>.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ian McPhee', is positioned below the 'Yours sincerely' text.

Ian McPhee
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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Contents

Contents	5
Abbreviations.....	7
Summary and Recommendations	9
Summary	11
Introduction	11
Audit approach	13
Overall conclusion.....	14
Key findings.....	16
Summary of agency response	20
Recommendations	21
Audit Findings and Conclusions	23
1. Introduction	25
Background	25
Development of estate maintenance delivery arrangements.....	29
Outline of estate maintenance	30
Previous ANAO audits	33
Audit objective and approach.....	34
Report structure	35
2. Maintenance framework.....	36
Introduction	36
Roles and responsibilities	36
Infrastructure Management site	39
Defence Estate Management System	41
Estate maintenance reporting	43
Training	44
Conclusion	46
3. Estate development and planning for estate maintenance.....	47
Introduction	47
Strategic approach to estate development	48
Heritage issues	51
Planning process for estate maintenance.....	54
Conclusion	64
4. Delivery of estate maintenance.....	67
Introduction	67
Estate maintenance operations and performance	68
Improvements in performance and value for money	74
Conclusion	79

Appendices 81

Appendix 1: Objectives of the Garrison and Estate Management System 83

Appendix 2: Contribution Factors 84

Appendix 3: Planning Priority 87

Index..... 88

Series Titles..... 89

Current Better Practice Guides 94

Abbreviations

ADF	Australian Defence Force
ANAO	Australian National Audit Office
BAM	Base Accountabilities Model
CAPMAN	Contract and Performance Management System
CF	Contribution Factor
CMC	Comprehensive Maintenance Contract
CMS	Comprehensive Maintenance Services
CNNSW	Central Northern New South Wales
COO	Chief Operating Officer Division
CPGs	Commonwealth Procurement Guidelines
CSA	Customer Supplier Agreement
CSIR	Corporate Support and Infrastructure Requirement
DEC	Defence Estate Committee
DEMS	Defence Estate Management System
DEPIC	Defence Estate Performance and Investment Committee
DMO	Defence Materiel Organisation
DPPM	Defence Procurement Policy Manual
DSG	Defence Support Group
DSO	Defence Support Operations
DSTO	Defence Science and Technology Organisation

EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
FACOPS	Facilities Operations
FMA Act	Financial Management and Accountability Act 1997
FP&E	Fixed Plant and Equipment
GEMS	Garrison and Estate Management System
GESST	Garrison and Estate Support Services Training
GEW	General Estate Works
GSS	Garrison Support Services
IA	Infrastructure Appraisal
ID	Infrastructure Division
IM	Infrastructure Management
OH&S	Occupational Health and Safety
MCF	Major Capital Facilities
RAAF	Royal Australian Air Force
RFT	Request for Tender
SOW	Statement of Work
SRP	Strategic Reform Program

Summary and Recommendations

Summary

Introduction

1. The Defence estate is the largest land holding in Australia and consists of some 394 Commonwealth-owned properties (including 72 major bases) and another 355 domestic leases and 220 overseas leases, with land, buildings and infrastructure being valued at \$20.2 billion.¹ The estate includes the bases, training areas and ranges, research facilities and office accommodation to support Australian Defence Force (ADF) capability. Recent Defence investments in the estate have consolidated some of its operations into larger, more economic bases that are also close to existing industry and social support. In particular, Amberley in Queensland and Edinburgh in South Australia are being upgraded to hold major Air Force and Army assets and personnel.
2. The need for further change to the estate was highlighted in the Defence Budget Audit (Pappas Report).² Estimates undertaken for Defence by the Australian Valuation Office and consultants indicate that the remaining useful life of Defence facilities, a broad indication of health of the estate, has fallen from 22 years in 2001 to 17 years in 2009. Defence informed the ANAO that this decrease has resulted from long-term underfunding of estate maintenance, and the size and composition of the estate.
3. The Government did not accept a number of key recommendations of the Defence Budget Audit Report related to the future Defence estate and asked Defence to undertake further work on base consolidation.³ The Base Consolidation Review is to develop options for changes to the estate over a 25 to 30 year period and is expected to be completed in mid 2011. Options for consolidating bases are being developed within the wider context of

¹ Department of Defence, *Defence Annual Report 2009-10 Volume 1*, Canberra, pp. 227-228. Buildings and infrastructure are valued at \$15.7 billion.

² The 2008 Defence Budget Audit made a number of recommendations regarding the future of the estate, including the consolidation of the Defence estate into 'super-bases' to achieve financial savings. Department of Defence, *2008 Audit of the Defence Budget*, Canberra.

³ The Report recommended Defence move to the smallest number of 'super-bases' that is consistent with strategic requirements and the 'raise, train, sustain' mission of the three Services over the next 20 to 30 years. It also recommended the establishment of a Defence Estate Review Committee, to among other things prepare a 'super-base' master plan, which would finalise a recommended base footprint and develop a fully costed strategic business case. The Government did not accept these recommendations. (Department of Defence, *Response to the Defence Budget Audit*, Canberra, 2009, p. 4.)

implementing the Defence White Paper 2009 and the subsequent Strategic Reform Program (SRP).

4. The White Paper noted that there was pressure on bases, training areas and ranges from urban encroachment, and set out strategic basing principles to meet the future needs of Defence. It also noted the importance of environmental management as an aspect of sustainability of the Defence estate. In particular, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) requires Defence to identify, conserve and protect its heritage assets. The impact of this requirement is felt at most of Defence's major bases and it adds complexity to the planning and management of Defence's estate.⁴

5. The Strategic Reform Program (SRP), announced in 2009 with the objective of reforming Defence while delivering \$20 billion in savings for Defence over the 10 years to 2019, designated the Defence estate as one of the non-savings streams. An additional \$190 million was allocated to be spent over four years to redress the deterioration of Defence facilities. However, estate maintenance is classified as an element of non-equipment procurement, a savings stream under the SRP, from which savings of \$500 million are to be achieved over the ten-year period, effectively reducing the annual estate maintenance budget by \$50 million.

Planning and delivery of estate maintenance

6. Defence Support Group (DSG), the area within Defence responsible for estate maintenance, delivers a wide range of support services to Defence establishments, bases and training areas. Strategic planning for the Defence estate into the future, while requiring input from the Groups and Services, is also managed by DSG.

7. Defence first fully outsourced estate maintenance in 2000 with the introduction of the Comprehensive Maintenance Contracts (CMC). Since 2000, these contracts have been replaced by the newer Comprehensive Maintenance Services (CMS) contracts. Defence is now beginning to introduce a new type of contract—the Base Services contract—to cover the services of both the CMS contracts and the Garrison Support Services (GSS) contracts.⁵ Base Services

⁴ Defence is in the process of completing Heritage Management Plans for 62 sites. Defence currently has 72 major bases.

⁵ Services provided under the GSS contracts include: grounds maintenance, access control, accommodation management, hospitality and catering, cafeteria services, cleaning and waste management.

Contracts were introduced in North Queensland and Tasmania in 2008, covering services previously provided under both CMS and GSS contracts. As part of the North Queensland Base Services contract, a pilot was introduced for RAAF Townsville under which the prime contractor can utilise 'in-house' or contracted labour directly for low value works. The services are delivered under a fixed fee arrangement and remove the need for individual invoicing for each item of low value work. In 2010 this was one of a number of new initiatives included in the tender arrangements for the Central Northern New South Wales (CNNSW) sub-region.

8. The main components of work undertaken through the CMS contracts involve reactive maintenance (unplanned maintenance), Risk Managed Works which include planned maintenance and minor new works, and regular scheduled maintenance for fixed plant and equipment. The estate maintenance contracts, managed by DSG, are based around DSG's previous 12 region structure,⁶ with separate contracts for each former region. The payments made by Defence to the CMS contractors for estate maintenance totalled \$461.5 million for 2009–10 across all regions in Australia.⁷

Audit approach

9. The objective of the audit was to examine the effectiveness of the management of maintenance of the Defence estate, taking particular account of planning and delivery aspects.

10. The audit examined: Defence's policies, procedures, processes and supporting tools related to the planning and delivery of the maintenance of the estate; and services provided to Defence by private sector firms in relation to maintenance activities. The audit did not focus on contract management matters, nor on the systems used by Defence to maintain information related to estate maintenance.

⁶ DSG now has five regions across Australia, namely Central and Western Australia, Queensland, Northern New South Wales, Southern New South Wales, and Victoria-Tasmania. Within this report, the former regions (of which there were 12) are now referred to as sub-regions given the current five region structure.

⁷ On top of this \$461.5 million, \$20.1 million was spent in 2009–10 on airfield maintenance, which is managed centrally by DSG and is not performed by CMS contractors.

Overall conclusion

11. Maintaining the \$20.2 billion Defence estate, containing 72 major bases and numerous training areas and minor establishments, is a major undertaking, involving expenditure in the order of \$482 million in 2009–10. In considering the ongoing management of the estate, the Defence Budget Audit (Pappas Report) stated that the estate was an ageing, complex and costly historical legacy, in which investment for maintenance had been decreasing since the 1980s.⁸ Providing sufficient funding for estate maintenance is an ongoing challenge in Defence's environment due to the need to accommodate competing demands for funds; Defence must satisfy the ADF's current needs, while concurrently developing capability to meet the ADF's future needs. In the case of the estate, Defence must also achieve this while subject to external pressures such as urban encroachment and emerging environmental and heritage issues.

12. When considered as a discrete function, the ANAO concluded that the management of estate maintenance has not been fully effective. Estate maintenance planning processes would benefit from Defence having in place authoritative, longer-term plans for the estate itself, and from condition assessments of estate facilities and infrastructure—both elements being key to sound infrastructure maintenance approaches. Further, based on Defence's existing planning for its maintenance program, the funding currently applied to estate maintenance is insufficient to preserve existing assets which, in many cases, Defence will require for long-term use. In terms of the delivery of estate maintenance services to bases and other Defence establishments, performance is mixed, although Defence has advised of initiatives being pursued to improve delivery performance in the longer-term.

Planning

13. The prerequisites for the effective allocation of resources to estate maintenance are a long term plan for the composition of the estate, and maintenance plans that are informed by reliable assessments of the condition of the assets that comprise the estate. While Defence is currently developing plans for the future of its estate, it is yet to establish its inaugural estate management plan. In addition, maintenance planning would benefit from

⁸ Department of Defence, *2008 Audit of the Defence Budget*, Canberra, pp. 240-241.

having better information on the expected future usage of specific buildings and facilities, thus providing a more authoritative context in which to plan the annual estate maintenance program.

14. Elements of Defence's annual planning and resource allocation for estate maintenance are relatively straightforward, with the estimated resources required being determined from contractual arrangements (programmed fixed plant and equipment maintenance, certain prime contractor services) or from past experience (reactive maintenance needs). However, a key area of potential improvement is in Defence's priority setting and management of its planned general estate works, which are called Risk Managed Works. Defence sets priorities on the basis of Infrastructure Appraisals, under which buildings and structures are categorised based on their contribution to Defence capability (five rankings apply) and particular works are prioritised (also with five rankings), with occupational health and safety works being ranked highest and asset preservation receiving third priority. These assessments are largely done by DSG regional staff. The assessment and prioritisation process would be improved by having condition assessments undertaken by technically qualified staff and by presenting that material to decision makers, along with information related to usage, contribution to Defence capability, and legislative requirements. In addition, estate maintenance plans would be improved by being consistently informed by condition assessments of engineering services (such as electrical, plumbing and piping systems) at bases.

15. Based on the data provided by Defence from its most recent Infrastructure Appraisal process, there is a shortfall over the next three years (2011–14) of approximately \$500 million in the funding available to effectively maintain the existing estate. While acknowledging that maintenance will at times need to make way for other priority requirements, this level of shortfall will result in increasing maintenance backlogs in the future, and reductions in the lives of existing assets, with added pressure to bring forward upgrades and renewals.

Delivery

16. Performance of the delivery of estate maintenance services to Defence under existing CMS arrangements has been mixed. Of the four sub-regions examined, two were performing acceptably, while the other two were not, particularly in the delivery of the Risk Managed Works program.

17. Under the existing arrangements, a prime contractor has been responsible for delivering services using a call centre, its own staff for fixed plant and equipment maintenance and sub-contractors for other general estate works. Defence has started to make changes to its contract arrangements, introducing arrangements for prime contractors to undertake more work using their own staff rather than sub-contractors, where that provides better value for money. Building on the initiatives that Defence has underway, and with current CMS contracts expiring from the end of 2011, it is timely for Defence to re-examine the design of the arrangements under which estate maintenance services are delivered. This examination should include a focus on the outputs that Defence requires and identifying improvements in maintenance delivery arrangements to provide better value for money. Given the number and complexity of existing contracts and the number of Defence stakeholders, Defence should adopt a formal change management approach to facilitate the effective introduction of revised delivery and contractual arrangements.

Key findings

Framework for management and administration of estate maintenance

18. Defence has in place some of the key elements of the framework required to support the management and administration of estate maintenance. There exist roles and responsibilities for staff at both national, regional and base levels, with improved arrangements being introduced to assist with the relationship between DSG and its customers. Defence also has in place policy and process guidance, as well as training, which supports the planning and delivery of estate maintenance services.

19. Staff involved in the planning and delivery of estate maintenance receive guidance through DSG's Infrastructure Management (IM) intranet site—DSG's central source for policy, processes and procedures. This is generally considered to provide comprehensive guidance, although comments from a number of DSG regional staff suggested that they were unfamiliar with the IM's features for tracking updates to policies and procedures, and that the IM was difficult to use and navigate for inexperienced users. Due to the importance of the IM as a source for policy, processes and procedures for DSG regional staff, there would be merit in introducing training to assist regional IM users.

20. The Defence Estate Management System (DEMS) is used in the planning and delivery of estate maintenance under the CMS contracts, and also for services provided under the Garrison Support Services (GSS) contracts. This system provides much of the data used in the management of estate maintenance. There are concerns regarding the quality and integrity of data stored on DEMS and Defence has plans approved for the system's replacement with an enhanced system, the Garrison and Estate Management System (GEMS).

Estate maintenance planning

21. Defence is currently developing a National Defence Estate Strategy 2030 which is seen as Defence's strategic document for estate planning. Defence has completed a strategic plan for its training areas and ranges and is currently undertaking a Base Consolidation Review. Together, the results of this work will provide a longer term plan for Defence base and training area requirements. Current estate maintenance plans do not have the benefit of such strategic or operational plans for the estate. Current estate maintenance plans are developed using risk-based prioritisation and align with a broader 20 year investment program which includes capital works and leasing options.

22. Heritage issues add complexity to Defence's longer term approach to estate maintenance. The precise number of buildings affected by heritage legislation is not known by Defence, although Defence is developing Heritage Management Plans for 62 sites across Australia (required under the EPBC Act). As at November 2010, 44 Heritage Management Plans had been completed. The end result of this process will be a large number of facilities within the Defence estate becoming classified as heritage sites. As soon as practicable following completion of Heritage Management Plans, there would be merit in Defence compiling an omnibus submission for the Minister for Defence to provide to the Minister for Sustainability, Environment, Water, Population and Communities with options for the future management of heritage buildings on Defence's major bases.⁹ This needs to be done in a coordinated and comprehensive manner (rather than on a piecemeal basis) so that the scale of the issue confronting Defence can be fully represented and properly understood. Having a longer term plan for the estate and an approved way

⁹ Future management of heritage buildings could include options such as ongoing preservation or disposal.

ahead for heritage sites, would assist in determining the level of funding for estate maintenance consistent with its approved future use.

23. As part of annual planning processes, resources for fixed plant and equipment maintenance and certain prime contractor services are determined based on contractual arrangements, and reactive maintenance resources are determined in the light of past experience. The maintenance category under which Defence exercises most discretion is entitled Risk Managed Works. To guide its allocation of resources to particular areas under Risk Managed Works, Defence categorises structures to reflect their contribution to Defence capability. Each item of proposed work is also prioritised (with rankings from P1 to P5) according to the type of work that is proposed to be undertaken. For instance, P1 works are those which if not completed in the year shown will result in a breach of the *Occupational Health and Safety Act 1991* (OH&S Act). P3 works relate to asset preservation that, if not completed in the year shown, will result in unacceptable deterioration of the asset.

24. The current annual priority setting approach for Risk Managed Works has a heavy focus on maintaining significant Defence operational capabilities. This approach, and the limited level of funding being made available for estate maintenance, has meant that many Defence facilities have not received maintenance work sufficient for their ongoing preservation. If this situation continues, maintenance backlogs will grow further and the lives of existing assets will be reduced, with added pressure to bring forward upgrades and renewals. Using Defence's current assessment of the maintenance requirement to preserve existing assets, the maintenance funding deficit will be approximately \$500 million in the next three year period (2011–14).

25. In contrast to the approach used by other large public sector agencies considered during this audit, Defence's current approach in most locations does not involve technically skilled personnel to undertake condition assessments and identify necessary maintenance projects. Adequate information relating to condition, use, required maintenance, contribution to Defence capability and satisfaction of OH&S requirements is required by decision makers when considering the level and distribution of resources for estate maintenance.

26. Many of Defence's bases have infrastructure similar to that of a small town or substantial industry. This can include water and power reticulation, roads, drainage, wharves, airfields and fuel lines. The DSG staff undertaking the infrastructure appraisal process are generally not qualified to undertake

assessments of the more technical aspects of these services. Nor is there a routine process of obtaining specialist advice to provide condition assessments of engineering services. Without routine arrangements to assess the condition of engineering services at its bases, Defence's operation of engineering services may give rise to unknown risks with potential operational, economic and environmental impacts. Defence informed the ANAO that it has recently commenced undertaking assessments of the condition of engineering services at its bases.

Delivery of estate maintenance

27. Delivery of estate maintenance services is largely undertaken through the Comprehensive Maintenance Services (CMS) contracts which Defence has in place throughout its regions across Australia. Services are currently provided under 12 contracts across Australia.¹⁰ The contract provides an initial service delivery period of five years, with provisions for extensions of further periods of four single years, up to a maximum contract period of nine years. The key services provided by CMS contractors are management of services (including management of Risk Managed Works and low value general estate works), operation of a property service call centre, and maintenance of fixed plant and equipment.

28. The ANAO examined the performance of estate maintenance services delivered under contract to Defence in four of the 12 sub-regions and found that the performance of individual sub-regions has been mixed. Two sub-regions had performed acceptably, while for the other two sub-regions there was unsatisfactory performance for some elements of the contractor's responsibilities. The key weakness in the performance of these two sub-regions has been the contractors' inability to deliver the full Risk Managed Works program. This is reflected in the performance management assessments made under the CMS contracts, as well as the strategic reviews.

29. Defence is currently introducing a number of initiatives to improve value for money as the opportunity arises. For example, a pilot program was introduced at one base in North Queensland whereby the contractor employed its own trade personnel (for example, plumber, carpenter, electrician) to

¹⁰ These contracts correspond to the 12 regions that, until July 2009, were the basis of DSG's regional structure. The former 12 regions are referred to as sub-regions in this report, given that DSG now has only five larger regions.

undertake routine low value maintenance on a fixed fee basis. The Request for Tender (RFT) that Defence issued for CMS in the Central Northern New South Wales (CNNSW) sub-region in 2010 has extended this approach to the whole of the CNNSW contract. In addition, the RFT for CNNSW provides for the successful contractor to undertake the Infrastructure Appraisal process, a key element of maintenance planning, for Defence.¹¹ This approach is considered by DSG staff to have been successful in the case of the current Sydney Central contract.

30. Given that current CMS contracts expire from the end of 2011, it would be timely for Defence to review the experience with the existing contract model and put in place improved arrangements for the future.

Summary of agency response

31. Defence acknowledges the findings contained in the audit report on maintenance of the Defence estate, and agrees to the two recommendations made by the ANAO.

32. Defence is currently undertaking significant activity across all functional areas, including estate maintenance, as part of our Strategic Reform Program. Over the past 18 months, Defence has created the Estate and Facilities Program Office, established the Defence Estate Performance and Investment Committee, and implemented the Base Accountabilities Model.

33. Defence has also commenced work on a number of other initiatives during this period including the development of a future contracting model, the introduction of baseline assessments of engineering services, and more flexible options for the delivery of medium capital and maintenance works.

34. Defence is committed to continuous improvement in the management of its estate, including addressing the issues raised in the report.

¹¹ The Infrastructure Appraisal process has usually been undertaken by DSG regional staff.

Recommendations

The ANAO has made the following recommendations aimed at improving Defence's management of maintenance of the Defence estate. Report references and abbreviated agency responses are included below, with the department's more detailed responses to each recommendation included in the body of the report.

Recommendation No. 1

Para. 3.62

To improve planning for estate maintenance, the ANAO recommends that Defence:

- (a) bases its estate maintenance planning on technical assessments of the condition of facilities and their usage, as well as continuing to take into account contribution to Defence capability and legislative requirements;
- (b) undertakes periodic assessments of the condition of engineering services at bases and ranges and proposes any necessary maintenance or alternative remedial action; and
- (c) having regard to up-to-date data on the condition and usage of its buildings and infrastructure, as well as its overall priorities, reassesses the level of funding allocated to maintain the estate in an economic manner.

Defence response: Agree.

**Recommendation
No. 2**

Para 4.40

To improve the delivery of maintenance services, the ANAO recommends that the approach to estate maintenance delivery be reviewed to focus on the outputs that Defence requires, and that Defence:

- (a) undertakes work to develop an improved contracting model for the delivery of estate maintenance, including Risk Managed Works, for the next round of contracts;
- (b) considers building on its initiatives to have prime contractors undertake low cost general estate works themselves, and separating Risk Managed Works between those best undertaken by the prime contractors and those best delivered as mid level capital works; and
- (c) develops a change management plan to support the implementation of revised delivery and contracting arrangements.

Defence response: Agree.

Audit Findings and Conclusions

1. Introduction

This chapter provides an overview of the Defence estate and factors affecting estate maintenance. It also provides an outline of how estate maintenance is managed by Defence and how it has changed in recent years.

Background

1.1 The Defence estate is the largest land holding in Australia and consists of some 394 Commonwealth-owned properties (including 72 major bases) and another 355 domestic leases and 220 overseas leases, with land, buildings and infrastructure being valued at \$20.2 billion.¹²

1.2 The Defence estate includes facilities and training areas, a category identified as one of the eight Fundamental Inputs to Capability necessary for the ADF to achieve the level of capability specified by government.¹³ It encompasses the buildings, structures, property, plant, equipment, training areas, civil engineering works, through-life maintenance and utilities necessary to support capabilities, both at the home base and at a deployed location.¹⁴ Within Defence, Defence Materiel Organisation is responsible for equipment and systems, and Defence Support Group (DSG) is responsible for facilities, the maintenance of which is the focus of this audit.

1.3 Buildings, infrastructure, and other plant and equipment located on the estate have a direct impact on the demand for estate maintenance. At the commencement of the audit, Defence indicated that key issues of concern currently are the implications of the long-term underfunding of estate maintenance, and the size and composition of the Defence estate. Under-investment in the Defence estate has contributed to the rate of decline in the remaining useful life of the Defence estate in recent years (see Figure 1.1).

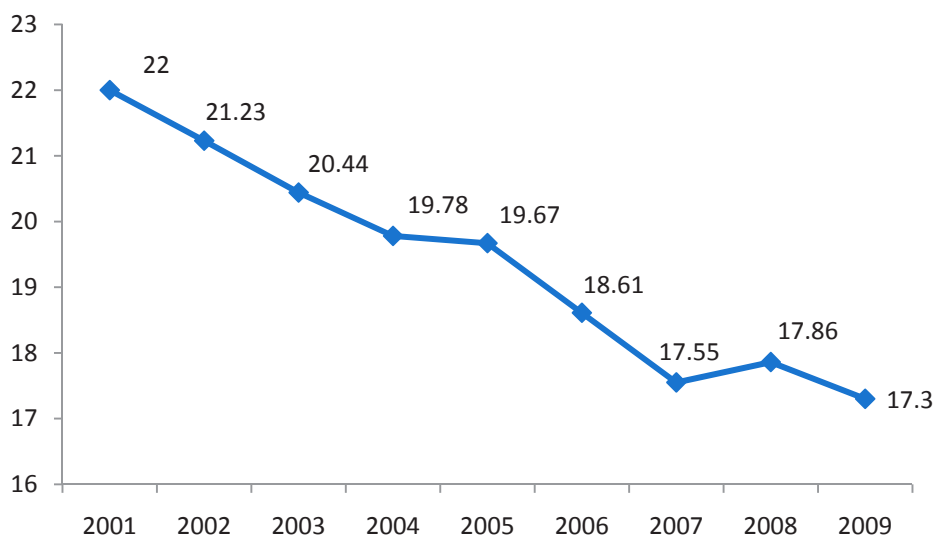
¹² Department of Defence, *Defence Annual Report 2009–10 Volume 1*, Canberra, pp. 227–228. Buildings and infrastructure are valued at \$15.7 billion.

¹³ Whether owned or leased, capability in the Defence context is the combined effect of multiple inputs. It is not the sum of these inputs, but the synergy that arises from the way those inputs are combined and applied that determines the level of capability in a particular context. In Defence, the 'Fundamental Inputs to Capability' are categorised as: personnel; organisation; collective training; major systems; supplies; facilities and training areas; support; and command and management. Defence Material Organisation, *DMO Acquisition and Sustainment Manual*, 2007, pp. 74–75.

¹⁴ Defence Material Organisation, *DMO Acquisition and Sustainment Manual*, 2007, pp. 74–75.

Figure 1.1

Remaining useful life of Defence facilities (years)



Source: Department of Defence (based on work undertaken by consultants and the Australian Valuation Office).

1.4 The 2008 Defence Budget Audit, commissioned by the then Minister for Defence, made a number of recommendations regarding the future of the Defence estate, including the consolidation of the Defence estate into ‘super-bases’ to achieve financial savings.¹⁵ While the then Minister indicated that the Government did not accept these recommendations,¹⁶ he asked Defence to undertake further work on base consolidation. A strategic base rationalisation exercise, looking at the issue of base consolidation from a strategic, as well as financial perspective, is expected to report results in mid 2011.

1.5 Defence indicated that increases in the intensity of operations and advances in military technology have put Defence’s current training areas under significant pressure, and that more training areas will be needed to support the ADF into the future.

¹⁵ Department of Defence, 2009, *2008 Defence Budget Audit*, p. 248.

¹⁶ Press Release by the Minister for Defence, Senator John Faulkner, 17 November 2009.

Organisational responsibility

1.6 Within DSG, Infrastructure Division (ID) has the principal responsibility for Defence estate matters, and manages development, planning, and disposal for the Defence estate. The mission of ID is:

To create a strategically aligned, affordable, sustainable Defence estate that supports capability.¹⁷

1.7 Defence Support Operations (DSO), also within DSG, is responsible for the delivery of estate maintenance. The estate maintenance program, previously known as the Facilities Operations (FACOPS) program, involves the delivery of maintenance through a suite of Comprehensive Maintenance Services (CMS) contracts. Regional funding allocations for the estate maintenance program are approved by the Defence Estate Committee (DEC) in December each year.

Defence White Paper 2009

1.8 The 2009 Defence White Paper sets out Defence's plan out to 2030. The White Paper referred to pressure on bases, training areas and ranges from urban encroachment, and the importance of environmental management as an aspect of sustainability of the Defence estate. It set down the strategic basing principles to meet the future needs of Defence:

- Defence base locations should be aligned with strategic requirements and ensure critical capabilities are suitably dispersed for security reasons;
- Defence should consolidate units into fewer, larger and sustainable multi-user bases aimed at increasing the alignment of functions at Joint and Service level;
- Defence should aim to group bases near strategic infrastructure and industry to promote knowledge sharing, innovation, and to maximise the effectiveness of industry support to the ADF;
- where possible Defence should locate bases in 'family friendly' areas which provide better employment, specialist medical and educational opportunities for families, and with the potential to reduce posting turbulence in order to improve retention; and

¹⁷ Department of Defence, *Infrastructure Division: ID Mission, Values, Vision*, 2010, p. 1.

- Defence should maintain an urban and regional disposition to enable the continued provision of part-time capability into the future.¹⁸

1.9 The White Paper announced a future additional allocation to the Defence Estate of \$2.3 billion for facilities maintenance remediation. Defence informed the ANAO that \$0.9 billion of this provision was subsequently moved beyond the 10 year funding horizon of the White Paper as part of balancing the overall Defence budget.

The Strategic Reform Program

1.10 Consistent with the White Paper 2009, the Strategic Reform Program (SRP) is designed to improve the management of Defence, making the organisation more efficient and effective, and creating significant savings to reinvest in building a stronger Defence Force. Over the 10 years to 2019, Defence proposes that the SRP will deliver savings of around \$20 billion. Defence proposes that this money will be reinvested to deliver stronger military capabilities, to remediate areas where there has not been enough funding in the past and to modernise the Defence enterprise ‘backbone’.¹⁹

1.11 There are eight savings and eight non-savings streams within the SRP.²⁰ Defence estate is designated as one of the non-savings streams within SRP. The SRP reiterated the five strategic basing principles that were set down in the White Paper to guide the future of the Defence estate and set out other initiatives:

- To help address the deterioration of Defence facilities, an additional \$190 million is to be spent over the next four years—this is part of the \$2.3 billion announced in the White Paper. This will focus on making improvements to key operating bases, improving the working and living accommodation and upgrading key base services such as power, water and sewerage.
- Improved business processes will be implemented to ensure facilities requirements to support new capability are integrated in capability

¹⁸ Department of Defence, *Defending Australia in the Asia Pacific Century: Force 2030*, Defence White Paper 2009, Canberra, p. 121.

¹⁹ Department of Defence, *The Strategic Reform Program 2009*, Canberra, p. 3.

²⁰ Department of Defence, *The Strategic Reform Program 2009*, Canberra, pp. 6-7.

development processes, and better value for money is achieved from Defence's estate funding initiatives.²¹

1.12 While the Defence estate is one of the non-savings streams within the SRP, estate maintenance is classified as an element of non-equipment procurement, a savings stream under the SRP, and as such has been earmarked to provide savings of \$500 million over the ten-year period. This effectively takes \$50 million per year out of the estate maintenance budget.

1.13 The likely impacts of the SRP on the remaining useful life of the Defence estate are unclear. While the 2009 White Paper and SRP have announced an additional \$190 million to be spent over the next four years to address the deterioration of the estate infrastructure and engineering services, the SRP requirement that DSG save \$500 million from the estate maintenance budget over the next ten years may serve to increase maintenance backlogs and add pressure to bring forward upgrades.

Development of estate maintenance delivery arrangements

1.14 The outsourcing of maintenance functions from within Defence was fully introduced in November 2000 with the Comprehensive Maintenance Contracts (CMCs), which were managed according to the same regional structure as the current Comprehensive Maintenance Services (CMS) and Garrison Support Services (GSS) contracts. The original CMC contracts have been replaced with newer CMS contracts although the range of services provided are essentially the same, with some re-bundling of services under the 'fixed monthly fee' which were previously delivered under a 'fee for service'.²²

Base Services Contract

1.15 A new type of contract—the Base Services Contract—was introduced in North Queensland and Tasmania in 2008 when existing GSS and CMS contracts expired. The Base Services contract covers the services provided

²¹ Department of Defence, *The Strategic Reform Program 2009*, Canberra, pp. 23-24.

²² Services provided under the CMS contracts include: management of the service, provision of a call centre, Fixed Plant and Equipment maintenance, General Estate Works maintenance, engineering operations, and estate advice. Examples of work, which was previously undertaken under Risk Managed Works or GSS contracts but is now delivered under CMS as a fixed monthly fee, include gutter cleaning and roadway maintenance.

previously under separate CMS and GSS contracts.²³ As part of the North Queensland Base Services contract, a pilot was introduced for RAAF Townsville under which the prime contractor can utilise 'in-house' or contracted labour directly for low value works. The services are delivered under a fixed fee arrangement and do away with the need for individual invoicing for each low value works.

Outline of estate maintenance

1.16 DSG lists 'estate maintenance and upkeep' as one of its products in its Product Catalogue provided as part of the base level agreements with its customers under the Base Accountabilities Model (see paragraph 2.14). The definition of estate maintenance and upkeep is:

Maintenance, conservation and preservation of the Defence estate including facilities and infrastructure maintenance and stewardship of estate resources. This is predominantly the delivery of the approved facilities maintenance program. This includes planned and reactive general building and facilities maintenance, risk managed works, fire safety and asbestos management and engineering operational services.²⁴

1.17 Maintenance of the Defence Estate is primarily delivered through a suite of CMS contracts, which include a range of maintenance services provided by contracted firms for Defence-owned properties and facilities around Australia.

1.18 The estate maintenance contracts, managed by DSG, are based around DSG's previous 12 region structure,²⁵ with separate contracts for each region. The payments made by Defence to the CMS contractors for estate maintenance—totalling \$461.5 million for 2009–10 across all regions in Australia—can be broken down into several main categories. Total maintenance expenditure for 2009–10 of \$481.6 million (refer to Table 1.1) was primarily comprised of payments totalling \$461.5 million made to CMS contractors for comprehensive maintenance services. This included

²³ Services provided under the GSS contracts include: grounds maintenance, access control, accommodation management, hospitality and catering, cafeteria services, cleaning, and waste management.

²⁴ Defence Support Group, *Defence Support Products and Services Catalogue*, 2010.

²⁵ DSG now has five regions across Australia, namely Central and Western Australia, Queensland, Northern New South Wales, Southern New South Wales, and Victoria-Tasmania. The former 12 regions are referred to as sub-regions in this report, given that DSG now has only five larger regions.

maintenance of fixed plant and equipment (FP&E), reactive maintenance costs, and funding for Risk Managed Works. Another \$20.1 million was paid for airfield maintenance, which is not performed by CMS contractors. The allocations for each of the major spending categories are shown in Table 1.1 below.

Table 1.1

Estate maintenance expenditure by category in 2009–10

Category	(\$ million)
Prime contractor services ⁽¹⁾	167.4
Reactive maintenance	76.7
Risk managed works	169.6 ⁽²⁾
Asbestos remediation works	26.9
Devolved works	20.9 ⁽³⁾
Airfields	20.1
TOTAL	481.6

Notes: (1) This spending category includes the following expenditure in 2009–10 (excluding GST): Management of the services—\$17.1 million; call centre operation—\$2.7 million; performance based maintenance (FP&E)—\$76.7 million; management of General Estate Works—\$15.6 million; Engineering Operations—\$16.7 million; work planning fees—\$12.0 million; and annual fees and levies—\$7.3 million.

(2) This includes \$153.6 million for regional requests and \$16 million centrally requested works.

(3) The devolved works include \$4.7 million for the Defence Materiel Organisation.

Source: Department of Defence.

1.19 The estate maintenance program for 2011–12 is \$385.2 million, with decreases for Risk Managed Works and reactive maintenance compared to achievement in 2009–10. An agreement has been reached to transfer funding from the Major Capital Facilities budget into the estate maintenance program for demolitions (\$10m) and improvements to training areas and ranges (\$52m), to be delivered in 2011–12 in addition to the approved maintenance program.

Prime contractor services

1.20 Defence pays a separate monthly fee to the prime contractor for functions such as management of the services, maintenance for FP&E, engineering operations, and the provision of a Property Service Centre (call

centre).²⁶ The call centre manages customer requests for information, reactive maintenance requests, minor work requests and breakdown or fault reporting.

Reactive maintenance

1.21 Reactive maintenance refers to unplanned maintenance: fixing any problems that have arisen with buildings, facilities or FP&E. Building occupants can log Work Requests with the CMS contractor online or through the contractor-managed call centre to report reactive maintenance needs. The CMS contractor subcontracts out reactive maintenance jobs (other than FP&E) as they are logged through its call centre.

1.22 According to data from the Defence Estate Management System (DEMS—see paragraphs 2.25 to 2.26), in 2009–10 under the four CMS contracts examined by the audit the most common categories of reactive maintenance were electrical, plumbing and air conditioning.

Risk Managed Works

1.23 Risk Managed Works are larger remediation works for buildings or facilities that must be planned and have an approved business case. There is also a small provision for minor construction works within Risk Managed Works. Each region bids for and is allocated funding by ID for use on remediation, modifications, planned repairs, or minor new works.

1.24 Within Risk Managed Works, specific works are undertaken for asbestos remediation, environmental works and devolved projects. Asbestos remediation works spending, \$26.9 million in 2009–10, is recorded separately from overall Risk Managed Works spending.

Devolved works

1.25 Devolved works are those that are requested by the Groups and Services outside the regular program of works. Groups and Services submit a business case and the CMS contractor will deliver the project if they have the capacity to do so. Devolved works are usually funded by the requesting Defence organisation,²⁷ although some are funded through the Risk Managed

²⁶ Defence also pays levies to councils.

²⁷ The funding provided by Groups and Services for devolved works is generally only available to DSG in a specific year. If a devolved project is accepted by DSG, but not delivered in that year, DSG may be committed to completing the project in later years using other Risk Managed Works funding.

Works budget allocation. In 2009–10, DSG accepted 167 devolved projects from Groups and Services totalling \$26.3 million. Actual achievement on devolved works in 2009–10 was \$20.9 million, indicating that not all devolved projects were able to be delivered.

Airfields

1.26 Airfields and runways are now managed under the National Airfields Program, separate to estate maintenance. The National Airfields Program includes both operating and capital expenditure (\$10.3 million was spent on operating and \$9.9 million on capital in 2009–10).

Relationship to larger renewal work

1.27 Estate maintenance is separate to larger renewal work that is undertaken by Defence as Major Capital Facilities (MCF) program works, or base redevelopment projects. While the funding allocation for these works is separate to maintenance funding, they have significant impacts on maintenance requirements and spending.

1.28 Base redevelopment can involve large-scale maintenance, such as upgrades to a base's underground or engineering services. These projects are often used to address major, long-term maintenance and infrastructure needs on a base.

1.29 MCF projects that involve the construction of new facilities are delivered by the Infrastructure and Asset Development (IAD) Branch within DSG, but are handed over to regional Defence Support Operations for ongoing maintenance upon completion. If defects are not identified and remedied during the Defect Liability Period for a new facility, they can place subsequent additional pressures on the estate maintenance budget.

Previous ANAO audits

1.30 Recent audits undertaken by the ANAO related to the Defence estate were:

- *Management of the Tendering Process for the Construction of the Joint Operation Headquarters* (Audit Report No. 32 2008–09);
- *Defence's compliance with the Public Works Committee Approval Processes* (Audit Report No. 28 2007–08); and

- *Defence's Management of Long-term Property Leases* (Audit Report No. 44 2004–05).

1.31 Some 10 years ago the ANAO undertook a series of audits that looked more broadly at the Defence estate. One of these reports, *Defence Estate Facilities Operations* (Audit Report No. 26 2000–2001), dealt with the previous version of the estate maintenance program, the FACOPS program. That audit examined the efficiency and effectiveness of selected facilities operations, including the contracting and tendering processes. The audit found scope for improvement in various areas of the FACOPS program, particularly in relation to contract management and resourcing. The audit also concluded that significant improvements to estate management could be made if better information were available to target where maintenance resources could best be spent.

1.32 There have been substantial changes in the management of the Defence estate over the past 10 years, and there has now been another White Paper and a number of supporting reviews. There have been further changes to the methods of delivery of services, as well as the organisation responsible within Defence for the Defence estate.

Audit objective and approach

1.33 The objective of the audit was to examine the effectiveness of the management of maintenance of the Defence estate, taking particular account of planning and delivery aspects.

1.34 The audit examined: Defence's policies, procedures, processes and supporting tools related to the planning and delivery of the maintenance of the estate; and services provided to Defence by private sector firms in relation to maintenance activities. The audit did not focus on contract management matters, nor on the systems used by Defence to maintain information related to estate maintenance.

1.35 The ANAO assessed whether Defence:

- has established a sound administrative and management framework to support estate maintenance (including roles and responsibilities, oversight, reporting, guidance and training); and
- has applied appropriate processes, resources, performance measures and tools in the planning and delivery of estate maintenance.

Fieldwork

1.36 The ANAO conducted fieldwork for the audit between August and October 2010. Fieldwork in Canberra focussed on the estate maintenance functions conducted by ID, DSO and the Chief Operating Officer Division. These areas are responsible for the overall planning, delivery, guidance, training and contracting strategy for estate maintenance at the national level.

1.37 The ANAO examined the planning and delivery of estate maintenance within four sub-regions across Australia (South Australia, Western Australia, South Queensland and Sydney Central). The ANAO conducted discussions with DSG and contractor staff at the regional level and obtained key supporting material. The ANAO also conducted discussions with DSG base staff and base customers from the three Services, Defence Materiel Organisation and Defence Science and Technology Organisation.²⁸

1.38 In addition to discussions with Defence, the ANAO also had discussions with one other Commonwealth agency and two state government departments with significant property portfolios to gain an insight into how other public sector organisations managed estate maintenance.

1.39 The audit was conducted in accordance with ANAO auditing standards at a cost to the ANAO of approximately \$280 000. Pat Farrelly and Associates Pty Ltd provided the ANAO with assistance in the conduct of the audit.

Report structure

1.40 The audit report's remaining chapter structure reflects the audit criteria identified in paragraph 1.35:

- Chapter 2—Maintenance framework;
- Chapter 3—Estate development and planning for estate maintenance; and
- Chapter 4—Delivery of estate maintenance.

²⁸ The major bases visited during the course of fieldwork were: RAAF Edinburgh, RAAF Amberley, RAAF Pearce, RAAF Richmond, HMAS Stirling, Garden Island Defence Precinct (Fleet Base East and HMAS Kuttabul), Enoggera (Gallipoli Barracks) and Victoria Barracks at Paddington.

2. Maintenance framework

This chapter provides an overview of the roles and responsibilities of areas involved in the estate maintenance process. It also outlines the key reporting arrangements, as well as guidance and training provided to staff involved in the estate maintenance operation.

Introduction

2.1 The planning and delivery of Defence estate maintenance involves a wide variety of different stakeholders within Defence, in addition to the Comprehensive Maintenance Service (CMS) contractors. Within Defence, Defence Support Group (DSG) is chiefly responsible for estate maintenance. Other areas within Defence are involved in the process as customers.

2.2 Staff involved in the planning and delivery of estate maintenance receive guidance through DSG's Infrastructure Management (IM) intranet site, which is DSG's repository of policy, processes and procedures. The Defence Estate Management System (DEMS) is used in the planning and delivery of estate maintenance under the CMS contracts, and also for services provided under the Garrison Support Services (GSS) contracts. DEMS is regularly accessed by national and regional DSG staff, CMS contractor staff and GSS contractor staff.

2.3 Regional DSG staff, CMS and GSS contractors all receive further training in estate maintenance operations, and the use of DEMS. DSG has established separate training programs for estate maintenance and for DEMS, which are offered to DSG staff and contractors.

2.4 The ANAO examined the management and administrative framework for estate maintenance, including the roles and responsibilities of the different areas involved with estate maintenance, the use of the IM and DEMS by staff and contractors, reporting arrangements, and the relevant training programs.

Roles and responsibilities

National

2.5 DSG has responsibility, at the national level, for the management of estate maintenance. Within DSG there are three separate Divisions responsible for key elements of estate maintenance.

Infrastructure Division

2.6 The Estate Planning Branch within Infrastructure Division (ID) is responsible for overseeing development of the estate management budget and the Infrastructure Appraisal (IA) process, which inform the Risk Managed Works program (currently for three forward years). The Branch is also responsible for the Defence Estate Investment Plan which outlines all significant infrastructure investments being made at Defence's principal bases, and includes estimates of the remaining life of the bases. This Branch is responsible for the operation and development of DEMS (although regions, bases and CMS contractors are responsible for entering data into DEMS), as well as the provision of DEMS training to the regions, bases and CMS contractors.

2.7 The Estate Policy and Environment Branch within ID is the technical authority for the CMS contracts and also issues policies and advice for the maintenance of Defence facilities.²⁹

Defence Support Operations

2.8 The Garrison, Estate and Business Support Branch within Defence Support Operations Division (DSO) is responsible for overseeing the delivery of estate maintenance by the regions and bases, as well as leading the effort to achieve the savings required under the Strategic Reform Program (refer to paragraph 1.12). This Branch is responsible for guidance that is available on the IM site related to estate maintenance and for training on the management of estate maintenance (including contracts) provided to regions, bases and CMS contractors. The Branch is also responsible for the budget allocations to regions for estate maintenance, overseeing regional expenditure and considering requests for emergency maintenance funding (for example, in the case of major storm damage).

2.9 In response to difficulties acknowledged by Defence in the delivery of estate maintenance, DSG has recently created a new section within the Garrison, Estate and Business Support Branch—the Estate and Facilities Program Office—to act as a link between ID and DSO, and to coordinate DSO at a national level. The Estate and Facilities Program Office is also expected to

²⁹ The Technical Authority is responsible for developing and promulgating policy related to the particular topic, in this case estate maintenance.

provide an oversight and management capacity for the regional delivery of estate maintenance.

Chief Operating Officer Division

2.10 The Business Services, Procurement and Contracting Branch within the Chief Operating Officer Division (COO) is responsible for overseeing the development of the CMS contracts, the tender assessment process, the ongoing performance reporting arrangements (refer to paragraphs 4.14 to 4.18) and managing a waste reduction initiative related to CMS contract administration. The Strategic Planning and Performance Management Branch within COO is responsible for performance reporting provided to the DSG Executive and the development of the replacement to the information system, DEMS.

2.11 Management of matters related to estate maintenance at a national level falls within a number of branches within the DSG divisions of ID, DSO and COO. While one Branch may have responsibility for a particular function, there is regular consultation between the branches on many of the particular responsibilities referred to in paragraphs 2.6 to 2.10.

Regional and base responsibilities

2.12 The DSG regional and base organisations are responsible for the planning and oversight of the estate maintenance services that are delivered by the CMS contractors. The division of responsibilities between the regional level and the base level varies between regions, as well as within regions. For the purpose of this discussion of roles and responsibilities, DSG operations at regions and bases will be largely considered as one responsibility.

2.13 The regions and bases are responsible for developing the IA plans, coordinating with the CMS contractors related to particular works, administering the CMS contracts, undertaking tender preparation and evaluation for new contracts, undertaking the performance management of the CMS contractors under the Contract and Performance Management System (CAPMAN), and undertaking regular strategic reviews of contractor performance. In addition, DSG at the base level is the prime point of contact with its customers. Both regional and base DSG staff play a role in assisting customers in obtaining approval for devolved works.³⁰

³⁰ These are works which are outside the Estate Maintenance approved program; funding is normally provided by the customer.

Base Accountabilities Model

2.14 The Base Accountabilities Model (BAM) was implemented in 2009. Its aim is to resolve problems of accountability between DSG and the Services, and to allow the Services to focus away from the support functions. DSG is now responsible for the provision of all common support services at Defence bases—the Services are now ‘customers’.

Implications for management of estate maintenance

2.15 The roles and responsibilities of the national, regional and base areas within DSG responsible for estate maintenance are clearly set out in the material available, and understood by the personnel spoken to during the audit. Nevertheless, at the national level within DSG, the responsibilities for planning, delivery and oversight of estate maintenance are allocated to three separate divisions and their branches. Achieving effective communication between these areas, and coordination of initiatives, is an ongoing challenge. Chapter 4 of this report recommends Defence’s approach to the delivery of estate maintenance, and the contracting model used, be reviewed (paragraph 4.40) to improve performance in the delivery of estate maintenance services. Given the number of areas involved nationally in planning and delivering estate maintenance, at the same time there would be merit in considering whether the existing spread of estate maintenance responsibilities best supports the management of estate maintenance in the longer term.

Infrastructure Management site

2.16 Infrastructure Management (IM) is the name given by DSG to its intranet site which is the prime repository of policy and process for all DSG staff involved in the management of the Defence estate. The IM aims to promulgate policy and ID’s business processes, including the procurement of capital facilities and the maintenance of existing areas.

2.17 The IM is accredited to AS/NZS ISO 9001:2008 standards and holds over 500 individual documents.³¹ For estate maintenance, many of the relevant documents are found within a section titled the ‘Estate Maintenance Lifecycle’, which displays the planning, programming and delivery phases over a 3 year timeline, with guidance documents found under the corresponding section of

³¹ The full title of the relevant standard prepared by Standards Australia and Standards New Zealand is AS/NZS ISO 9001:2008, Quality Management Systems—Requirements.

the timeline. This guidance focuses on the IA process and the Risk Managed Works program. The 'Estate Maintenance Lifecycle' page contains over 100 links to different templates, policies and procedures used at particular points of the estate maintenance lifecycle.

Planning

2.18 DSG defines the planning phase as the period two years before delivery. The planning phase involves conducting physical and desktop Infrastructure Appraisals (IAs),³² and the submission of Corporate Support and Infrastructure Requirements (CSIRs) by customers.³³ In addition to a process flow chart defining which party is responsible for each stage in the process, the IM has reference and policy guides for the IA and CSIR processes. It also has documents explaining contribution factors and maintenance standards, and various templates for the IA and CSIRs.

Programming

2.19 The programming phase, one year before delivery, involves the submission and approval of the regional bids, project briefs, plans and scoping, and the creation of a program delivery plan. Under this section, the IM provides guidance on the bidding process, project briefs and risk assessments. It also provides templates for project and program briefs, and has information related to the handover and takeover policy.

Delivery

2.20 The delivery phase, 'year zero', includes project scoping, the tendering process, project completion and handover, devolved works and reactive maintenance. The IM provides copies of all the necessary templates for project scoping, submission of purchase orders, project handover, and funding increase proposals.

Use of the IM

2.21 The IM provides guidance to DSG and contractor staff regarding the planning, programming and delivery of estate maintenance, focusing on the IA process and the Risk Managed Works program. Although the IM contains a

³² IAs form the basis of Defence's annual planning process, although they are mostly based on 'desktop' assessments and not physical inspections.

³³ Customers prepare CSIRs to forward a business case requesting minor changes to the Defence estate.

‘Latest Updates’ list showing which documents have been updated, a common comment made by users was that changes to policy and procedures incorporated in the IM were not promulgated to the regional DSG staff and contractors. This suggests that many regular users of the IM are not familiar with some of its important features.

2.22 In addition, comments made to the ANAO indicated that the IM was difficult to navigate for inexperienced users, although experienced and frequent users of the IM indicated that they were comfortable navigating the IM, and found it a useful source of guidance. Because of the complexity of navigating the IM, DSG regional staff indicated that they would not usually refer customers to the IM for guidance. Feedback on the ‘Estate Maintenance Lifecycle’ page—in which the majority of estate maintenance guidance is embedded—was that it may not be the best method of accessing or presenting such a large number of documents.

2.23 Currently DSG does not offer any specific training on use of the IM for its regional staff. Given that DSG’s regional staff rely on the IM as an essential source of guidance for their work, there would be merit in introducing specific training to assist regional staff in using the IM.

2.24 While some difficulties are encountered by inexperienced users, the IM contains sufficient guidance for DSG and contractor staff on estate maintenance. The guidance covers the principal planning and delivery activities for both regional and national office staff.

Defence Estate Management System

2.25 The Defence Estate Management System (DEMS) was first introduced in 1997 when Defence consolidated several separate systems used by different Groups and the Services. The system has been regularly updated by Defence since its introduction, and is now used for a variety of different functions. DEMS consists of software modules that support business processes used by the Defence Support Group in the delivery of CMS and GSS. DEMS is used by DSG at national, regional and base levels, as well as by DSG customers and CMS and GSS contractors. It is hosted on the Defence Restricted Network.

Functions

2.26 DEMS supports a variety of different functions, including the processing of CMS and GSS Work Requests and invoices, the IA process (refer to paragraphs 3.30 to 3.41), and the delivery of Risk Managed Works (refer to

paragraphs 1.23 to 1.24). DEMS also contains information related to heritage-listed properties.

Data quality and integrity

2.27 The ANAO received feedback on DEMS from regional DSG staff and CMS contractor staff who are regular users of the system. The system was criticised for being slow, particularly during busy periods, and the quality and integrity of data stored on the system was frequently mentioned as a concern. Inconsistent data entry by different users across different regions was frequently cited as a contributing factor to the unreliability of data in DEMS. This problem is further amplified by a lack of integration between the different modules, meaning that data that should be identical in two modules is often different, incomplete or missing from one of the modules.

2.28 For the locations examined by the ANAO, the CMS contractors use their own systems to manage and deliver their estate maintenance projects. For three of the CMS contracts examined which have the same contractor, the contractor is required by Defence to manually enter their data into DEMS, in addition to their own system. This duplication of data entry is inefficient and further reduces the resources available to be spent on estate maintenance rather than administration. In the case of the fourth CMS contract examined, the contractor is able to use a semi-automated process to reduce the time required for the double entry of data.

2.29 Defence considers that the system has underlying weaknesses in regards to data quality and reliability, and that the users of DEMS data need to be aware of this. Defence is currently developing a replacement system, the Garrison and Estate Management System (GEMS), which is intended to rectify some of these issues. Defence informed the ANAO that it has recognised the need to cleanse data prior to its transfer into GEMS to improve the quality of data. Defence has implemented a number of systems changes in DEMS to facilitate the cleansing of data and the GEMS project is engaged at the working level with current DEMS management to ensure integrity of data quality at transition.

Garrison and Estate Management System

2.30 GEMS is being developed with the intention of being used for the management and delivery of both the CMS and GSS contracts. The objectives of GEMS are set out in Appendix 1.

2.31 Defence intends that GEMS will support a range of business functions and processes—including estate planning, estate financial programming and contract management.³⁴ Defence informed the ANAO that Second Pass Project Approval by Ministers was completed on 23 December 2010. Contract negotiations with the preferred tenderer for the GEMS Solution Implementer have been completed and the contract was signed on 11 January 2011. Current expectations are that the project will be completed in early 2013.

Estate maintenance reporting

2.32 DSG compiles regular reports that specifically relate to estate maintenance.

Program status reports

2.33 The Program Status Report is a critical report for the managers of estate maintenance related to each of the CMS contracts under which services are delivered. These reports draw information from the Defence Estate Management System (DEMS), Defence's financial system and other information held on expenditure phasings. The report focuses on presenting information related to the Risk Managed Works element of estate maintenance.

2.34 DSG Regional Office staff use the Program Status Report as their principal tool for managing and oversighting the delivery of estate maintenance.

Defence Estate Performance and Investment Committee and Defence Estate Committee

2.35 The recently established Defence Estate Performance and Investment Committee (DEPIC) meets quarterly, and the Defence Estate Committee (DEC) meets monthly. These committees have national oversight of estate maintenance. The DEPIC considers alignment of the maintenance program with other strategic estate matters.

2.36 The DEC receives quarterly reports on the program from Defence Support Operations. The quarterly program reports focus on the Risk Managed Works element, covering matters such as expenditure to date against budget guidance for the year, significant approved funding increases for

³⁴ Information provided by Department of Defence.

individual projects, approved emergency works submissions and devolved works.

Additional reporting

2.37 Individual regions oversight expenditure based on reporting from Defence's financial system and DSO compiles information on expenditure and budgets nationally for a range of estate matters, including maintenance. Reporting is also provided by DSO to the committee which oversees the non-equipment procurement stream under the Strategic Reform Program.

2.38 For those parts of Defence which are responsible for CMS contract management, CAPMAN reporting (refer to paragraph 4.14) is an important tool for assessing contractors' performance in the ongoing delivery of CMS services.

2.39 The ANAO acknowledges the recent strengthening of the oversight of estate maintenance that has occurred with the establishment of the DEPIC, as well as the ongoing role played by the DEC. Reporting at the national level has provided sufficient information to identify in broad terms the key issues arising with estate maintenance, as well as the ongoing performance of maintenance management functions. Based on discussions with regional staff responsible for elements of estate maintenance, existing reports, in particular the Program Status Report, provide adequate information to assist them in monitoring the estate maintenance program.

Training

2.40 DSG has recently reformed its estate maintenance and DEMS training with the goal of increasing synergy between GSS and estate maintenance, and nationally standardising training, roles and responsibilities within DSG.

Garrison and Estate Support Services Training

2.41 In 2010, DSG launched a suite of new estate maintenance training courses called the Garrison and Estate Support Services Training (GESST). The courses are delivered by an external contractor—the winning tenderer was chosen on the basis of their ability to offer both on-line and face-to-face training delivery. The contractor is able to deliver civilian accreditation to Defence and contractor staff undertaking estate maintenance training.

2.42 GESST training is aimed at providing information on the estate maintenance planning, delivery, management of the CMS contracts, and estate

compliance requirements. The courses are delivered at regional locations, and are available to DSG and CMS contractor personnel involved in the planning and delivery of the estate maintenance program.

2.43 There are 15 courses available, covering many aspects of estate maintenance.³⁵ Staff will usually undertake multiple courses consecutively at a central location over a number of days. For staff that have undertaken their training prior to the implementation of the new GESST courses, refresher training must be undertaken.

2.44 DSG regional staff and CMS contractors informed the ANAO that the GESST training was generally appropriate for their needs. Comments on the content of the courses were positive, while some criticism was made of the speed and availability of the on-line delivery mechanism.

2.45 DSG staff in several regions reported that courses were only being offered during the peak periods of the financial year cycle when staff were too busy to attend. Another criticism from DSG staff was that the bridging and refresher courses that staff trained under the previous arrangements are required to undertake to be declared 'competent' are considered to be excessively long and failed to take into account prior knowledge and experience.

2.46 Prior to the launch of the new GESST courses, the previous Defence Facilities Training courses suffered from below-target levels of bookings in the 2009–10 financial year as a result of changes being made within DSG and Defence. In a July 2010 quarterly performance report, the contracted supplier indicated that low levels of bookings are expected to continue until early 2011, when attendance is expected to increase due to the relaunch of the training program, the development of a bi-monthly electronic newsletter for Defence distribution, and the introduction of bridging courses and advanced courses (being introduced in 2010).

2.47 Surveys are conducted for each course to obtain feedback from participants. The contractor delivering the courses sends a feedback action list to DSG for use in reviewing and improving the courses on an ongoing basis. At the time of the audit, with the recent introduction of the GESST courses, it

³⁵ Particular courses include: Infrastructure Appraisal, Estate Maintenance Bidding, Estate Maintenance Program Management, Estate Maintenance Project Delivery, CMS Fundamentals and Management of Fixed Plant and Equipment Engineering Operations.

was difficult to assess their overall effectiveness. Nevertheless, anecdotal evidence suggests that the new training courses have produced benefits in the behaviour of both DSG and CMS contractor staff.

Defence Estate Management System

2.48 A contracted firm delivers training for DEMS, and the same firm is also responsible for maintenance of the system. DEMS training is offered to DSG, CMS and GSS staff, and covers the use of DEMS for both CMS and GSS purposes.

2.49 DSG regional staff informed the ANAO that the current DEMS training courses had improved on the training provided previously. Staff indicated that the content of the DEMS training was appropriate for their purposes. Contractor staff only use limited parts of DEMS, and those staff informed the ANAO that their needs would be better met by tailoring a presentation to their needs. Currently a course is not tailored to the needs of contractor staff.

Conclusion

2.50 At the national level, responsibility for estate maintenance is spread across three Divisions and their branches, making communication and the coordination of initiatives an ongoing challenge. At the region and base level, a recent initiative has been implemented to improve the clarity and operation of DSG's role as the provider of support services, including estate maintenance, and the Services' roles as DSG's customers.

2.51 Defence has established sufficient guidance for staff engaged in the management and administration of estate maintenance, including through the Infrastructure Management site. The Defence Estate Management System supports both the planning and ongoing administration of estate maintenance, although weaknesses in the current system and its data have resulted in Defence moving to introduce a completely new system, the Garrison and Estate Management System. The new system will support a range of business functions, including estate planning, estate financial programming and contract management. Existing reporting and training arrangements support the ongoing management of estate maintenance, although there is scope to introduce training for regional staff to improve their familiarity with, and use of, the Infrastructure Management site.

3. Estate development and planning for estate maintenance

This chapter provides an overview of Defence's strategic approach to estate development, and the heritage and planning aspects of the estate maintenance process. It outlines Defence Support Group's Infrastructure Appraisal process, and the current estate maintenance funding deficit based on this process.

Introduction

3.1 The Commonwealth Property Management Guidelines, issued by the Department of Finance and Deregulation in October 2009, state that the overarching context for Commonwealth property management is the *Financial Management and Accountability Act 1997* (FMA Act). Section 44 of the FMA Act requires Chief Executives to promote the proper use of Commonwealth resources for which they are responsible. In addition, subsection 44(3) of the FMA Act defines proper use as efficient, effective and ethical use that is not inconsistent with the policies of the Commonwealth. The Guidelines state:

In relation to the management of Commonwealth Property, Chief Executives mainly discharge this responsibility by ensuring that their agencies have appropriate strategic planning, policies and procedures in place to achieve value for money in property management.³⁶

3.2 Of the principles that the Government has established for efficient, effective and ethical property management, three apply particularly to an agency's property maintenance activities. These are:

- value for money;
- property management planning; and
- appropriate accountability measures.

3.3 The Guidelines, in referring to property management plans, state:

³⁶ Department of Finance and Deregulation, *Commonwealth Property Management Guidelines*, October 2009, Canberra, p. 1.

The use and functionality of a property should be considered in addition to ongoing condition and maintenance issues.³⁷

3.4 The ANAO examined whether Defence had in place an appropriate strategic approach to estate development to provide the necessary context in which planning for maintenance of the Defence estate could be undertaken, as well as the impact of heritage issues on estate maintenance. The ANAO also examined the annual planning process undertaken for estate maintenance at the operational level to assess whether the approach adopted took account of Defence's responsibilities under the FMA Act and the need to support Defence's short and longer term capability requirements. Particular consideration was given to DSG's Infrastructure Appraisal (IA) process and how DSG allocates funding for estate maintenance projects.

Strategic approach to estate development

3.5 In its *Better Practice Guide on the Strategic and Operational Management of Assets by Public Sector Entities*, the ANAO outlined a strategic asset management framework.³⁸ The framework brings together the inter-relationships between key corporate planning activities and asset management. Maintenance forms one element of ongoing asset management under the framework.

3.6 As part of the framework, the Guide identifies four steps that are part of strategic asset management which is integrated with an entity's strategic and business planning. These are:

- identifying program delivery requirements (in Defence's case, its capability requirements);
- identifying an optimal asset mix (for Defence's estate, an optimal portfolio of bases, training areas and other facilities);
- reviewing the existing asset portfolio; and

³⁷ Department of Finance and Deregulation, *Commonwealth Property Management Guidelines*, October 2009, Canberra, p. 5.

³⁸ ANAO *Better Practice Guide on the Strategic and Operational Management of Assets by Public Sector Entities*, September 2010, Canberra, pp. 7-9.

- analysing the existing asset portfolio to assess whether it is meeting program delivery requirements (divergence analysis).³⁹

3.7 Recent reviews have commented on maintenance of the Defence Estate, and the need for a longer term strategic plan for the Defence Estate.

White Paper 2009 and Strategic Reform Program Estate Stream

3.8 During the development of the White Paper 2009, Defence identified weaknesses in the Defence planning framework for the Defence estate. In particular, Defence concluded that current estate investment was not the result of a strategic approach to estate development.⁴⁰

3.9 In the White Paper 2009, the Government set out five strategic basing principles to meet the future needs of Defence covering matters such as national security strategic requirements, consolidation, industry support, family considerations and Reserve presence. The Government also stated that Defence would introduce improvements to estate planning to ensure estate funding is prioritised according to the ADF's capability needs, the strategic basing principles and to maximise value for money from Defence's facilities works contracts.⁴¹

3.10 As part of the Estate Stream of the Strategic Reform Program (refer to paragraphs 1.10 to 1.13 in Chapter 1), Defence Support Group (DSG) is developing three layers of estate plans, at the strategic level, the operational level and the tactical or functional base level. Defence has also established the Defence Estate Performance and Investment Committee (DEPIC) which has a strategic focus on the ability of the Defence estate to support the Defence organisation overall.

Defence Budget Audit

3.11 The structure of Defence's bases was also considered by the 2008 Defence Budget Audit, known as the 'Pappas Report'. The Defence Budget Audit Report stated that the estate was an ageing, complex and costly

³⁹ ANAO, *Better Practice Guide on the Strategic and Operational Management of Assets by Public Sector Entities*, September 2010, Canberra, pp. 11-15.

⁴⁰ Defence Support Group, Department of Defence, *Estate Companion Review – A Strategic Framework for the Defence Estate* (abridged version), 2008, Canberra, p. 12.

⁴¹ Department of Defence, *Defending Australia in the Asia Pacific Century: Force 2030*, Defence White Paper 2009, Canberra, pp. 121-122.

historical legacy, in which investment for maintenance had been decreasing since the 1980s.⁴² On 17 November 2009, the then Minister for Defence noted that the Defence Budget Audit made a number of recommendations regarding the future of the Defence estate, including consolidating the Defence estate into a 'super-base' model.⁴³ The Minister indicated that the Government did not accept those recommendations and had asked Defence to undertake further work on base consolidation. The Base Consolidation Review is to include a strategic assessment of Defence's basing requirements and a detailed financial analysis of long-term costs and efficiency gains of different basing mixes. The Review is to develop options for changes to the estate over a 25 to 30 year period.

3.12 Defence informed the ANAO that it envisages that this Review will be completed in mid 2011, following which it is planned that a Government-appointed independent commission will consider Defence's recommendations. Defence also informed the ANAO that it is intended that this commission will conduct public consultation before reporting back to the Government.

Defence Strategic Training Areas and Ranges Review

3.13 As part of developing a strategic approach to training areas, the Department of Defence commissioned the Defence Strategic Training Areas and Ranges Review (DefSTARR) which was completed in March 2009. This plan drew on earlier work of the Services related to their future training requirements. The approach taken in developing DefSTARR was to aggregate user requirements for both the natural and built training environments into a total requirement for ADF training areas. The aggregated requirements were compared with the existing training areas and a capability gap list was developed which was used to inform future development requirements and priorities:

DefSTARR has produced a strategic plan for management and development of training areas. The plan will be the basis of training area development over the next 30 years, along with complementary processes that will accommodate changing user requirements and management responsibilities to ensure ongoing validity.⁴⁴

⁴² Department of Defence, *2008 Audit of the Defence Budget*, Canberra, pp. 240-241.

⁴³ Press Release by the Minister for Defence, Senator John Faulkner, 17 November 2009.

⁴⁴ Department of Defence, *Defence Strategic Training Areas and Ranges Review (DefSTARR)*, March 2009, Canberra, p. xiii.

Implications for estate maintenance

3.14 In November 2010, the Defence Estate Performance and Investment Committee (DEPIC) considered a framework for the National Defence Estate Strategy (NDES) 2030. The intention is that a draft will be put forward to the DEPIC for consideration in early 2011. The NDES 2030 is seen as the strategic level document for estate planning.

3.15 The results of the Base Consolidation Review and its consideration by Government, together with the strategic plan for training areas in DefSTARR, are expected to provide a basis for a longer term plan of Defence base and training area requirements. Any longer term basing plan for the estate would also need to be updated periodically in the light of changes to Defence's projected future capabilities. Within a long term basing plan, Defence advises that it intends to continue with its development of plans related to particular bases to provide greater detail of the existing and planned assets at those locations.

3.16 Setting longer term strategic and operational level plans for the estate is a key element to assist the Secretary to meet his responsibilities for the management of Commonwealth property (refer to paragraph 3.1). In the light of such plans for the estate, an estate maintenance plan should be developed which is based on condition assessments of the estate and reflects an authoritative view of Defence's future basing requirements. Current estate maintenance plans do not have the benefit of such strategic or operational estate plans. Defence informed the ANAO that current estate maintenance plans are developed using risk-based prioritisation and align with a broader 20 year investment program which includes capital works and leasing options.

3.17 DSG currently maintains a chart, the Defence Estate Investment Plan, which shows Defence's planned operating and capital expenditures, disposal actions and the estimated remaining lives for its major bases over the coming 20 years. This tool supports the coordination of works that are approved, but is not a strategic or operational level plan for the estate.

Heritage issues

3.18 The impact of heritage issues was regularly raised by Regional DSG staff during the course of this audit. Under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act), Defence has responsibilities related to the identification, conservation and protection of heritage assets. The

impact of these responsibilities is felt at most of Defence's major bases and it adds complexity to the planning and management of Defence's estate.

3.19 The precise number of buildings affected by heritage requirements is not known by Defence. Defence is developing Heritage Management Plans for 62 sites across Australia and, as at November 2010, 44 Heritage Management Plans had been completed.⁴⁵ The end result of this process will be a large number of facilities within the Defence estate classed as having heritage values that require consideration in estate planning and maintenance.

3.20 To gain some insight into the impact of Heritage Management Plans, the ANAO examined the Heritage Management Plan for RAAF Base Amberley. RAAF Base Amberley was first developed during World War II and is now a leading site for Air Force and Army capabilities.⁴⁶ Amberley provides a typical example of the presence of heritage assets on a Defence base. The Heritage Management Plan for RAAF Base Amberley lists historic buildings for which the base is important, such as:

- hangar 76 which is amongst the largest hangars built during the pre-World War II period and the historically associated former School of Instruction;
- the characteristic display of the use of fairface brick, the use of the Art Deco style and the use of standard design solutions for hangar 76, the former Hospital and the former Guardhouse;
- other structures important in illustrating the wartime functional layout of the base, including the Emergency Power Generator building, the Cinema, former Airmen's Mess, and former Sergeant's Mess;
- the former Operational Building as a potentially unique and rare example of a building that demonstrates the need to separate strategic command functions during wartime operations; and
- the 14 Bellman hangars, the collection of 'P1-Type Huts' scattered around the base, the two prefabricated Riley-Newsum cottages and, the 10 steel huts—which demonstrate specific construction techniques or are associated with particular conflicts.⁴⁷

⁴⁵ Defence has 72 major bases throughout Australia.

⁴⁶ RAAF combat and heavy lift aircraft are based at Amberley.

⁴⁷ Department of Defence, *RAAF Base Amberley Queensland: Heritage Management Plan Volume 1*, 3 October 2008, pp. 3-4.

3.21 The situation at Amberley is representative of the extent to which heritage assets are present on many of Defence's current bases throughout Australia. Maintaining these buildings provides a considerable challenge for DSG as, under Defence's priorities (which focus on operational capability), many of these buildings would not otherwise warrant funding for asset preservation works.

3.22 A specific example of ongoing maintenance costs associated with heritage structures is the Hammerhead Crane at Fleet Base East, Sydney (see Figure 3.1). The preservation of the Hammerhead Crane demonstrates the cost to Defence of maintaining heritage assets that are not used for operational purposes today. Heritage buildings on Defence bases are generally unsuitable for supporting modern Defence equipment or communication systems, but do have links to past methods of delivering capability. The Hammerhead Crane maintenance works that have been undertaken were required following an investigation by Comcare of safety issues related to the structure.

Figure 3.1

Hammerhead Crane, Fleet Base East

The Hammerhead Crane (HHC) was constructed between 1944–51 to assist with the removal and fitting of battleship gun turrets. The HHC is a fixed tower crane and is 61 metres in height to the top of the machinery house. Corrosion is clearly evident on a variety of surfaces. The HHC is a prominent feature of Fleet Base East (Garden Island, Sydney) and there are heritage requirements to be met related to its future. The HHC has not been used since 1996.

It is now much more economic for Defence to use commercial cranes to undertake current requirements related to the transfer of guided missile launcher systems to and from the current Adelaide class frigates than to restore HHC to full working condition. In addition, other existing platforms and planned future platforms do not have similar lift requirements.

Defence has expended a total of \$5.43 million over the past five years to undertake essential repairs as part of its response to safety concerns regarding the HHC. Further expenditure of \$2.35 million is planned in 2010–11. In addition, the HHC's location on the wharf at Fleet Base East reduces Defence's ability to efficiently service berthed ships.

Defence is currently preparing a proposal for the Minister for Defence to provide to the Minister for Sustainability, Environment, Water, Population and Communities, exploring options for retaining the heritage value of the HHC whilst improving the operational and safety aspects of Fleet Base East.

Source: Department of Defence.

3.23 Heritage provisions require Defence to maintain buildings beyond their economic life. Defence tends to take a practical approach to heritage buildings, using them as offices or storage where possible. Nevertheless, the extent of

heritage assets within the estate adds considerably to Defence's ongoing maintenance costs. A Defence Management Audit Branch audit in 2009 recommended that DSG review its strategy for the ongoing maintenance of heritage listed buildings and develop a plan consistent with the EPBC Act. The audit also recommended:

The review should take into consideration current budgetary constraints; options for removing heritage status of non-unique Defence buildings; and the impact the Defence base rationalisation will have on the number of heritage listed buildings within the Defence property portfolio.⁴⁸

3.24 In responding to this recommendation, DSG indicated that it was required to review its heritage strategy every three years, and that the next review was programmed for the second half of 2010. However, Defence informed the ANAO that any plan to rationalise Defence's heritage assets would not occur until after the completion of the Heritage Management Plans.

3.25 Given the extent of the impact of heritage issues on the maintenance of the Defence estate, the ANAO suggests that as soon as practicable following completion of Heritage Management Plans, Defence compile an omnibus submission for the Minister for Defence to provide to the Minister for Sustainability, Environment, Water, Population and Communities covering a proposed way ahead for all of the heritage buildings on Defence's major sites (whether it be ongoing preservation, disposal or demolition). This needs to be done in a coordinated and comprehensive manner (rather than on a piecemeal basis) so that the scale of the issue confronting Defence can be fully represented.

Planning process for estate maintenance

3.26 The process of identifying and documenting all the costs involved over the life of an asset is known as life-cycle costing, with maintenance costs forming an integral part of the life-cycle approach. The life cycle of an asset is the time between the recognition of a need for an asset through to its disposal. In addition, there are normally a series of upgrades and renewal processes

⁴⁸ Department of Defence, Management Audit Branch, *Management of Defence Heritage sites listed under the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 – Audit Task 09/093*, 2009, Canberra, p. 10.

required during the life of an asset that become necessary as components of the asset reach their useful life during the life span of the total asset.⁴⁹

3.27 Management of the ongoing maintenance of assets needs to recognise that it is part of the overall asset management process. Maintenance includes servicing plant and equipment and undertaking asset preservation works for facilities, as well as remedying failures. Continued deferral of the maintenance required to preserve assets contributes to earlier failures and will result in upgrades, renewal and disposal actions having to be brought forward, thus reducing the effective life of assets.

3.28 The estate maintenance program contains three main categories of expenditure (refer to paragraphs 1.20 to 1.25). These are:

- the prime contractor service fees paid to CMS contractors (which includes planned Fixed Plant and Equipment maintenance);
- reactive maintenance (which covers both Fixed Plant and Equipment and General Estate Works); and
- Risk Managed Works (which is largely General Estate Works-related).

3.29 Expenditure on the first two of these categories is largely determined based on particular requirements in the contracts with CMS providers, plans compiled by contractors after they commence the contract, and past experience of the level of expenditure. The maintenance work under the first two categories is generally considered to be necessary for the equipment and facilities on the bases to continue to operate. The third category, Risk Managed Works, is developed annually under the process that is termed Infrastructure Appraisal (IA) and Maintenance Planning.⁵⁰ Risk Managed Works is the category of work on which Defence currently concentrates its planning process.

3.30 The process that is to be followed in undertaking the IA and Maintenance Planning process is set out on DSG's Infrastructure Management intranet site (described in more detail in paragraphs 2.16 to 2.18). Some changes have been made to details of the IA and Maintenance Planning process since the version that is published on Defence's intranet, although the

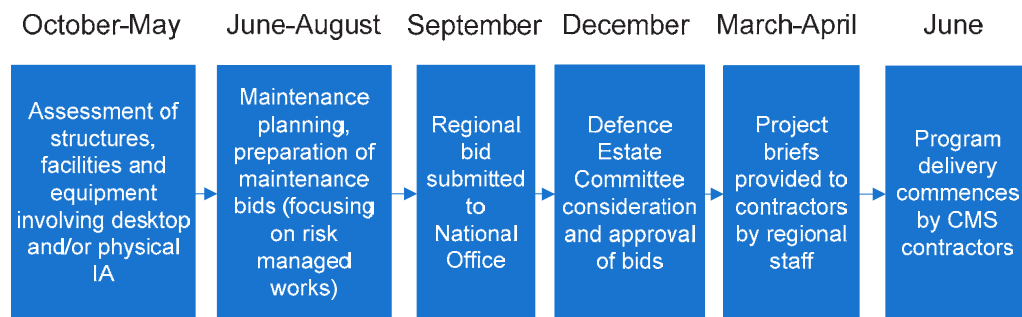
⁴⁹ ANAO Better Practice Guide, *Life-Cycle Costing*, December 2001, Canberra, pp. 3 and 8.

⁵⁰ Within Risk Managed Works there are a number of specific categories such as asbestos works and environmental works which are dealt with in different ways.

principles remain largely the same. Figure 3.2 illustrates the principal steps of the IA and Maintenance Planning process.

Figure 3.2

Infrastructure appraisal and maintenance planning



Source: ANAO analysis of Defence guidance material.

3.31 The starting point for this process is the IA. The objectives of the IA are to:

- ensure that the forward plan of works is aligned with Defence strategic plans;
- clearly define appropriate maintenance standards;
- coordinate, plan and deliver IA in a nationally consistent manner;
- ensure information collected can be used to develop approved five year maintenance plans; and
- use the approved five year plans as the basis for aggregating works into projects approved for delivery in the estate maintenance program approval process.

Contribution factors and planning priorities

3.32 To guide its allocation of resources to particular areas, Defence categorises structures to reflect their contribution to Defence capability. These are referred to as Contribution Factors (CF), with CF1 being a major asset (for example, critical command, control, intelligence and communications assets) and CF5 low importance assets (for example, recreation facilities, general storage and unused buildings). A more detailed explanation of the CF rankings is at Appendix 2.

3.33 Each proposed works is also prioritised (with rankings from P1 to P5) according to the type of work that is proposed to be undertaken. P1 are

described as works which if not completed in the year shown will result in a breach of the *Occupational Health and Safety Act 1991*, and P3 relates to asset preservation (if not completed in the year shown will result in unacceptable deterioration of the asset). The five priority rankings are explained in more detail at Appendix 3.

3.34 The application of contribution factors and planning priorities to the list of proposed works provides an initial assessment for decision makers of the works that are able to be undertaken based on particular overall priorities and funding. A significant determinant of the work that can be undertaken is the quantum of funding available. Infrastructure Division provided a paper to the Defence Infrastructure Sub-Committee for its 8 March 2007 meeting which proposed a new maintenance priority setting process.⁵¹ Given the constrained funding environment for estate maintenance:

..... a large proportion of the estate will not be provided with a level of maintenance that will retain it in a fit-for-purpose condition in the medium to long term. Significant disruption to Support, General Purpose and Low Importance assets can be expected as a result of the reduced maintenance.⁵²

3.35 The current priority setting approach contains a heavy focus on maintaining significant Defence operational capabilities. This approach, together with the level of funding being made available for estate maintenance, has resulted in many Defence facilities not receiving maintenance for their ongoing preservation. While this situation continues, maintenance backlogs will grow further and the lives of existing assets will be reduced, with added pressure to bring forward upgrades and renewals. Information relating to condition, use, required maintenance, contribution to Defence capability and OH&S requirements needs to be appraised by decision makers in considering the level and distribution of resources for estate maintenance.

Desktop infrastructure appraisal and physical infrastructure appraisal

3.36 To assess the Risk Managed Works which are required, regional DSG staff organise either a desktop IA or physical IA. A desktop IA involves regional staff, contractor staff and other suitably qualified staff assessing the

⁵¹ The Defence Infrastructure Sub-Committee was the predecessor of the Defence Estate Committee.

⁵² Paper provided to the Defence Infrastructure Subcommittee entitled 'A Maintenance Strategy for the Defence Estate' for its 8 March 2007 meeting.

available data, using the Defence Estate Management System (DEMS) and local knowledge, and producing a list of works and priorities. A physical IA uses expert personnel to physically inspect structures to assess assets against the desired maintenance standard, and the recording of works required to bring the assets up to an acceptable condition.

3.37 Based on an examination of planning processes in four sub-regions, current IA work is largely based on desktop IA assessments. In practice these assessments involve input from base and regional DSG, a review of DEMS data, input from the contractor to some degree (often covering FP&E) and in some cases discussions with customers.

3.38 Of the four sub-regions visited, physical IA assessments were undertaken routinely at one (under the Sydney Central contract). In this case the contractor undertakes the IA which involves physical inspections and discussion with the end user of the facilities. The level of effort put into the assessments under the Sydney Central contract provides reassurance to base staff and improves the available knowledge of the facilities. Defence informed the ANAO that this approach is also currently used with the CMS contractor in the Central and Northern NSW area, with contract amendments also being pursued for South West Sydney. Defence proposes that other areas will be considered progressively through contract amendments or when new contracts are negotiated.

3.39 In an internal audit concerning Defence heritage sites, Defence Management Audit Branch expressed concerns regarding the quality of the IA process:

The audit found that many environmental and estate support officers, after consistent non approvals, have stopped bidding for maintenance works for Defence heritage buildings with the result that the condition of these properties worsens every year.⁵³

3.40 This comment emphasises the need for assessments to be made each year and that these assessments include condition, use and required works as well as data on contribution to Defence capability and safety matters.

⁵³ Department of Defence, Management Audit Branch, *Management of Defence Heritage sites listed under the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999—Audit Task 09/093*, 2009, Canberra, p. 5.

3.41 The end result of the IA process is that Defence has a list of prioritised works covering a five year period. This list is used as a basis for development of the three year estate maintenance program which is put to the Defence Estate Committee for approval in December each year (refer to Figure 3.2). Defence informed the ANAO that works are included in the program up to the amount of available funds. The IA process does not produce a condition assessment as such, but rather a list of works to bring facilities up to a particular standard.

3.42 The ANAO discussed with three non-Defence agencies (two State departments and one Commonwealth agency) their approaches to developing their maintenance works programs.⁵⁴ The key difference between the approach taken by these agencies and Defence related to documenting clearly the condition of facilities as part of the planning process. All these non-Defence organisations undertake formal condition assessments, and retain information on the condition of facilities. The approach used by two of these organisations involved using specialist staff to undertake these assessments. The Queensland Government publishes their approach to building condition assessments as part of its Maintenance Management Framework.⁵⁵ The condition index that is used by the Queensland Government is shown in Table 3.1.

⁵⁴ From a review of material available on the internet, there is little published material on how overseas Defence agencies manage their maintenance of facilities at the operational level. The United Kingdom National Audit Office has published a report on Defence estate planning, *A defence estate of the right size to meet operational demands* (9 July 2010), but this does not address maintenance management issues.

⁵⁵ Department of Public Works, Queensland Government, Maintenance Management Framework, Guideline—*Building Condition Assessment*, October 2008, available from <http://www.works.qld.gov.au/downloads/bpu/mmf_bca.pdf> [accessed 20 October 2010].

Table 3.1**Condition index**

Rating	Status	Definition of rating/condition of building asset
5	Excellent	no defects; as new condition and appearance
4	Good	minor defects; superficial wear and tear; some deterioration in finishes; major maintenance not required
3	Fair	average condition; significant defects are evident; worn finishes require maintenance; services are functional but need attention; deferred maintenance work exists
2	Poor	badly deteriorated; potential structural problems; inferior appearance; major defects; components fail frequently
1	Very poor	building has failed; not operational; not viable; unfit for occupancy or normal use; environmental/contamination/pollution issues exist

Source: Department of Public Works, Queensland Government, Maintenance Management Framework, Guideline—*Building Condition Assessment*, October 2008.

3.43 As well as gathering data on the condition of facilities, there is a need to have up to date information on the extent to which the facilities are being used. This has not been routinely available from Defence's information systems.⁵⁶

3.44 The allocation of funds for estate maintenance purposes within Defence is determined based on a consideration of Defence's overall priorities, and supporting arguments for funding particular activities. Providing sufficient funding for estate maintenance is an ongoing challenge in Defence's environment due to the need to accommodate competing demands for funds. Within this environment, Defence's ability to fully appreciate the risks associated with its estate maintenance responsibilities would benefit from having up-to-date data on the condition and usage of individual facilities. While acknowledging that maintenance will at times need to make way for high priority operational requirements, this information, together with proposals to bring the facilities up to an acceptable standard, should provide Defence with an improved basis to assess maintenance funding and manage maintenance of estate assets in an efficient and effective manner.

3.45 For organizations with ongoing service delivery responsibilities, the value of an effective maintenance program for its assets is well recognized. The

⁵⁶ Certain data was collected relating to usage and condition on a one-off basis for work related to the Defence White Paper, although this data was not complete. Defence informed the ANAO that this data was added to DEMS in late 2010.

Queensland Government's Maintenance Management Framework describes the substantial long-term benefits of good maintenance:

..... assets will perform better; their life will be extended; operating costs will be reduced; and users/community members will have a favourable perception of government services. A policy of continuing deferred maintenance will result in higher costs than if normal maintenance had occurred. Insufficient funding to perform needed repairs will lead to a backlog of maintenance projects which will adversely impact on future maintenance budgets.⁵⁷

3.46 In relation to engineering maintenance, in September 2010 in a brief to the Navy's Seaworthiness Board for the Land Platform Amphibious, Rolls Royce indicated that \$1 of planned maintenance prevents \$5 of corrective (reactive) maintenance. As well as properly planning for maintenance, identified maintenance requirements need to be appropriately funded.

Allocating funding flowing from the Infrastructure Appraisal process

3.47 Table 3.2 sets out the result of the IA process undertaken by DSG for the three financial years from 2011–14.⁵⁸ Defence informed the ANAO that this illustrated the funding methodology applied for planning purposes. The shaded areas demonstrate which categories of projects are to be funded or partially funded. Of the total projects put forward for 2011–14 of \$1.039 billion, \$267 million will be funded.⁵⁹

⁵⁷ Department of Public Works, Queensland Government, Maintenance Management Framework, *Policy for the maintenance of Queensland Government buildings*, December 2009, p. 9 and p. 15, available from <http://www.works.qld.gov.au/downloads/bpu/mmf_policy_dec09.pdf> [accessed 20 October 2010].

⁵⁸ Defence uses a three year funding program for estate maintenance.

⁵⁹ Minor new works audits, environmental works, the contamination program, DEMS operation and the Airfields Program are not included in this priority setting process, but are funded from the Risk Managed Works allocation. Accordingly, the actual expenditure under Risk Managed Works is higher than the works to be funded following the IA process (in this case \$267 million). This allocation has also been affected by reductions under the Strategic Reform Program.

Table 3.2**Summary of infrastructure appraisal for 2011–14**

	P1	P2	P3	P4	P5	TOTAL
CF1	\$10 305 873	\$21 777 795	\$70 142 666	\$10 115 082	\$12 923 440	\$125 264 855
CF2	\$14 956 864	\$73 983 966	\$132 870 523	\$9 332 865	\$25 420 008	\$256 564 226
CF3	\$24 127 063	\$58 985 883	\$250 897 880	\$18 106 572	\$91 458 335	\$443 575 733
CF4	\$10 062 204	\$17 441 436	\$86 074 336	\$11 325 058	\$42 151 805	\$167 054 839
CF5	\$4 423 003	\$2 470 731	\$19 387 995	\$3 837 200	\$15 989 250	\$46 108 179
TOTAL	\$63 875 005	\$174 659 811	\$559 373 401	\$52 716 777	\$187 942 838	\$1 038 567 833

Note: Unshaded categories will not be funded.

Categories for which 100% funding is to be provided.

Categories for which 19.5% funding is to be provided.

Source: ANAO analysis of Defence data.

3.48 Assuming that all P1 works need to be undertaken, and that all facilities in the range of CF1 to CF4 are in use and therefore should be preserved as assets (requiring works up to P3 to ensure preservation of the assets), based on Defence's existing IA process the amount required to maintain the estate for the longer term would be \$771.6 million over the three years 2011–14. Using Defence's current assessment of the maintenance requirement (notwithstanding the weaknesses discussed in paragraphs 3.36 to 3.39), the maintenance funding deficiency will be approximately \$500 million in 2011–14.⁶⁰

3.49 In addition to the use of the IA process in planning, Defence applies a risk assessment process to inform the development of the estate maintenance program for Risk Managed Works. The factors considered include capability and occupational health and safety aspects, but also take into account the

⁶⁰ The funding allocation for Risk Managed Works for 2011–14 is \$267 million. This is approximately \$500 million less than the estimate of \$771.6 million required to maintain the estate (based on Defence's existing IA process).

implications of undertaking particular works for financial efficiency, personnel morale and productivity, and Defence's reputation. Defence informed the ANAO that maintenance activity under Risk Managed Works is based on risk and the available funding.

3.50 DSG officials advised the ANAO that it is important that buildings that are uneconomic to repair should not be occupied on an informal or opportunistic basis as this adds to the maintenance requirement. Defence indicated that this is an ongoing difficulty in managing the estate. Use of such buildings inevitably leads to increased pressure on the maintenance budget.

Stakeholder feedback

3.51 The ANAO spoke to Service representatives, as well as representatives of the Defence Science and Technology Organisation and the Defence Materiel Organisation, at the bases visited concerning the planning of estate maintenance. The key comments made in the course of these discussions regarding planning were that there was a lack of adequate funding for estate maintenance, and that there needed to be a strategic approach to estate planning.

Engineering services assessments

3.52 Defence's major bases have generally been in place for at least 50 years, with many dating back to the period of World War II. Many of Defence's bases have infrastructure similar to that of a small town or substantial industrial estate. This can include water and power reticulation, roads, drainage, wharves, airfields and fuel lines. The DSG staff undertaking the IA process are generally not qualified to undertake assessments of the more technical aspects of these services. Nor is there a routine process of obtaining specialist advice to provide condition assessments of engineering services and advice on necessary remedial works.

3.53 In the case of airfields, DSG has established a national program for their maintenance. Data related to the condition of airfields and necessary maintenance work on airfields, including related engineering works, is managed on a national basis.

3.54 Apart from the airfield component of bases, assessing the condition of engineering services currently typically only occurs in the context of major base redevelopments or proposals to introduce significant new capabilities to a particular base. Other work, such as fixing broken water mains and some road repairs, is limited by the level of funds available to maintain infrastructure

services and can be beyond the capacity of the estate maintenance program to undertake. There is currently no routine assurance that engineering services are in an appropriate condition at major bases.

3.55 At two of the bases visited during the audit, Defence advised the ANAO of significant weaknesses in underlying engineering services. These related to the supply of drinking water at one base and underground fuel lines at another base. For example, RAAF Base Pearce has been dependent on bottled drinking water for a number of years which will continue until the water supply is upgraded. In April 2011, Defence informed the ANAO that a project to upgrade the RAAF Base Pearce potable water infrastructure is underway with the aim of having a Head Contractor engaged by the end of July 2011. Defence expects that the works will be completed in 2011–12.

3.56 Without routine and regular arrangements to assess the condition of engineering services at its bases, and identify necessary remedial action, operation of engineering services may give rise to unknown risks with potential operational, economic and environmental impacts. The need for remedial work in relation to engineering services is recognised within Defence and limited funding has been provided as part of the White Paper 2009 (refer to paragraph 1.11). Initial funds (\$190 million for the first four years) have been applied where Defence's ongoing presence is assured and there are known deficiencies or weaknesses in infrastructure services.

3.57 From a planning perspective, it is critical that Defence regularly assesses the condition of its engineering services at its bases and develops a program of remediation and renewal that addresses risks identified as part of its condition assessments. Defence informed the ANAO that it has recently commenced undertaking assessments of the condition of engineering services at its bases. The first stage involves the evaluation and validation of current knowledge and the second stage will involve testing and assessment of engineering infrastructure on bases. In January 2011, Defence informed the ANAO that it had commenced work to conduct physical inspections to assess the condition of in-ground infrastructure at a number of significant bases.

Conclusion

3.58 Defence is in the process of putting in place a strategic approach to estate development which will result in a longer-term plan for Defence base and training area requirements. Current estate maintenance plans do not have the benefit of such longer-term plans for the estate, although they are

developed using risk-based prioritisation and align with a broader 20 year investment program. In addition, following completion of its Heritage Management Plans, and given the extent to which heritage issues affect the ongoing estate maintenance program, there would be benefit in Defence compiling an omnibus submission for its Minister to put forward seeking the ongoing preservation, disposal or demolition of heritage buildings on its major bases. Having a longer-term plan for the estate and an approved way ahead for heritage sites, would assist in determining the level of funding for estate maintenance consistent with its approved future use.

3.59 Defence currently undertakes estate maintenance planning based on an Infrastructure Appraisal process which establishes the extent to which particular facilities contribute to Defence capability and prioritises proposed works depending on their purpose (for example, to meet occupational health and safety requirements or for asset preservation). In most regions the assessment process has been undertaken by regional DSG staff. Based on a comparison with other public sector agencies with large estates, Defence could improve its existing planning process by including assessments of the condition of facilities and information on their use as part of the planning material presented to decision makers. In addition, having condition assessments undertaken by personnel with relevant technical qualifications would improve the quality of estate maintenance planning.

3.60 At the time of the audit there was not a routine process in place to assess the condition of engineering services, such as power reticulation and fuel lines. To reduce the risk associated with engineering services, it is critical that Defence regularly assesses the condition of its engineering services and develops a program of remediation and renewal. In January 2011, Defence informed the ANAO that it had commenced work to conduct such assessments.

3.61 Planning for maintenance of the Defence estate has not been fully effective, with a need for Defence to base plans on up-to-date data on the condition and usage of estate facilities. In addition estate maintenance planning would benefit from Defence having in place longer-term plans for the estate itself. Further, based on Defence's current assessment of the maintenance requirement and its existing allocation for maintenance, the funding deficiency for estate maintenance will be approximately \$500 million in 2011–14.

Recommendation No.1

3.62 To improve planning for estate maintenance, the ANAO recommends that Defence:

- (a) bases its estate maintenance planning on technical assessments of the condition of facilities and their usage, as well as continuing to take into account contribution to Defence capability and legislative requirements;
- (b) undertakes periodic assessments of the condition of engineering services at bases and ranges and proposes any necessary maintenance or alternative remedial action; and
- (c) having regard to up-to-date data on the condition and usage of its buildings and infrastructure, as well as its overall priorities, reassesses the level of funding allocated to maintain the estate in an economic manner.

Defence response:

3.63 Defence agreed to the recommendation.

4. Delivery of estate maintenance

This chapter covers the delivery of estate maintenance by the CMS contractors, and the role that DSG staff play in the delivery process.

Introduction

4.1 The audit examination focused on the estate maintenance services being delivered by the CMS contractors.⁶¹ Attention was given to estate maintenance operations and how the CMS contracts were performing, and initiatives that Defence is pursuing to improve performance and value for money for estate maintenance.

4.2 Delivery of estate maintenance services is largely undertaken through the Comprehensive Maintenance Services (CMS) contracts which Defence has in place throughout its regions across Australia. The detailed contract arrangements are based on a national standard contract model and statement of work with some regional variations where necessary. Services are currently provided under 12 contracts across Australia (corresponding to Defence's previous 12 regions).⁶² Typically the contract provides an initial service delivery period of five years, with provisions for extensions of further periods of four single years up to a maximum contract period of nine years.

4.3 The key services provided by CMS contractors are:

- management of the services being delivered (governed by a range of policy and legislative requirements) and project management of Risk Managed Works;
- a property service call centre, to which breakdowns or failures are reported and which organises for repairs to be undertaken;⁶³
- management of general estate works (which includes many reactive maintenance tasks);

⁶¹ The audit did not examine the airfields program being delivered by Infrastructure Division.

⁶² These contracts correspond to the 12 regions that, until July 2009, were the basis of DSG's regional structure. This report refers to DSG's previous 12 regions as sub-regions, given the current 5 region structure.

⁶³ The most common categories of work types undertaken in reactive maintenance include electrical, plumbing and air conditioning repairs.

- planned maintenance for fixed plant and equipment (FP&E), as well as repairs to FP&E;
- engineering services in relation to matters such as electricity and sewerage operations; and
- expert estate advice.

4.4 Airfield and runway maintenance had been undertaken as part of these contracts, although maintenance of this element of the estate is now managed centrally by Infrastructure Division but still forms part of estate maintenance.

Estate maintenance operations and performance

4.5 Currently Defence operates 12 contracts across Australia which provide CMS services. These contracts represent, in part, an outsourcing of activities that Defence itself undertook a decade ago. Elements of the services delivered by the contractors, such as for reactive maintenance or planned maintenance of FP&E, broadly reflect the arrangements that the Commonwealth had undertaken itself previously. Reactive General Estate Works are in the main undertaken by sub-contractors to the principal CMS contractors, and reactive and planned FP&E are generally undertaken by CMS contractor staff.

4.6 The extent to which the CMS contractors are operating directly in the place of Defence is illustrated in Statement of Work (SOW) for the provision of ‘General Estate Works Management’:

The Contractor must procure the GE Works in accordance with the Commonwealth Procurement Guidelines and the Defence Procurement Policy Manual under the broad guidelines illustrated in the following flow chart and set out in the paragraphs below.⁶⁴

4.7 The SOW sets out in detail the processes that a contractor is to follow, including:

- submit a tender evaluation plan relating specifically to the work to Defence for approval;
- prepare tender documentation and submit the design;
- procure the work in accordance with the tender evaluation plan;

⁶⁴ Western Australian CMS Contract, Part C, Schedule 2, Statement of Work, Section 32, General Estate Works, Management, p. 6.

- call quotes or tenders depending on the complexity and size of the work;
- provide a copy of each tender to the Tender Evaluation Board Members (which will include Defence); and
- examine and analyse all tenders received, taking into account whole-of-life and sustainability where applicable and provide a Tender Evaluation Board report to Defence.

4.8 Defence informed the ANAO that outsourced activities undertaken by contractors closely replicate those that were previously undertaken by Defence, with the intent of closely matching the Commonwealth Procurement Guidelines and the exercise of appropriate financial delegations for the commitment of funds associated with the delivery of general estate works. As prime contractors are in large part replicating previous internal Defence processes, there are limits to which innovation and efficiencies can be pursued.

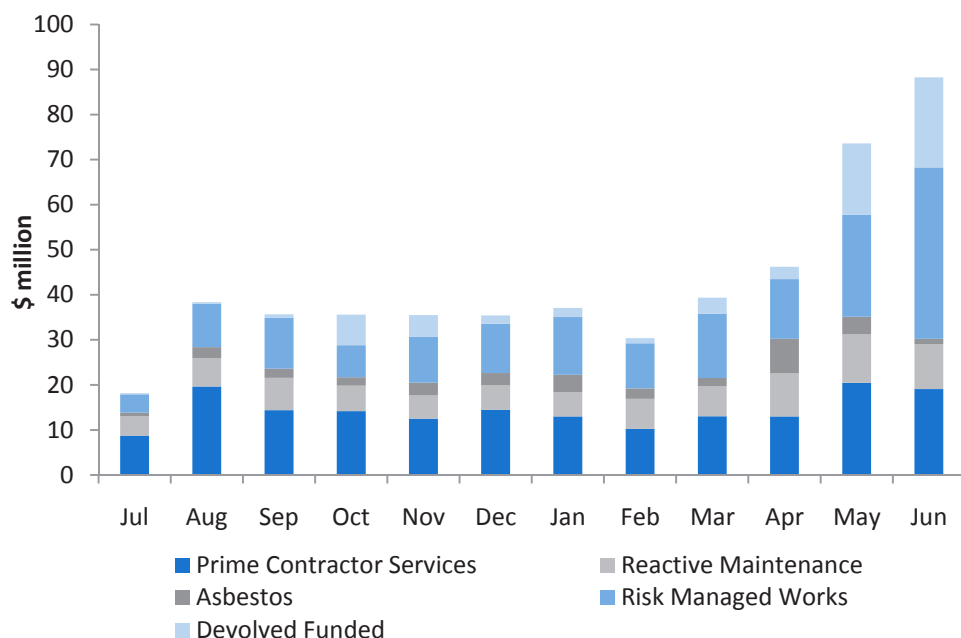
4.9 In addition to the Risk Managed Works funded by DSG under the estate maintenance budget, devolved works are estate related works that are requested by a party for delivery through the estate maintenance program. These works are usually directly funded by the sponsor and do not compete for funding through the formal infrastructure bidding process. Currently these projects are also managed by the CMS contractors.

Expenditure pattern throughout the year

4.10 Figure 4.1 shows the monthly expenditure under the principal categories of estate maintenance throughout 2009–10. Detailed explanation of these expenditure categories is in Table 1.1 and paragraphs 1.18 to 1.25.

Figure 4.1

Expenditure by category in 2009–10



Notes: This chart is derived from cumulative spending tables provided by Defence.

Source: Department of Defence.

4.11 Figure 4.1 shows that Risk Managed Works and devolved works are skewed to the May and June period (illustrating the management difficulty for DSG and its contractors associated with the timing of these works). By contrast, reactive maintenance is reasonably steady throughout the year, although the rise in May and June suggests managers are undertaking priority works with their remaining funds.

4.12 Defence informed the ANAO that the higher historical achievements in May and June have primarily been the result of Defence not placing work orders until after the start of the new financial year and the focus on single year commitments. The new three year rolling program for Risk Managed Works has been implemented to enable managers to forward commit and smooth out the work effort across the year.

CAPMAN reporting and strategic reviews

4.13 The ANAO examined the performance of the services delivered to Defence under four of the 12 CMS contracts in place as part of the audit. The four contracts include the two firms which have the majority of CMS contracts.

The four sub-regions covered by these contracts contain major bases of all three Services, as well as facilities operated by the Defence Science and Technology Organisation and the Defence Materiel Organisation. The ANAO assessed the performance of services delivered to Defence based on the strategic reviews undertaken under the CMS contracts, Contract and Performance Management (CAPMAN) reporting and discussions with DSG staff who were responsible for estate maintenance.

4.14 CAPMAN reporting is used as the performance management tool under CMS contracts. Quality targets are established by Defence for each CMS service and are used as the trigger point for changes to CAPMAN traffic light reporting. The Minimum Quality Target (MinQT) reflects the point at which performance quality begins adversely affecting operational capability and is unacceptable to Defence. The Agreed Quality Target (AQT) reflects customer capability requirements, supplier agreements and past performance.⁶⁵ The scoring is undertaken initially by the contractors and is based on guidance material laid down by Defence. DSG staff review the scores and also undertake certain assessment activities themselves. In some cases scores are not agreed between the contractor and Defence. Where scores are not agreed, there is a negotiation/evidence process between the parties followed by a formal dispute resolution process if necessary. Table 4.1 relates the traffic light reporting to the CAPMAN quality targets.

Table 4.1

CAPMAN traffic light reporting

Traffic light	Description
Green	Any score at or above AQT
Orange	Any score at or above MinQT, but less than AQT
Red	Any score below MinQT

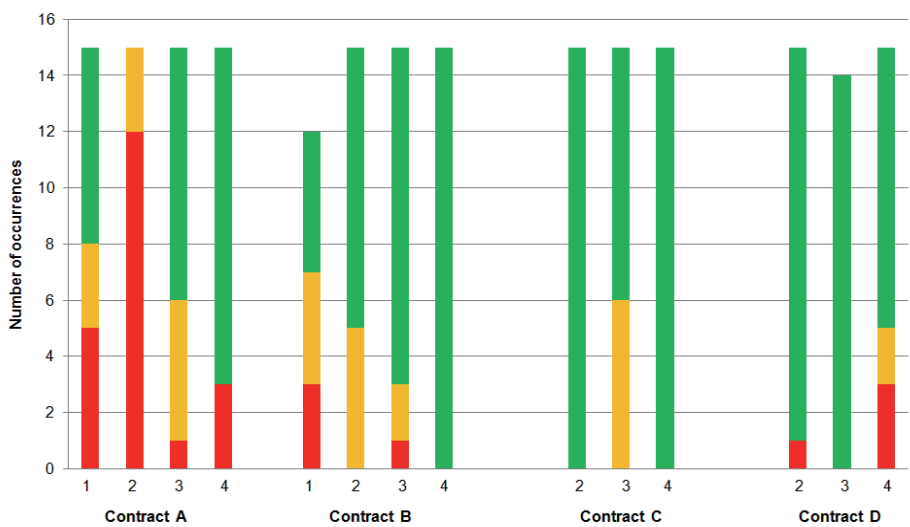
Source: Department of Defence.

4.15 The ANAO analysed the CAPMAN reporting for four contracts examined over the period July 2009 to September 2010 to determine the frequency with which the green, orange and red traffic lights occurred which provide indicators of contractor performance in the delivery of estate

⁶⁵ Defence Support—Western Australia CMS Contract, Part C, Schedule 4, Performance Management Framework, p. 3.

maintenance. This performance material, together with the outcomes of Defence’s strategic reviews for these contracts, provides an overall assessment of how well these contracts are performing in the delivery of estate maintenance services. For those indicators that were recorded for each base rather than as an aggregate across all bases under the contract, an average was derived to give a monthly average for the contract so that comparative material could be presented for the four contracts and indicators. Figure 4.2 illustrates the relative delivery performance under the four contracts.

Figure 4.2
Frequency of traffic light reporting against performance indicators, July 2009 to September 2010



- Notes: The performance indicators are:
1. GEW Management – Minimal variation between total tendered costs and pre-tender estimates;
 2. GEW Management – All reactive building requests are achieved within required response times;
 3. GEW Management – All planned works or routine maintenance completed on or before target date;
 4. FP&E – All defects dealt with appropriately within required response times.

Indicator 1 was not measured for contracts C and D as these contracts were established prior to the introduction of this indicator. Some indicators did not have a recorded result for each month (for example, indicator 1 for contract B) and therefore the displayed total is less than 15 in these cases.

Source: ANAO analysis of Defence data.

4.16 The performance indicators show that delivery under two contracts was satisfactory, but that performance was not as good for the other two. Based on indicator 3, contract D is best at delivering GEW on time. Defence informed the ANAO that poor performance was usually related to a failure to perform in the planning and delivery of Risk Managed Works. The ability to shape the works from the early planning stage (with the contractor undertaking the Infrastructure Appraisal process) increases the likelihood of the contractor being able to deliver the program within target dates due to more effective and realistic planning. Defence is seeking to expand the application of this approach to conducting the Infrastructure Appraisal process (refer to paragraph 3.38). Failure to deliver programmed Risk Managed Works in a particular year can also affect later years as backlogs of projects develop.

4.17 Under the Performance Management Framework in the CMS contracts, contractors' performance against strategic level indicators affects whether they are offered extensions beyond the initial service delivery period of 5 years. The following are some of the key indicators against which the strategic level performance of the contract and the collaborative relationship between the contractor and Defence are assessed:

- level of engagement of small to medium enterprises;
- contract service delivery performance;
- contract compliance performance;
- health of the collaborative relationship;
- occupational health and safety; and
- customer satisfaction.

4.18 The ANAO examined the most recent strategic reviews of the four CMS contracts for the areas examined within the audit. For the four contracts concerned, the overall performance was mixed and Defence did not offer performance based extensions to all four contractors. Offers were based on the results of the particular strategic review.

Stakeholder feedback

4.19 The ANAO spoke to Service representatives, as well as representatives of the Defence Science and Technology Organisation and the Defence Materiel Organisation, at the bases visited concerning the delivery of estate maintenance. Key comments made in the course of these discussions regarding maintenance delivery were that, in some locations, there was a lack of

capability by the contractor to deliver devolved works,⁶⁶ and that forgoing maintenance with aesthetic benefits affected the reputation of their Group or Service. Despite the negative tone of some of the comments made, customers generally commented that DSG staff at the bases and regional offices worked hard to attempt to achieve the best outcomes for customers and Defence.

Overall estate maintenance delivery performance

4.20 Based on the audit's examination of recorded performance, the performance of services delivered under contract to Defence has been mixed. Of the four sub-regions examined, two had performed acceptably, while for the other two sub-regions there was unsatisfactory performance for some elements of the services delivered. The key weakness in the performance within these two sub-regions was the contractors' inability to deliver the full Risk Managed Works program. This is reflected in Defence's performance management assessments made under the CMS contracts and its strategic reviews, and is supported by information from DSG staff who were involved in managing those contracts.

Improvements in performance and value for money

4.21 Given the results that have been achieved in the past, consideration needs to be given to how performance might best be improved in the future. Chapter 3 reported proposed improvements in the planning process, designed to promote the conduct of technical condition assessments as a foundation for estate maintenance funding decisions. Funding decisions also need to reflect the most economic method of maintaining required facilities for Defence in the long term.

4.22 In addition to planning improvements, there is scope to change the existing model for the delivery of maintenance services. This could occur through the more widespread adoption of improved practices that have been put in place in specific contracts, and consideration of further changes to the design of estate maintenance contracting arrangements in the longer term.

⁶⁶ Devolved projects is the title given to maintenance projects that are undertaken at the priority of, and cost to, the customer rather than DSG.

Use of in-house trade personnel and an increased prime contractor role for the CMS contractor

4.23 For the Base Services Contract covering North Queensland (which includes services normally covered in CMS contracts) a pilot program was introduced at one base whereby the contractor employed their own trade personnel (for example, plumber, carpenter, electrician) to undertake routine low value maintenance. In the case of the North Queensland base this is being undertaken on a fixed fee basis.

4.24 Defence advised that it is yet to undertake a comprehensive cost comparison of the use of in-house trade personnel and the use of sub-contractors. Preliminary comments by regional staff indicate that response times are much better, that there is some focus on proactive maintenance and customer satisfaction is higher.

4.25 The Request for Tender (RFT) that Defence issued for CMS in Central Northern New South Wales (CNNSW) in 2010 has extended the approach taken in North Queensland at one base to the whole of the CNNSW contract, as well as including provisions for the prime contractor to undertake larger general estate works using their own staff where that provided value for money. In addition, the RFT for CNNSW provides for the successful contractor to undertake the IA process for Defence. This approach is considered by DSG staff to have been successful in the case of the current Sydney Central contract.

Standing offer panel arrangements for certain categories of works

4.26 Defence is also taking steps to set up standing offer panel arrangements which will provide alternatives to the CMS contracts to undertake certain works. Defence informed the ANAO that the new standing offer will include a range of estate maintenance services (to be determined following stakeholder consultation). Defence envisages that the standing offer will be used by regional DSG and CMS contractor personnel and national DSG Infrastructure Asset Development staff, depending on the circumstances. Defence commented that there may be merit in segmenting Risk Managed Works into those that could be effectively undertaken by the general estate works contractors and those that would be best developed and delivered as mid level capital works using a standing offer panel.

4.27 Defence proposes that these arrangements will come into place in mid to late 2011. Consistent with these arrangements, there would be merit in establishing a control board to exercise control over any changes that are made to the estate as part of any works undertaken under this process.

Training areas and ranges improvement program

4.28 Another example of Defence taking a different approach to purchasing works services relates to a proposal to appoint a manager for a ranges program. Defence is looking to engage a multi-disciplined company that is represented across multiple regions and sites where Defence is located as a program manager for a national training areas and ranges improvement program. Defence has issued requests for proposals to suitable firms to ascertain the level of interest from firms, their proposed approach and methodology, and pricing arrangements. The consultant would be required to plan, scope, design, coordinate and manage a schedule of works across a number of Defence training areas.

Longer term approach to estate maintenance contracting

4.29 Under the existing CMS contracts the prescribed process to be followed by the contractor is the same as it would be if Defence itself were sub-contracting to individual service providers for specific projects. To the extent that the contractual arrangements required the prime contractor to ensure a competitive and value for money outcome, but did not specify how this was to be achieved, there would be scope for prime contractors to deliver innovative approaches. At the same time, there would be merit in Defence having an independent reviewer (for example, a quantity surveyor) undertake a review of the costs associated with a sample of projects each year. This would provide Defence with assurance regarding the approach being taken by the prime contractor, or a basis for questioning the prime contractor if the reviewer found reason to query the cost of certain projects.

4.30 The RFT for General Estate Works for CNNSW provides, in respect of performance based GEW, that the contractor is to maintain detailed records (on a fully open book basis) of the actual cost of performing all works.⁶⁷ That RFT also refers to the contractor being required to provide survey data and ‘as

⁶⁷ Request for Tender, Comprehensive Maintenance Services, Central Northern New South Wales sub-region, 2010, Part 4, Section 32, clause 32.3.6(3).

constructed' data in a specific electronic format.⁶⁸ With comprehensive condition assessments being undertaken as proposed in Chapter 3, and Defence having full access to the contractor's own records and data on changes to facilities, the ANAO suggests that the need for detailed information on maintenance works to be kept in Defence's own system may be reduced, providing efficiencies. Better practice suggests that there are limited data points required for the effective management of an asset:

- the component of upkeep;
- the frequency of its upkeep;
- the date last performed;
- the date next due; and
- whether the component is capital or operating.⁶⁹

4.31 In paragraph 3.54, reference is made to regular condition assessments of engineering services not being undertaken as part of the existing Infrastructure Appraisal (IA) process. Defence is currently developing a process to undertake the assessment and planning of upkeep of engineering services on a national basis. In a similar manner, Defence may be best served by managing the delivery of maintenance for engineering services (such as fuel, power and water) at a national or aggregate basis.

4.32 As part of any broader set of changes, Defence may consider having some services currently delivered by CMS contractors delivered instead by the Garrison Support Services (GSS) contractors (which provide services such as cleaning, grounds maintenance, access control and catering). Performance based GEW and FP&E may be able to be dealt with effectively by GSS contractors along with their other services.

4.33 Given that current CMS contracts expire from the end of 2011, it would be timely to review the experience with the existing contract model and put in place improved arrangements for the future.

⁶⁸ Request for Tender, Comprehensive Maintenance Services, Central Northern New South Wales sub-region, 2010, Part 4, Section 32, clause 32.20.2.

⁶⁹ ANAO Better Practice Guide, *Strategic and Operational Management of Assets by Public Sector Entities*, September 2010, Canberra, pp. 27-28.

Implementation

4.34 Prior to making changes to the delivery of estate maintenance and the contracting model, there would be merit in Defence developing a blueprint for future estate maintenance services. Putting such a blueprint into action is likely to involve significant change compared with the existing CMS contracts. Currently there are 12 separate contracts involving CMS which end at different times in coming years. These contracts vary in design, with some being combined with the provision of Garrison Support Services (GSS), and some being only for the provision of CMS. Giving effect to a coordinated approach to future estate maintenance would require Defence to develop a detailed strategy on how it wished to transition from the current state to its desired future state, including the provision of maintenance capability separate from the contracting model.

4.35 In addition, there are a large number of areas within Defence which have a role to play in this process and therefore would need to be involved, to some extent, in the change process (refer to paragraphs 2.6 to 2.13). The key DSG divisions involved would be the Chief Operating Officer Division, Defence Support Operations and Infrastructure Division. There would also be an impact from changed arrangements at both the DSG regional and base level.

4.36 Best practice related to managing change of this nature is to adopt a formal change management approach, including:

- definition of key roles and responsibilities;
- management of risks and issues;
- transition operations;
- program management infrastructure;
- the delivery of capability; and
- measurement and realisation of benefits.⁷⁰

⁷⁰ *Managing Successful Programmes*, Office of Government Commerce, 3rd edition, The Stationery Office, United Kingdom, 2007, p. 167.

Conclusion

4.37 For the four sub-regions examined, performance of the delivery of estate maintenance services was mixed. Two sub-regions had performed acceptably, while for the other two sub-regions there was unsatisfactory performance for some elements of the services delivered. The key weaknesses related to the contractors' inability to deliver the full Risk Managed Works program. In light of the results of strategic reviews for the four contracts, Defence did not offer performance based extensions to all four contractors.

4.38 Defence is currently introducing initiatives to improve delivery performance in estate maintenance as the opportunity arises. This includes giving prime contractors the scope to provide services using their own staff, rather than sub-contractors, where that provides value for money. In addition, Defence is taking steps to establish standing offer panel arrangements which will provide alternatives to CMS contracts to undertake certain works. Defence commented that there may be merit in segmenting Risk Managed Works into those that could be effectively undertaken by general estate works contractors and those that would be best developed and delivered as mid level capital works using a standard offer panel.

4.39 With existing CMS contracts expiring from the end of 2011, it would be timely for Defence to review the experience with the existing contract model and put in place improvements for the future. Given the number and complexity of existing contracts, Defence should adopt a formal change management approach in implementing revised delivery and contractual arrangements.

Recommendation No.2

4.40 To improve the delivery of maintenance services, the ANAO recommends that the approach to estate maintenance delivery be reviewed to focus on the outputs that Defence requires, and that Defence:

- (a) undertakes work to develop an improved contracting model for the delivery of estate maintenance, including Risk Managed Works, for the next round of contracts;

- (b) considers building on its initiatives to have prime contractors undertake low cost general estate works themselves, and separating Risk Managed Works between those best undertaken by the prime contractors and those best delivered as mid level capital works; and
- (c) develops a change management plan to support the implementation of revised delivery and contracting arrangements.

Defence response:

4.41 Defence agreed to the recommendation.



Ian McPhee
Auditor-General

Canberra ACT
17 May 2011

Appendices

Appendix 1: Objectives of the Garrison and Estate Management System

The objectives of the Garrison and Estate Management System (GEMS) are to:

- support the stewardship of the Defence Estate and the delivery of Garrison Services and to improve decision making through the provision of:
 - a robust and reliable repository of quantitative and qualitative information and data on the Defence Estate and Garrison Services, linked to appropriate corporate systems;
 - business intelligence and analytical tools drawing on quantitative and qualitative data to inform strategic planning, performance management and other estate and garrison support functions provided to a wide audience using statistical, graphical, visual, spatial and any other appropriate tools;
- assist Defence to achieve the Strategic Reform Program initiatives and savings in relation to the Defence Estate and Garrison Services;
- introduce and support industry better practice business processes;
- automate business processes to provide greater business effectiveness and efficiency;
- improve information sharing across areas involved in estate and garrison services;
- facilitate exchange of electronic information between Defence and Defence contractors; and
- form a component of the Defence SAP Enterprise Resource Planning environment and be supported in the Defence Information Environment – Standard Operating Environment.⁷¹

⁷¹ GEMS summary provided by Department of Defence.

Appendix 2: Contribution Factors

1. Table A 1 sets out in detail the guidance that Defence has promulgated on how the contribution factor rankings are to be determined.

Table A 1

Contribution factor rankings

Contribution Factor	Type of Asset	Example
1	Major	<p>Major Assets provide a very high level contribution towards operational and personnel capability. These assets are or have areas critical to the operation of military platforms, Australian Defence Organisation (ADO) objectives or national objectives. As a consequence of a lack of planned maintenance, the compromise of a Major Asset would be of major concern to the ADO with repercussions such as:</p> <ul style="list-style-type: none">• very High impact on the overall capability of the ADO; or• very high danger to many members of the public or the ADO. <p>Examples include:</p> <ul style="list-style-type: none">• critical command, control, intelligence and communications assets;• critical pre-deployment, high level training and operational areas of National importance that have no alternate options; and• access roads and essential services critical for un-interrupted operation of Major Assets only.

Contribution Factor	Type of Asset	Example
2	Important	<p>Important Assets provide a direct and high level contribution towards operational and personnel capability. These assets are or have areas critical to the operation of a military platform, national security objective or Group objective or are essential for effective operation of a Major Asset.</p> <p>As a consequence of a lack of planned maintenance, the compromise of an Important Asset would be a high concern to Australia's national security, with repercussions such as:</p> <ul style="list-style-type: none"> • high impact on the overall capability of the ADO; • high danger to many members of the public or the ADO; • lengthy lead times to restore extant capabilities; • high embarrassment to the ADO; or • very high asset replacement costs. <p>Examples include:</p> <ul style="list-style-type: none"> • essential military working accommodation and healthcare buildings; • storage facilities for weapons, ammunition, combustible materials and medications; • important training and operational areas with limited high cost/high risk alternate options; and • critical access roads and essential services for Important assets.
3	Support	<p>Support Assets perform a capability support function to enable the efficient and effective functioning of operational and personnel capability and Major and Important Assets. As a consequence of a lack of planned maintenance, the compromise of a Support Asset would be a moderate concern to Australia's national security, with repercussions such as:</p> <ul style="list-style-type: none"> • short-term impairment of an Important Asset's functions; • danger to many members of the public or the ADO; • lengthy lead times to restore capability support; or • moderate embarrassment to the ADO. <p>Examples include:</p> <ul style="list-style-type: none"> • capability support working accommodation; • training and educational assets where alternate low risk/low cost options are available; • military vehicle storage; • high-use live-in accommodation; and • roads, water and electricity for Support Assets and backup electricity for Important Assets.

Contribution Factor	Type of Asset	Example
4	General Purpose	<p>General Purpose Assets perform day-to-day base functions supporting operational and personnel capability. As a consequence of a lack of planned maintenance, the compromise of a General Purpose Asset could cause the temporary impairment of a Support Asset's functions or a moderate impact to a single capability element (e.g. base unit).</p> <p>General Purpose Assets are typically:</p> <ul style="list-style-type: none"> • low in replacement value; • require regular maintenance; • require normal fire protection; and • require normal security protection. <p>Examples include:</p> <ul style="list-style-type: none"> • office, retail and assembly buildings; • general live-in accommodation and detached houses; and • general purpose utilities and engineering structures.
5	Low Importance	<p>Low Importance Assets are typically:</p> <ul style="list-style-type: none"> • low in replacement value; • require occasional maintenance; • require reduced fire protection; and • require reduced security protection. <p>Examples include recreation facilities, monuments, car parks, general storage, and unused buildings.</p>

Source: Department of Defence.

Appendix 3: Planning Priority

1. Table A 2 sets out in detail the guidance Defence has promulgated on how the priority of works is to be determined.

Table A 2

Planning priorities used for Infrastructure Appraisal

Priority	Type	Description
1	Occupational Health and Safety (OH&S) or OH&S Statutory Works	A Work Request (WR) that if not completed in the year shown will result in a breach of OH&S law
2	High Risk to Defence Capability	A WR that if not completed in the year shown will result in a major failure to Defence capability
3	Asset Preservation	A WR that if not completed in the year shown will result in unacceptable deterioration of the asset
4	Low Risk to Defence Capability	A WR if not completed in the year shown could result in a minor loss of Defence capability
5	Life Cycle Replacement	A WR that is not a priority 1-4 but is required to ensure the functionality of the asset

Source: Department of Defence.

Index

B

Base Accountabilities Model (BAM), 7, 20, 30, 39
Base Consolidation Review, 11, 17, 50, 51
Base Services Contract, 13, 29, 75

C

Comprehensive Maintenance Contract (CMC), 7, 12, 29
Comprehensive Maintenance Services (CMS), 12–13, 15–17, 19–20, 27, 29–30, 32, 36–37, 38, 41–46, 55, 58, 67–79
Contract and Performance Management System (CAPMAN), 7, 38, 44, 70, 71
Contribution Factors (CF), 56, 84
Corporate Support and Infrastructure Requirements (CSIR), 40

D

Defence Estate Committee (DEC), 7, 27, 43, 44
Defence Estate Management System (DEMS), 17, 32, 36–38, 41–44, 46, 58, 60–61
Defence Estate Performance and Investment Committee (DEPIC), 43–44, 49, 51
Defence Science and Technology Organisation (DSTO), 35, 63, 71, 73
Defence Support Group (DSG), 12–13, 15–20, 25, 27, 29–30, 32–58, 61, 63, 65, 67, 69–71, 74–75, 78
Defence Support Operations (DSO), 27, 33, 35, 37–38, 43, 44, 78
Defence White Paper 2009, 12, 27–28, 29, 34, 49, 60, 64
Devolved works, 31–32, 38, 40, 44, 69–70, 74

E

Engineering services, 15, 19–21, 29, 33, 63–64, 65–66, 68, 77
Environmental Protection and Biodiversity Conservation Act 1999, 8, 12, 17, 51, 54

F

Facilities Operations (FACOPS), 8, 27, 34
Financial Management and Accountability Act 1997, 8, 47–48, 93
Fixed Plant and Equipment (FP&E), 8, 13, 15–16, 18–19, 29, 31–32, 45, 55, 58, 68, 72, 77

G

Garrison and Estate Management System (GEMS), 17, 42–43, 46, 83
Garrison Support Services (GSS), 8, 12, 17, 29, 30, 36, 41–42, 44, 46, 77, 78

I

Infrastructure Appraisal (IA), 15, 20, 37–38, 40–41, 45, 47–48, 55–59, 61–63, 65, 73, 75, 77, 87
Infrastructure Division (ID), 27, 32, 35, 37–39, 57, 67–68, 78
Infrastructure Management (IM), 8, 16, 36–37, 39, 40–41, 46, 55

N

National Defence Estate Strategy (NDES) 2030, 51

R

Reactive maintenance, 13, 15, 18, 31–32, 40, 55, 67–68, 70
Risk Managed Works, 13, 15, 18–19, 22, 29, 31–33, 37, 40–41, 43, 55, 57, 61, 62, 67, 69, 70, 73–75, 79–80

S

Strategic Reform Program (SRP), 8, 12, 20, 28–29, 37, 44, 49, 61, 83

V

Value for money, 16, 19, 29, 47, 49, 67, 74–76, 79

Series Titles

ANAO Audit Report No.1 2010–11

Implementation of the Family Relationship Centres Initiative

Attorney-General's Department

Department of Families, Housing, Community Services and Indigenous Affairs

ANAO Audit Report No.2 2010–11

Conduct by Infrastructure Australia of the First National Infrastructure Audit and Development of the Infrastructure Priority List

Infrastructure Australia

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The Establishment, Implementation and Administration of the Strategic Projects Component of the Regional and Local Community Infrastructure Program

Department of Infrastructure, Transport, Regional Development and Local Government

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National Security Hotline

Australian Security Intelligence Organisation

Attorney-General's Department

Australian Federal Police

ANAO Audit Report No.5 2010–11

Practice Incentives Program

Department of Health and Ageing

Medicare Australia

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The Tax Office's implementation of the Client Contact - Work Management - Case Management System

Australian Taxation Office

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Confidentiality in Government Contracts: Senate Order for Departmental and Agency Contracts (Calendar Year 2009 Compliance)

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Multifunctional Aboriginal Children's Services (MACS) and Crèches

Department of Education, Employment and Workplace Relations

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Green Loans Program

Department of the Environment, Water, Heritage and the Arts

Department of Climate Change and Energy Efficiency

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Capitalisation of Software

Australian Bureau of Statistics

Civil Aviation Safety Authority

IP Australia

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Centrelink

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Department of Families, Housing, Community Services and Indigenous Affairs

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2009–10 Major Projects Report

Defence Materiel Organisation

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Emergency Response*

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Australian Taxation Office

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Department of Families, Housing, Community Services and Indigenous Affairs

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30 June 2010*

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Home Ownership of Indigenous Land Program

Department of Families, Housing, Community Services and Indigenous Affairs

Indigenous Business Australia

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The Design and Administration of the Better Regions Program

Department of Regional Australia, Regional Development and Local Government

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Department of Education, Employment and Workplace Relations

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Management of the Tender Process for a Replacement BasicsCard

Department of Human Services

ANAO Audit Report No.27 2010–11

Restoring the Balance in the Murray-Darling Basin

Department of Sustainability, Environment, Water, Population and Communities

ANAO Audit Report No.28 2010–11

Management of the Australian Broadband Guarantee Program

Department of Broadband, Communications and the Digital Economy

ANAO Audit Report No.29 2010–11

Management of the Implementation of New Policy Initiatives

Australian Federal Police

ANAO Audit Report No.30 2010–11

Digital Education Revolution Program—National Secondary Schools Computer Fund

Department of Education, Employment and Workplace Relations

ANAO Audit Report No.31 2010–11

Administration of the Superannuation Lost Members Register

Australian Taxation Office

ANAO Audit Report No.32 2010–11

Northern Territory Night Patrols

Attorney-General's Department

ANAO Audit Report No.33 2010–11

The Protection and Security of Electronic Information Held by Australian Government Agencies

ANAO Audit Report No.34 2010–11

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Department of Foreign Affairs and Trade

ANAO Audit Report No.36 2010–11

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Department of Human Services

ANAO Audit Report No.37 2010–11

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Department of Defence

ANAO Audit Report No.38 2010–11

Management of the Certificate of Compliance Process in FMA Act Agencies

ANAO Audit Report No.39 2010–11

Management of the Aviation and Maritime Security Identification Card Schemes

Attorney-General's Department

Department of Infrastructure and Transport

ANAO Audit Report No.40 2010–11

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Department of Defence

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