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The Parliament of the Commonwealth of Australia

# Report 458

## Defence Major Projects Report (2014-15)

**Review of Auditor-General Reports No 16 (2015-16)**

Joint Committee of Public Accounts and Audit

May 2016  
Canberra

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## Foreword

The Major Projects Report (MPR) provides review and analysis of the progress of selected major Defence acquisition projects managed by Defence. It considers cost, schedule, and capability performance and includes longitudinal analysis of projects over time. This year's report covers 25 projects with a combined approved budget of \$60.4 billion.

The aim of the MPR is to improve the accountability and transparency of Defence acquisitions for the benefit of Parliament and other stakeholders.

The MPR is a joint publication of Defence and Australian National Audit Office (ANAO); and is prepared in accordance with Guidelines approved by the JCPAA.

The JCPAA assesses the overall content, accessibility and transparency of the information provided in the MPR, in addition to specific details of individual projects.

This year's MPR is the first document of its type to be produced by the Department of Defence following the reforms from the *First Principles Review: One Defence* (FPR) in April 2015. Ongoing commitment, resourcing and leadership will be required to continue to improve the MPR and to fully exploit the opportunities that the First Principles Review process offers.

In this year's review, the Committee notes that project schedule slippage remains a concern despite the initial impression of improvement due to the exit of a number of projects which had not reached Final Operational Capability. The Committee agrees with ANAO, that it remains critical that Defence correctly assesses initial purchase type – that is, between COTS, MOTS, A-MOTS and Developmental – so that projects and their anticipated risks are managed at the appropriate level. The Committee therefore anticipates that it will continue to monitor project schedule slippage in future reviews.

The Committee has also reviewed a number of specific projects that incurred cost and/or time delays – including the Air Warfare Destroyers, and the MRH-90 helicopter acquisition. The Committee notes that despite expectations that the risks involved in these projects were considered to be mitigated, initial program

classification and sub-optimal contract arrangements have resulted in Australian taxpayers carrying a greater burden than necessary.

However, overall, the Committee notes with satisfaction that the MPR as a document and as a process has developed into an excellent tool to assess the status of Defence major acquisition projects. The Committee commends both the ANAO and the Department of Defence on their continued work on this topic.

I thank Committee members for their deliberation on these matters. I also thank Defence and ANAO representatives who appeared at public hearings for assisting the JCPAA in its important role of holding Commonwealth agencies to account for the efficiency and effectiveness with which they use public monies.

Hon Ian Macfarlane MP  
Chair





## Membership of the Committee

Chair      Hon Ian Macfarlane MP


Deputy  
Chair      Mr Pat Conroy MP

Members   Hon Anthony Albanese MP  
              Ms Gai Brodtmann MP  
              Mr Andrew Giles MP  
              Dr David Gillespie (from 19 Oct 2015)  
              Dr Peter Hendy MP (to 12 Oct 2015)  
              Mr Craig Laundry MP  
              Mrs Jane Prentice MP  
              Mr Angus Taylor MP  
              Mr Ken Wyatt MP (to 12 Oct 2015)

Senator Cory Bernardi  
Senator Katy Gallagher (until 12 Nov 15)  
Senator Chris Ketter  
Senator Jenny McAllister (from 12 Nov 15)  
Senator Bridget McKenzie  
Senator Dean Smith

## Committee Secretariat

Secretary	Mr David Brunoro
Senior Research Officer	Dr Andrew Gaczol
Administrative Officer	Ms Tamara Palmer



## Terms of reference

On Thursday 11 February 2016, the Joint Committee of Public Accounts and Audit resolved to review ANAO Report No. 16 (2015–16), *2014-15 Major Projects Report*, in detail.

Under section 8 of the legislation establishing the JCPAA, the Public Accounts and Audit Committee Act 1951, one of the duties of the Committee is to ‘examine all reports of the Auditor-General (including reports of the results of performance audits) that are tabled in each House of the Parliament’ and ‘report to both Houses of the Parliament, with any comment it thinks fit, on any items or matters in those ... reports, or any circumstances connected with with them, that the Committee thinks should be drawn to the attention of the Parliament’.



# List of recommendations

## 5 Committee Comment

### Recommendation 1

Noting the importance of clear roles, responsibilities, accountabilities and lifecycle management processes, the Committee recommends that the Department of Defence publish the outcomes from Recommendation 2:11 of the *First Principles Review* as soon as practicable and that a summary of this information be included in the next Major Projects Report.

### Recommendation 2

To ensure consistency with project level risk information and to improve reliability, the Committee recommends that the Department of Defence review the procedure for development of expected capability estimates for future Major Projects Reports.

### Recommendation 3

The Committee recommends that the Department of Defence work with the Australian National Audit Office to review and revise their policy regarding Project Maturity Scores in time for the new approach to be implemented in the next Major Projects Report.

### Recommendation 4

The Committee recommends that Defence conduct a review of the Air Warfare Destroyer (AWD) contractual arrangements, examining the distribution of liabilities for project problems. The report should examine:

- how much each alliance partner lost or was liable for when the project ran over budget; and

- what lessons have been learned from the AWD experience in terms of future contractual arrangements and how these lessons have been incorporated into the standard practices of Defence to help mitigate such issues arising in the future.

A report on that review should be provided to the Committee within 6 months of the tabling of this Committee report.



## Summary

- 1.1 The yearly examination of the Major Projects Report (MPR) by the Joint Standing Committee on Public Accounts and Audit (JCPAA) yields not only specific points of interest in terms of individual projects but also reveals broader themes.
- 1.2 This year's MPR is also the first document of its type to be produced by the Department of Defence as a whole, rather than by the now defunct Defence Materiel Organisation (DMO). The reform of the Department following the release of the government's *First Principles Review: One Defence* (FPR) in April 2015 represented an opportunity for Defence to redress some of the issues identified by the MPR process.
- 1.3 The Committee notes with satisfaction that the MPR as a document and as a process has developed into an excellent tool to assess the status of Defence major acquisition projects. The Committee commends both the ANAO and the Department of Defence on their continued work on this topic.
- 1.4 However, the Committee notes the ongoing management and administration issues identified by ANAO and has made comment on the following:
  - ⇒ That project schedule slippage remains a concern despite the initial impression of improvement. The Committee further believes that it remains critical that Defence correctly assesses initial purchase type – that is, between COTS, MOTS, A-MOTS and Developmental – so that projects and their anticipated risk are managed at the appropriate level.
  - ⇒ The ANAO's assessment that the delivery of capability estimates are in some cases overly optimistic has been noted by the Committee with concern.

- ⇒ That Defence's risk assessment processes are generally appropriately but inconsistently applied, and key elements of framework are unfinished – suggesting that increased scrutiny of projects from Defence leadership may be required to better identify and manage risks.
- ⇒ The Committee sees the shift from the Project Maturity Scores to the Materiel Implementation Risk Assessment (MIRA) as problematic as these two approaches do not seem to serve the same purpose and are hence not interchangeable.

1.5 In terms of specific projects, the Committee notes the following:

- **Joint Strike Fighter (JSF)**

- ⇒ The most expensive project in this year's MPR, the Committee notes the continued difficulties with the project and the possibility of Canada's withdrawal from the JSF program which may, in turn, have implications for the unit cost of the aircraft.

- **Air Warfare Destroyer (AWD)**

- ⇒ The requirement for an additional \$1.2 billion in funding raises questions about the contract arrangements for the project and who carries the responsibility and financial burden for this extra-expenditure.

- **MRH-90 Multi-Role Helicopter**

- ⇒ The MRH-90 has experienced a number of problems, some of which have been resolved and some of which are still in process. Although the aircraft has reached Initial Operational Capability (IOC) for both Navy and Army, Final Operational Capability (FOC) is yet to be achieved and there are problems with the Electronic Warfare System (EWS).

- **Armed Reconnaissance Helicopter (ARH) - Tiger**

- ⇒ The ARH Tiger is also an aircraft that has experienced a number of problems, though its current status has improved. Although FOC is expected soon, the ARH Tiger, as with the MRH-90, also has difficulties with its EWS as they are very similar systems.

- **Collins-class submarines**

- ⇒ The Committee notes the increased availability of the Collins-class submarines and the improvements in the platform's management following the Coles Review.



- **UHF SATCOM**

- ⇒ The UHF SATCOM is now expected to be delayed by 38 months from May 2015 to July 2018 due to ongoing issues with the modification of Commercial-Of-The-Shelf software.

- **C-27J - battlefield airlift**

- ⇒ Initial IOC for the C-27J is expected in late 2016. The MPR PDSS indicates that the original estimate for FOC was December 2017, but this has been delayed to September 2018. Despite the US Air Force divesting itself from the program, Defence is still expecting the acquisition to be in budget.

- **Heavyweight Torpedo**

- ⇒ The Heavyweight Torpedo for the six Collins Class submarines has been supplied by the US Government with the final weapons delivered to Australia in January 2012. FOC was originally planned for November 2013 but is now expected in February 2019.

1.6 The Committee has made a range of comments in Chapter five, and made four recommendations which focus on:

- the *First Principles Review* and its impact on Defence reform and acquisition processes, particularly with regard to the reintegration of the Defence Material Organisation and importance of clear roles, responsibilities, accountabilities and lifecycle management processes
- the consistency with project level risk information within Defence and the MPR
- requesting a review of Defence policy regarding Project Maturity Scores before the next Major Projects Report
- requesting review of the AWD contractual arrangements examining the distribution of liabilities for project problems and what lessons have been learned from the AWD experience for future projects



## Background to the Inquiry

- 2.1 The 2014-15 Major Projects Report (MPR) is a consolidated review of 25 selected major defence acquisition projects ('Major Projects') being managed by the Department of Defence ('Defence'). Projects in the MPR include, for example:
- Air Warfare Destroyers;
  - Joint Strike Fighters;
  - MRH90 helicopters;
  - Collins Class Submarines; and
  - Battlefield Airlifter.
- 2.2 The MPR reviews overall issues, risks, challenges and complexities affecting Major Projects and also reviews the status of each of the 25 selected Major Projects, in terms of cost, schedule and forecast capability. The MPR is a joint publication of Defence and Australian National Audit Office (ANAO) and is prepared in accordance with Guidelines approved by the Joint Committee of Public Accounts and Audit (JCPAA).
- 2.3 The aim of the MPR is to improve accountability and transparency of Defence acquisition for the benefit of the Parliament and other stakeholders.
- 2.4 The MPR comprises a series of Project Data Summary Sheets (PDSSs) for each of the 25 selected projects and an overarching analysis by ANAO and DMO. Project data (except forecasts of capability) is subject to an assurance audit by the Auditor-General.

## Role of the Committee

- 2.5 In February 2012, the JCPAA identified the future MPRs as a priority assurance reviews.<sup>1</sup> This allows ANAO to utilise information gathering powers available under the *Auditor-General Act 1997*.<sup>2</sup>
- 2.6 More generally, the JCPAA has a duty under s.8(d) of its Act to report to Parliament on any matters in the “accounts, statements or reports” of the Commonwealth or Auditor-General “or any circumstances connected with them, that the Committee thinks should be drawn to the attention of the Parliament.”<sup>3</sup>
- 2.7 The MPR is automatically referred to the JCPAA in accordance with its statutory obligation to examine all reports of the Auditor-General that are tabled in each House of Parliament.<sup>4</sup>
- 2.8 The JCPAA assesses the content, accessibility and transparency of the information provided on Major Projects. The Committee examines overall transparency, performance and governance, in addition to specific details of individual projects.
- 2.9 As well as reviewing the MPR, the Committee annually reviews and endorses the MPR Guidelines. The MPR Guidelines include:
- criteria for project selection and removal (or ‘entry’ and ‘exit’);
  - a list of projects proposed for inclusion or removal from the MPR;
  - the roles and responsibilities of the Defence in the production and review of the MPR;
  - guidelines for the preparation of the PDSSs;
  - a PDSS template; and
  - an indicative audit program.
- 2.10 The Guidelines endorsed by the JCPAA and used to prepare the 2014-15 MPR can be found in Part 4 of the MPR on page 451.

## Conduct of the review

- 2.11 The Committee received two submissions to the inquiry, which are listed at Appendix A.

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1 *Major Projects Report 2011-12*, p.17; JCPAA, *Report 429*, p.33; *Auditor-General Act 1997* (Cth) s.19A(5).

2 *Major Projects Report 2011-12*, p.17; JCPAA, *Report 429*, p.33.

3 *Public Accounts and Audit Committee Act 1951* (Cth) s.8(1)(d).

4 *Public Accounts and Audit Committee Act 1951* (Cth) s.8(1)(c).

- 2.12 The JCPAA has reviewed the MPR by way of a public hearing in Canberra with representatives of ANAO and Defence, which was held on 17 March 2016. Witnesses who appeared at the hearing are listed at Appendix B.



## Summary of Major Projects Report 2014-15

### Introduction

- 3.1 This chapter provides an overview of the 2014-15 Major Projects Report (MPR) and a summary of the Australian National Audit Office (ANAO)'s findings in regard to cost performance; schedule performance; capability performance; and governance and business processes.
- 3.2 This overview is not intended to be exhaustive, particularly as the entire document is almost 500 pages long. Rather, it seeks to highlight a few key aspects of the document and some of the pertinent issues raised through the ANAO and Defence analysis.
- 3.3 This chapter will review:
  - First Principles Review: from DMO to CASG
  - Major Project Report fundamentals
    - ⇒ The Project Data Summary Sheets
  - Major Projects reviewed in 2014-15
    - ⇒ General
    - ⇒ Entry and Exit of Projects
    - ⇒ Projects of Concern at 30 June 2015
  - ANAO Review
    - ⇒ Total Schedule Performance
    - ⇒ In-year schedule performance
    - ⇒ Project Maturity Framework

## ***First Principles Review: from DMO to CASG***

- 3.4 The *First Principles Review: Creating One Defence* (FPR) is a major government review of the Australian Defence Organisation. The FPR is the thirty-sixth substantive government review of Defence since the 1973 *Tange Review* – the report on the re-organisation of the Defence group of departments. The FPR's approach to reforming Defence includes addressing 'waste, inefficiency and rework' by looking holistically at Defence's business structures, materiel acquisition and sustainment capability, and the efficiency and effectiveness of practices within the department.<sup>1</sup>
- 3.5 As a result, the Defence Materiel Organisation (DMO) was delisted from 1 July 2015, and merged back into the Department of Defence (Defence)<sup>2</sup> as the Capability Acquisition and Sustainment Group (CASG).<sup>3</sup> CASG continues to have the former DMO's objective to provide the materiel equipment and sustainment elements of capability for the ADF in an effective, efficient, economical and safe manner.<sup>4</sup>
- 3.6 Specifically, the relevant FPR recommendation states:
- significant investment to develop an operational framework which comprehensively explains how the organisation operates and the roles and responsibilities within it; detailing the life cycle management processes which provide project and engineering discipline to manage complex materiel procurement from initiation to disposal; and reviewing architecture to reinforce accountability at all levels and bringing together information upon which good management decisions can be made.<sup>5</sup>
- 3.7 Under the FPR, CASG will take on the responsibility for developing and delivering integrated project plans that will encompass all Fundamental Inputs to Capability (FIC) (including personnel, training, supplies, facilities, training areas, logistics, support, command and management).<sup>6</sup>

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1 ANAO, Audit Report No. 16 (2015-16), *Major Projects Report 2014-15*, hereafter referred to as '*Major Projects Report 2014-15*', p. 21.

2 *Major Projects Report 2014-15*, p. 21.

3 '*First Principles Review: Creating One Defence*', <<http://www.defence.gov.au/Publications/Reviews/Firstprinciples/Docs/FirstPrinciplesReviewB.pdf>> accessed 9 March 2016. Table of Recommendations on p. 4.

4 *Major Projects Report 2014-15*, p. 83. Footnote 185.

5 Recommendation 2:11

6 *Major Projects Report 2014-15*, p. 87.



Accountability for requirements setting and management transferred to the Vice Chief of the Defence Force and the Service Chiefs.<sup>7</sup>

- 3.8 In addition to its new duties, CASG's role will extend across the totality of the acquisition lifecycle, from contributing to the early stages of project development before formal Government approval, to delivering the materiel elements of major projects as approved by Government, sustaining and upgrading them once in service and eventually managing their disposal at the end of their service life.<sup>8</sup>

## Major Project Report fundamentals

- 3.9 The MPR is structured into three parts:
- Part 1: ANAO review and analysis, which includes:
    - ⇒ Review, scope and approach of the MPR;
    - ⇒ Analysis of Projects' Performance including cost, schedule and capability performance analysis; and
    - ⇒ Developments in Acquisition Governance.
  - Part 2: The Defence Major Projects Report itself. This includes:
    - ⇒ Consolidated information on the status of Major Projects, such as project, budget and schedule performances, reflected by the Project Data Summary Sheets (PDSSs).
    - ⇒ Discussion of Major Projects' progress or challenges.
  - Part 3: Auditor-General's independent review report; Secretary of Defence statement and 25 PDSSs.
  - Part 4: MPR 2014-15 MPR Guidelines. The guidelines as endorsed by the JCPAA.
- 3.10 Whereas other audit reports may contain recommendations, ANAO does not include recommendations in the MPR.

## The Project Data Summary Sheets

- 3.11 The collection of PDSSs for each of the 25 selected projects form the largest portion of the MPR. The PDSS are presented in a form compliant with

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<sup>7</sup> *Major Projects Report 2014-15*, p. 87.

<sup>8</sup> *Major Projects Report 2014-15*, p. 87.

Guidelines endorsed by the JCPAA.<sup>9</sup> In their current form, the PDSSs are structured as follows:

- Project Header – including name; capability and acquisition type; approval dates; total approved and in-year budgets; stage; complexity; and image;
- Section 1 – Project Summary: including description; current status, including a financial assurance and contingency statement; context, including background, unique features and major risks and issues; and other current sub-projects;
- Section 2 – Financial Performance: including the project’s budget and expenditure, as well as variations to the budget; in-year variances between budgeted and actual expenditure; and major contracts in place (in addition to quantities delivered as at 30 June 2015);
- Section 3 – Schedule Performance: provides information on the design development; test and evaluation process; and forecasts and achievements against key project milestones including Initial Materiel Release (IMR), Final Materiel Release (FMR), Initial Operational Capability (IOC) and Final Operational Capability (FOC);
- Section 4 – Materiel Capability Delivery Performance: provides a summary of the Defence’s assessment of its progress on delivering key capabilities and whether the milestones were achieved;
- Section 5 – Major Risks and Issues: outlines the major risks and issues of the project and remedial actions undertaken for each;
- Section 6 – Project Maturity: provides a summary of the project maturity as defined by Defence and a comparison against the benchmark score;
- Section 7 – Lessons Learned: outlines the key lessons that have been learned at the project level (further information on lessons learned by the Defence are included in the DMO’s Appendix 3); and
- Section 8 – Project Line Management: details current project management responsibilities within the Defence.<sup>10</sup>

3.12 In terms of presentation, the PDSSs were largely unchanged from both the 2011-12 MPR, 2012-13 MPR and 2013-14 MPR.

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<sup>9</sup> *Major Projects Report 2014-15*, p. 8.

<sup>10</sup> *Major Projects Report 2014-15*, p. 10.

## Major Projects reviewed in 2014-15

### General

- 3.13 In 2014-15, the DMO managed over \$11 billion in of acquisition and sustainment programs and other management services. As at 30 June 2015, DMO managed 181 major Defence equipment acquisition projects (major projects) with an average value of \$530.5 million.<sup>11</sup> Total value of the 25 MPR projects is \$60.4 billion.
- 3.14 The MPR examines 25 of the largest and most technically challenging of these. The key aspects of this MPR are:
- as at 30 June 2015, all projects are delivering capability within the approved budget. Government is considering a real cost increase for the Air Warfare Destroyer Build (AWD) project;
  - analysis has identified that average schedule slippage to Final Materiel Release (FMR), the point at which the DMO has delivered all of the approved materiel requirements, is 14 per cent for the 25 projects in this year's sample compared with 11 per cent for the 30 projects in last year's sample (noting that 23 projects are common to both years);
  - the removal of seven projects reported in the 2013-14 MPR (F/A-18 Hornet Upgrade; Guided Missile Frigate Upgrade; Next Generation SATCOM Capability; High Frequency Modernisation; SM-1 Missile Replacement; Artillery Replacement and Follow-on Stand Off Weapon); and
  - the inclusion of two projects (Maritime Communications Modernisation and Maritime Patrol and Response Aircraft System (Boeing P-8A Poseidon)) bringing the total number of reported projects to 25.<sup>12</sup>
- 3.15 The MPR only covers 25 of the 181 major projects as at 30 June 2015 (14 per cent of the Approved Major Capital Investment Program and 61 per cent by value), so caution must be applied when extrapolating any analysis to the entirety of Defence's acquisition effort. This is because the projects in the MPR are not necessarily representative of all projects: the 25 projects are the largest by budget, at the time of inclusion and, in general, involve higher levels of complexity than other Defence projects with relatively smaller budgets.<sup>13</sup>

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11 *Major Projects Report 2014-15*, p. 85.

12 *Major Projects Report 2014-15*, p. 85.

13 *Major Projects Report 2014-15*, p. 99.

Table 1 –2014-15 MPR Projects and Approved Budgets at 30 June 2015<sup>14</sup>

Project Number	Project Name	Project Name Abbreviation	2014-15 In-Year Budget \$m	Total Approved Project Budget \$m
AIR 6000 Phase 2A/2B	New Air Combat Capability	Joint Strike Fighter	296.5	15,181.1
SEA 4000 Phase 3	Air Warfare Destroyer Build	AWD Ships	763.2	7,891.1
AIR 7000 Phase 2B	Maritime Patrol and Response Aircraft System	P-8A Poseidon	516.4	3,977.8
AIR 5077 Phase 3	Airborne Early Warning and Control Aircraft	Wedgetail	53.7	3,893.2
AIR 9000 Phase 2/4/6	Multi-Role Helicopter	MRH90 Helicopters	299.4	3,747.5
AIR 5349 Phase 3	EA-18G Growler Airborne Electronic Attack Capability	Growler	1,202.5	3,531.4
AIR 9000 Phase 8	Future Naval Aviation Combat System Helicopter	MH-60R Seahawk	670.8	3,408.5
LAND 121 Phase 3B	Medium Heavy Capability, Field Vehicles, Modules and Trailers	Overlander Medium/Heavy	107.5	3,387.6
JP 2048 Phase 4A/4B	Amphibious Ships (LHD)	LHD Ships	86.6	3,091.0
AIR 87 Phase 2	Armed Reconnaissance Helicopter	ARH Tiger Helicopters	1.2	2,032.7
AIR 5402	Air to Air Refuelling Capability	Air to Air Refuel	107.4	1,822.3
AIR 8000 Phase 2	Battlefield Airlift – Caribou Replacement	Battlefield Airlifter	271.5	1,369.2
LAND 116 Phase 3	Bushmaster Protected Mobility Vehicle	Bushmaster Vehicles	67.6	1,250.5
LAND 121 Phase 3A	Field Vehicles and Trailers	Overlander Light	127.5	1,015.7
SEA 1448 Phase 2B	ANZAC Anti-Ship Missile Defence	ANZAC ASMD 2B	75.2	678.6
AIR 9000 Phase 5C	Additional Medium Lift Helicopters	Additional Chinook	137.8	633.8
JP 2072 Phase 2A	Battlespace Communications System	Battle Comm. Sys. (Land)	17.1	461.9
SEA 1439 Phase 4A	Collins Replacement Combat System	Collins RCS	1.4	450.4
SEA 1442 Phase 4	Maritime Communications Modernisation <sup>204</sup>	Maritime Comms	32.3	442.1
SEA 1429 Phase 2	Replacement Heavyweight Torpedo	Hw Torpedo	5.2	427.9
JP 2008 Phase 5A	Indian Ocean Region UHF SATCOM	UHF SATCOM	5.2	420.4
SEA 1439 Phase 3	Collins Class Submarine Reliability and Sustainability	Collins R&S	13.7	411.7
SEA 1448 Phase 2A	ANZAC Anti-Ship Missile Defence	ANZAC ASMD 2A	26.8	386.8

LAND 75 Phase 3.4	Battlefield Command Support System	Battle Comm. Sys.	21.3	313.0
JP 2048 Phase 3	Amphibious Watercraft Replacement	LHD Landing Craft	57.6	236.2
<b>Total</b>			<b>4,965.4</b>	<b>60,462.4</b>

Source: ANAO, Major Projects Report 2014-15, p. 7.

## Entry and Exit of Projects

3.16 A summary of the projects exited from the 2014-15 MPR is contained in Table 2.

Table 2 – Projects that have exited the MPR

Project Number	Project	Level of Development	Government approved budget	Expenditure to Date \$m	Remaining Budget \$m	FMR Achieved/ Forecast	FOC Achieved/ Forecast	Reason for Exit
AIR 5376	F/A 18 Hornet Upgrade	AMOTS	1,882.6	1,655.5	227.1	Sept 12	Oct 14	FMR achieved
AIR 5418	Follow on stand Off Weapon	AMOTS	318.6	284.1	34.5	Sept 13	Jan 14	FOC achieved
JP 2008 Phase 4	Next Gen SATCOM Capability	MOTS	869.5	568.9	300.6	June 14	July 15	FMR achieved
JP 2043	High Frequency Modernisation	Developmental	580.1	469.3	110.8	Dec 16	Dec 16	JCPAA approval
LAND 17 Phase 1A	Artillery Replacement	MOTS	159.5	158.5	1.0	Sept 13	Oct 14	FMR achieved
SEA 1390 Phase 2.1	Guided Missile Frigate Upgrade	Developmental	1,453.2	1,373.6	79.5	Mar 16	Mar 16	JCPAA approval
SEA 1390 Phase 4B	SM-1 Missile Replacement	AMOTS	413.7	344.1	69.6	Feb 15	Jun 15	JCPAA approval

Source: ANAO, Major Projects Report 2014-15, Expurgated version of Table 1.4 pp. 97-98.

3.17 A summary of the new projects that have been included in the 2014-15 MPR is contained in Table 3.

Table 3 – New Projects included in the 2014-15 MPR

Project Number	Project Name	Project Name Abbreviation	2014-15 In-Year Budget \$m	Total Approved Project Budget \$m
AIR 7000 Phase 2B	Maritime Patrol and Response Aircraft System (Boeing P-8A Poseidon)	P-8A Poseidon	516.4	3,997.8
SEA 1442 Phase 4A	Maritime Communications Modernisation	Maritime Comms	32.3	442.1

Source: ANAO, Major Projects Report 2014-15, Expurgated version of Table 1.2, p. 91.

## Projects of Concern at 30 June 2015

3.18 Projects of Concern (PoC) are those projects identified as having very significant technical, cost and/or schedule difficulties. The primary objective of the PoC regime is to assist with the implementation of an agreed remediation plan. Projects listed as PoC receive a higher level of oversight and management and undertake increased reporting to Government. Since 2008, 23 projects, with a total value of \$30.4 billion, have been managed as PoC. There are six active PoC (listed in Table 4) with a total value of \$12.8 billion as at 30 June 2015. In 2014-15, the Air to Air Refuelling project was removed after successful remediation of technical issues, and the Australian Defence Satellite Communications Terrestrial Enhancement (JP 2008 Phase 3F), was added as a PoC.<sup>15</sup>

Table 4 – List of Projects of Concern as at 30 June 2015<sup>16</sup>

Project Name	Project Number	Date Added
Collins Class Submarine Sustainment	CN10	November 2008
Multi-Role Helicopter	AIR 9000 Phase 2/4/6	November 2011
Mulwala Redevelopment Project	JP 2086 Phase 1	December 2012
Direct Fire Support Weapons	LAND 40 Phase 2	December 2012
Air Warfare Destroyer Build	SEA 4000 Phase 3	June 2014
Australian Defence Satellite Communications Terrestrial Enhancement	JP 2008 Phase 3F	September 2014

Source: ANAO, *Major Projects Report 2014-15*, p. 89.

## ANAO's review

3.19 The ANAO's review scope and approach is explained in Part 1 of the MPR. There the ANAO makes a number of points regarding their methods and approach:

- The MPR examines systemic issues and provides longitudinal analysis for the 25 projects reviewed, and may also reflect on, or have implications for, general project management practices, including overall performance, or financial matters.<sup>17</sup>
- While the ANAO's work is appropriate for the purpose of providing an Independent Review Report in accordance with Australian Standard on Assurance Engagements 3000, the review of individual PDSSs is not as

<sup>15</sup> *Major Projects Report 2014-15*, p. 89.

<sup>16</sup> *Major Projects Report 2014-15*, p. 89.

<sup>17</sup> *Major Projects Report 2014-15*, p. 22.

extensive as individual performance and financial statements audits conducted by the ANAO, in terms of the nature and scope of issues covered, and the extent to which evidence is required by the ANAO. Consequently, the level of assurance provided by this review in relation to the 25 Major Projects is less than that provided by our program of audits.<sup>18</sup>

- 3.20 In 2014–15, the results of the ANAO’s priority assurance review of the 25 PDSSs was that nothing had come to the attention of the ANAO that caused them to believe that the information and data in the PDSSs, within the scope of its review, had not been prepared, in all material respects, in accordance with the Guidelines.<sup>19</sup>

## Total Schedule Performance

- 3.21 The total schedule slippage for the 25 Major Projects to date is 768 months when compared to the initial prediction when first approved by government. This slippage represents a 28 per cent increase on the expected schedule since the main investment decision.<sup>20</sup> Of the 25 projects in the 2014–15 report, 17 have experienced schedule slippage.<sup>21</sup>
- 3.22 The total schedule slippage across the 2014–15 Major Projects of 768 months, is 347 months lower than the figure of 1,115 months reported in the 2013–14 report. The difference, however, is mainly due to projects with large amounts of accumulated schedule slippage exiting the review at the end of 2013–14, partially offset by in-year schedule slippage.<sup>22</sup>
- 3.23 The reasons for schedule slippage often include underestimation of the difficulties associated with technical factors such as design problems, industry capacity and capability, difficulties in system integration to achieve the required capability, or emergent work associated with upgrades. In other cases, a project office’s ability to gain access to the platform for upgrading can delay the schedule (for example, the two Collins submarine projects and Heavyweight Torpedo).<sup>23</sup>

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18 *Major Projects Report 2014-15*, p. 22.

19 *Major Projects Report 2014-15*, p. 40.

20 In instances where a Major Project has multiple segments/capabilities with separate Final Operational Capability (FOC) dates, the ANAO has used the project’s current lead/main capability FOC for calculating schedule performance. Defence’s approach is to use the final FOC date for a project listed in the 2014–15 PDSSs. These approaches, both valid, led to a small difference in the calculated percentage by which the Major Projects’ total schedule has slipped for the 2014–15 MPR (ANAO – 28 per cent; Defence – 27.8 per cent).

21 *Major Projects Report 2014-15*, p. 52.

22 *Major Projects Report 2014-15*, p. 52.

23 *Major Projects Report 2014-15*, p. 52.

- 3.24 A closer examination of the reasons for schedule slippage demonstrates the importance of initial assessments of the purchase type, i.e. MOTS, Australianised MOTS or developmental. Two projects, MRH90 Helicopters and ARH Tiger Helicopters, were misclassified as MOTS when the projects were both actually Australianised MOTS (i.e. more developmental), which has resulted in extended schedule slippage.<sup>24</sup>

### In-year schedule performance

- 3.25 In 2014–15, there was a total schedule slippage of 41 months in the forecast achievement of FOC for the 25 Major Projects. In-year project performance, measured by slippage over the last 12 months, may not reflect the project trend. The three projects below demonstrate that some recovery of previously anticipated project slippage has occurred:
- Wedgetail – achieved FOC in May 2015, one month ahead of the revised forecast schedule;
  - Overlander Light – currently expects to achieve FOC in October 2016, three months later than originally planned, but five months ahead of the 2013–14 forecast schedule; and
  - Collins R&S – changes in the Full Cycle Docking Schedule have resulted in the project now predicting the achievement of FOC in May 2022, four months ahead of the 2013–14 forecast schedule of September 2022.<sup>25</sup>
- 3.26 In-year schedule slippage involved the following eight projects<sup>103</sup> (the explanation provided, drawn from the 2014–15 PDSSs, may also include the reasons for prior slippage):
- Joint Strike Fighter – minor delay resulting from the reassessment of the projected schedule;
  - AWD Ships – delays reflected in the Comprehensive Cost Review<sup>104</sup>, which indicated further delays in the delivery of the three ships by 15, 12 and 12 months respectively<sup>105</sup>, this impact has flowed through to the subsequent major milestones;
  - Overlander Medium/Heavy – there has been minor delays of two months this year, however the project still expects to achieve FOC in March 2023, nine months ahead of the reapproved schedule;
  - Air to Air Refuel – delays resulting from issues around the Aerial Refuelling Boom System, in particular the fleet modification program

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24 *Major Projects Report 2014-15*, p. 52.

25 *Major Projects Report 2014-15*, p. 54.



to upgrade all aircraft to the final boom configuration and service release of the boom capability;

- Battlefield Airlifter – delays resulting from aircraft production setbacks, the acquisition of mature training system devices and delays to approvals for construction of facilities;
- Hw Torpedo – slippage resulting from changes to the Full Cycle Docking schedule affecting the installation schedule based on submarine availability;
- Battle Comm. Sys. – minor delay resulting from the certification of the achievement of FOC; and
- LHD Landing Craft – delays resulting from the supply of supporting products, such as training and spare parts being delivered to the contracted schedule rather than earlier than contracted as reported in the 2013–14 report.<sup>26</sup>

## Project maturity framework

3.27 Initially introduced as Project Risk Scores in 2004 and later renamed Project Maturity Scores in 2005, they have been a feature of the Major Projects Report since inception in 2007–08. The DMO Project Management Manual 2012, defines a maturity score as:

The quantification, in a simple and communicable manner, of the relative maturity of capital investment projects as they progress through the capability development and acquisition life cycle.<sup>27</sup>

3.28 Maturity scores are a composite indicator, constructed through the assessment and summation of seven different attributes, which cumulatively form a project ‘maturity score’. Project Maturity is a composite performance indicator available for all Major Projects, for decision making, and to assess their overall status.<sup>28</sup>

3.29 Historically, while the DMO/Defence had raised some doubts about the effectiveness of their maturity score framework, they agreed to retain maturity scores following a JCPAA recommendation.<sup>29</sup> The Committee viewed the retention of maturity scores as important in relation to providing a measure of capability delivered for each project, until a measure equal to or better than current arrangements is available.

26 *Major Projects Report 2014-15*, p. 54.

27 Department of Defence, DMM (PROJ) 1-0-001, *DMO Project Management Manual 2012*, April 2012, Glossary, p. 75.

28 Department of Defence, *Defence Capability Plan 2012*, July 2012, pp. 3–4.

29 JCPAA, *Report 442, Inquiry into the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, Recommendation 8, p. 39.

Recently, the decision to maintain maturity scores, while seeking to develop an improved measure, was again reaffirmed by Defence to the ANAO in the context of this 2014–15 review.<sup>30</sup>

- 3.30 In 2014–15, Defence also indicated that the organisation is relying less on project maturity scores and are instead moving towards other project management tools, such as the Materiel Implementation Risk Assessment (MIRA).<sup>31</sup> The MIRA is used during the First Pass Approval stage for projects and is designed to assist project offices in submitting details of their top five risks in the acquisition business case for cabinet submission. The DMO Project Risk Management Manual 2013 defines MIRA as:

A summary of the most significant risks (as recorded in the project risk register) that will impact on DMO's ability to deliver the Materiel System (Mission and Support System) outcomes on time, within budget, and to the required scope and quality.<sup>32</sup>

- 3.31 As the MIRA outlines a project's key risks at only one point in time, government First Pass Approval, the ANAO notes that for reporting purposes, the MIRA does not provide the same level of oversight on a project's delivered capability as maturity scores. During the course of the review, the ANAO reviewed the MIRA for new projects, to ensure that the risks disclosed in the MIRA were included in the project risk registers. The results of which were consistent with general alignment with current PDSS disclosures, with any differences due to the passage of time, increased project knowledge, and risk management efforts.<sup>33</sup>
- 3.32 However, comparing the maturity score against its expected life cycle gate benchmark provides internal and external stakeholders with an indication of a project's progress. This may trigger further management attention or provide confidence that progress against the appropriate maturity score benchmark is satisfactory.<sup>34</sup>
- 3.33 While the ANAO has previously raised inconsistency in the application of project maturity scores as an issue, and as maintained in this review, the

30 *Major Projects Report 2014-15*, p. 31.

31 At the MPR public hearing on 27 February 2015, Mr Harry Dunstall, then Deputy Chief Executive Officer, Defence Materiel Organisation, stated with regard to the Project Maturity Scores, that:

*We are tending not to use the project maturity score as a project management tool. We now have a system which we call MIRA, the Materiel Implementation Risk Assessment, which gives a narrative, and we are tending to manage our projects through mechanisms other than the project maturity score.*

32 Department of Defence, DMM (PROJ) 11-0-002, *DMO Project Risk Management Manual 2013*, July 2013, p. 119, cited in *Major Projects Report 2014-15*, p. 31.

33 *Major Projects Report 2014-15*, p. 32.

34 *Major Projects Report 2014-15*, p. 32.

ANAO noted that project offices were more consistently assigning maturity scores than in previous years. While some subjectivity remains, in the context of a framework that relies upon the application of professional judgement, across a diverse range of project circumstances, with the detailed guidance available, assigning a maturity score is a repeatable process, and is appropriate for external review or audit.<sup>35</sup>

- 3.34 As previously noted by the ANAO, the guidance underpinning the attribution of maturity scores would benefit from a review for internal consistency and relationship to the Defence's contemporary business. For example, allocating approximately 50 per cent of the maturity score at Second Pass Approval, regardless of acquisition type, is often inconsistent with the proportion of project budget expended, and the remaining work required in order to deliver the project.<sup>36</sup>
- 3.35 Further, the existing project maturity score model does not always effectively reflect a project's progress during the often protracted build phase, particularly for developmental projects. During this phase it can be expected that maximum expenditure will occur, and risks realised, some of which will only emerge as test and evaluation activities are pursued through to acceptance into operational service.<sup>37</sup>
- 3.36 Finally, while the guidance underpinning maturity scores was due for review in September 2012, this review is not yet finalised. The ANAO was advised that while work had occurred to review the guidance, the release of the *First Principles Review* meant that the guidance would require further consideration.<sup>38</sup>
- 3.37 The ANAO has stated that it will continue to review the framework and attribution of maturity scores in subsequent reviews.<sup>39</sup>

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35 *Major Projects Report 2014-15*, p. 32.

36 *Major Projects Report 2014-15*, p. 32.

37 *Major Projects Report 2014-15*, p. 32.

38 *Major Projects Report 2014-15*, p. 32.

39 *Major Projects Report 2013-14*, p. 32.



## Review of Evidence

### Introduction

- 4.1 This chapter will review and examine the evidence received by the Committee through the Major Projects Report (MPR) itself and the testimony of Defence and ANAO officials at the public hearing.
- 4.2 The chapter is essentially divided into two sections: the first that focusses on broader management issues and the second that focusses on issues pertaining to specific projects.

### Management Issues

- 4.3 The ANAO contribution to the MPR provided a succinct summary of the management issues facing the MPR by stating that:
- the current status of performance information, including for contingency management, project maturity scores, and capability delivery (excluded from the scope of this review) are being impacted by inconsistent application and supporting systems, and lack of management review<sup>1</sup>
- 4.4 The ANAO noted issues with the following areas of project management:
- budget and project management, with acknowledgement by AWD Ships that the project did not have sufficient funds to complete delivery of the approved capability and required \$1.2 billion in additional funding;

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<sup>1</sup> ANAO, Audit Report No. 16 (2015-16), *Major Projects Report 2014-15*, hereafter referred to as '*Major Projects Report 2014-15*', p. 26.

- price indexation and budget allocations, and inconsistency in the determination and recording of contingency funds;
- variability in the interpretation of project progress towards delivering required capability;
- inconsistency in the recording and reporting of major risks and issues by project offices, and reporting within the mandated Predict! and Excel risk management; and
- inconsistency in the application of the project maturity framework (although improved from 2013–14), which is weighted towards pre Second Pass Approval processes, reducing the ability to adequately indicate progress during the acquisition phase.<sup>2</sup>

4.5 At the public hearing, ANAO further explained that the inconsistencies listed may, in future, result in further errors or issues for Defence in terms of managing its budget and expenditure.<sup>3</sup> In response, Defence replied:

Defence acknowledges that there are some inconsistencies across the management of our major projects. There are currently 180 projects being managed across our group at the moment. Some of those inconsistencies are due to the practices in place when the project were initiated, so there are some differences over time as projects stand up. We are working through the *First Principles* reform process in order to try and increase the level of standardisation across all of our projects, including the way we manage contingency and risk and including the way we step through some of those gated processes as we move projects through in their normal lifestyle.<sup>4</sup>

4.6 The following review of management issues will examine:

- Schedule slippage: the amount of time projects are being delayed;
- Risk management institutions and procedures: the mechanisms and process used to ensure acquisitions are made on the basis of a sound risk assessment;
- Project Payments: the process for deciding the re-distribution of funding according to altered or delayed project status; and
- Expected capability estimates: the process through which judgements on when final capability will be achieved are made.

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2 *Major Projects Report 2014-15*, p. 12.

3 Mr Michael White, Senior Director, Assurance Audit Service Group, Australian National Audit Office, *Committee Hansard*, 17 March 2016, p. 3.

4 Rear Admiral Anthony Dalton, Head, Joint Systems Division, Capability Acquisition and Sustainment Group, Department of Defence, *Committee Hansard*, 17 March 2016, p. 3.

## Schedule slippage

- 4.7 Examination and comparison of the information presented in the MPR showed that the improvements in project schedule slippage are not quite as clear as initially presented.
- 4.8 Table 2 of the MPR<sup>5</sup> shows that for the current year a decrease in slippage for Final Operational Capability (FOC) from 36 per cent to 28 per cent occurred. However, the Executive Summary's second paragraph shows an increase of Final Material Release (FMR) schedule slippage from 11 per cent to 14 per cent for the current year.<sup>6</sup>
- 4.9 However, the ANAO's analysis shows that a significant contributor to the reduction of slippage shown in the 2014–15 MPR (1,115 months to 768 months), is the removal of a number of projects which had not reached Final Operational Capability (FOC) by 30 June 2014. These projects are:
- Hornet Upgrade;
  - FFG Upgrade;
  - HF Modernisation; and
  - SM-2 Missile.
- These projects account for a total of 344 months of the total net decrease shown of 347 months<sup>7</sup>.
- 4.10 When closely examined, the removal of some projects has skewed the results, and there has been little improvement in the overall schedule slippage for remaining projects.
- 4.11 Decisions to change the FOC, without acknowledgment, when Government's revisit second pass approvals and break up projects masks schedule slippage. LAND 121, Phase 3B, is an example of this and deflates the schedule slippage of post-2005 projects.
- 4.12 The reasons for schedule slippage vary but primarily reflect the underestimation of both the scope and complexity of work, particularly for Australianised MOTS and developmental projects.<sup>8</sup>

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5 Table 2: 'Summary longitudinal analysis', *Major Projects Report 2014-15*, p. 13.

6 *Major Projects Report 2014-15*, p. 85.

7 *Major Projects Report 2014-15*, p. 13, paragraph 30.

8 *Major Projects Report 2014-15*, p. 16.

## Risk management institutions and assessment procedures

- 4.13 Since 2007–08, risks and issues have been a consistent focus of review, although excluded from its formal scope.
- 4.14 This year's ANAO review indicates that the majority of project offices maintained risks and issues logs appropriately, but that Defence inconsistently recorded and reported major risks and issues<sup>9</sup>. In addition, a number of processes and guidance documents that form part of their risk assessment procedures remain unfinished.
- 4.15 The ANAO assessed that increased scrutiny and accountability of project performance is required to identify shortcomings in corporate performance to support project offices manage their risks, and deficiencies in local project risk management performance.<sup>10</sup>

## Enterprise Risk Management Framework and Risk Management Manual

- 4.16 Defence is developing a new Enterprise Risk Management Framework, but it remains incomplete. The ANAO report stated:

Finalised in July 2014, Defence conducted an internal audit on Risk Management and the Enterprise Risk Management Framework in Defence. With a broader scope than the ANAO's examination of project level risk management, the findings of the audit were:

- risk management in Defence is inadequately mandated and implemented and also has deficient senior ownership;
- risk management in Defence is inadequately integrated with other Defence processes;
- the enterprise risk deep dive process is incomplete and the enterprise risks are not widely communicated or fully understood;
- the application of risk management in Defence is inconsistent, lacks quality and fails to cascade through the organisation; and
- many Defence risk managers are inadequately and inconsistently skilled.

Defence advised in August 2015 that work on the Enterprise Risk Management Framework continues in the new Capability Acquisition and Sustainment Group.<sup>11</sup>

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9 *Major Projects Report 2014-15*, p. 12 and p. 29.

10 *Major Projects Report 2014-15*, p. 30.

11 *Major Projects Report 2014-15*, p. 28.



- 4.17 Defence is also in the process of finalizing a risk management manual. The ANAO report stated:

To achieve greater consistency in the approach to risk management and in response to the release of a Commonwealth Risk Management Policy on 1 July 2014, the Capability Acquisition and Sustainment Group is developing a single Risk Management Manual, which is expected to be finalised at the end of 2015.<sup>12</sup>

## Contingency funds and risk

- 4.18 The 2013–14 Guidelines introduced the requirement for a ‘contingency statement’ within each PDSS. PDSSs are now required to include a statement as to whether contingency funds have been applied during the year, as well as disclosing the risks mitigated by the application of those contingency funds.<sup>13</sup>

- 4.19 The ANAO examination of the contingency statements highlighted that:

...the method for applying contingency varied, with only four project offices using the ‘expected costs’ of the risk treatment (as required by Project Risk Management Manual (PRMM) version 2.4), seven for which no application of contingency was necessary (as there were no high/extreme risks or no cost implications), and the remaining 13 using either a proportionate allocation of the likelihood of the risk eventuating (the method outlined in PRMM version 2.2), an alternate method, or having no application of contingency against risk.

- 4.20 With regard to compliance with the PRMM on contingency budgets, the ANAO report noted:

Although the ANAO found that all project offices tracked their contingency budget in some form, the methods of recording the balance of contingency budgets and application of contingency funds differed between projects<sup>14</sup>... Defence policy requires project offices to maintain a contingency budget log to identify and track components of the contingency budget. However, the lack of oversight of compliance with this policy has resulted in inconsistent approaches taken to contingency allocation. For example, in 2014–15, the ANAO observed that half of the project offices were unable to demonstrate clear links in compliance with

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12 *Major Projects Report 2014-15*, p. 30.

13 *Major Projects Report 2014-15*, p. 26.

14 *Major Projects Report 2014-15*, p. 27.

Project Risk Management Manual (PRMM) version 2.4 for the contingency allocation to individual risks.<sup>15</sup>

- 4.21 In when asked by the committee to identify risks arising from failure to rectify this inconsistent approach to contingency reporting, the ANAO stated:

If there were inconsistencies in contingency recording, for example, there might be errors or issues coming down the track for Defence in terms of managing their budget and their spend.<sup>16</sup>

## The Standardisation Office and risk

- 4.22 Although the Standardisation Office is the corporate area responsible for risk management policy its mandate and resources are limited. The ANAO report stated:

The Standardisation Office is the corporate area responsible for the development, amendment and publishing of corporate risk management policy within the Capability Acquisition and Sustainment Group. Gate Reviews<sup>17</sup> held by the Independent Project Performance Office also have a degree of oversight over project risk management processes. In 2014–15, both areas confirmed that they provide guidance and advice only. Neither have the mandate or resources for systematic compliance monitoring of risk management.<sup>18</sup>

## Independent Project Performance Office and Projects of Concern

- 4.23 The Independent Project Performance Office (IPPO) itself, as well as having limited capacity, has yet to update its policy and procedures for Projects of Concern. The ANAO report stated:

The IPPO, who is responsible for overseeing and administering the remediation process for all Projects of Concern, has advised the

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15 *Major Projects Report 2014-15*, p. 27.

16 Mr Michael White, *Committee Hansard*, 17 March 2016, p. 3

17 Gate Reviews are an assurance process intended to improve project outcomes and ensure that Defence is able to provide high quality and reliable advice to Government regarding the health and outlook of Major Capital Acquisition Projects and Sustainment Products. Gate Review Boards comprise relevant line managers, other Defence board members and at least one external member. External Gate Review board members assist the Capability Acquisition and Sustainment Group Senior Leadership in the evaluation and direction of projects and help ensure Government receives objective and comprehensive advice.  
<<http://www.defence.gov.au/casg/AboutCASG/WhoWeAre/gatereview.aspx>> accessed 22 February 2016.

18 *Major Projects Report 2014-15*, p. 30.

ANAO that updated policy and procedures for Projects of Concern remain in draft.<sup>19</sup>

## Project Payments

- 4.24 During the public hearing, both ANAO and Defence commented on the flexibility of payments. For example, shortfalls in expenditure due to delays in delivery in some projects occasionally results in funds then being used for the acceleration of payments on other projects. The Committee expressed concern that premature project payments may result in under-delivery or loss of accrued interest earnings for the Commonwealth.
- 4.25 During the public hearing, Defence described the provision of payments:
- We always pay Foreign Military Sales cases [to the US government] ... quarterly in advance. There is always a discussion between the Defence representatives, especially in the US, and the US government about what we expect will be disbursed in the quarter that we are about to pay for. We try to manage that very closely. There is some inherent flexibility in that system about how we can schedule some payments. It is not necessarily work being done in advance or payments being made in advance; it is about our flexibility in disbursing the money for that particular quarter. As the ANAO has pointed out, in year we will look to balance across all of the programs the actual in-year budget. That does mean that in some cases we will look for opportunities to bring some money forward in projects if we can bring some of the corresponding work forward. Some of that is done in parallel, so it does not necessarily mean that you will get a schedule advance, but you are reducing risk all the time. In particular, that is what we see in these three cases [Growler, Seahawk and P-8 Poseidon], where we have taken some advantage of the flexibility of the system, through the Foreign Military Sales cases that are being used, to bring forward some activities and to have that reflected in the payment structure where we disburse the money over that particular financial year.<sup>20</sup>
- 4.26 When questioned, the Auditor-General agreed that further work could be done on this aspect of project payments in the future:

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19 *Major Projects Report 2014-15*, p. 71.

20 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 7.

For this year's report we will have a go at seeing whether there is some assurance that we can give to you on the questions that you raised about value for money and those issues. It seems to me we have flagged the issues there but have not actually done the work. I will see what we can do about doing a bit more work in that space for the current upcoming report.<sup>21</sup>

## Expected capability estimates

- 4.27 A major aspect of project performance examined in the ANAO report is progress towards the delivery of capability required by government and specified by the Australian Defence Force. Assessment of expected capability delivery by Defence is outside the scope of the Auditor-General's formal review conclusion, but is included in the ANAO's analysis to provide an overall perspective of the three major components of project performance.<sup>22</sup>
- 4.28 The Defence PDSSs reflect that the 25 projects in this year's report will deliver all of their key capability requirements. Although some elements of the capability required may be under threat, they are considered manageable (assessed as either green or amber).<sup>23</sup> This is consistent with the previous 2013-14 presentation, and this year's MPR reflects only one project office currently having significant challenges compared to last year's five.<sup>24</sup>
- 4.29 However, the results of analysis by the ANAO show that some project managers may have taken different perspectives in assessing future achievements in relation to delivering final capability. For example, the ARH Tiger Helicopters project, faces significant capability risks and issues in relation to delivering the required Rate of Effort (flying hours), and technological obsolescence caused by delays in delivery, which impact future use. The expected impact of these risks and issues has not translated into Defence's assessment of future capability performance, although it could reasonably be assumed to have a long term capability effect.<sup>25</sup>

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21 Mr Grant Hehir, Auditor-General, Australian National Audit Office, *Committee Hansard*, 17 March 2016, p. 15.

22 *Major Projects Report 2014-15*, p. 16.

23 Examination of Figure 14, *Major Projects Report 2014-15*, p. 63, demonstrates this approach.

24 *Major Projects Report 2014-15*, p. 16.

25 *Major Projects Report 2014-15*, p. 17.

- 4.30 Similarly, the initial results of testing for the LHD Landing Craft project highlight issues of significance to be addressed prior to project conclusion, are not disclosed as impacting expected capability delivery.<sup>26</sup>
- 4.31 This year, as reported by Defence, the delivery of only three per cent (compared to four per cent last year) of the key capabilities is considered to be under threat but manageable, which as noted by ANAO, may be overly optimistic. The one project with some elements under threat but considered manageable is Joint Strike Fighter.<sup>27</sup>
- 4.32 The MPR continues to show that a greater focus on MOTS and Australianised MOTS acquisitions is, *prima facie*, reducing the slippage in the Major Projects profile.<sup>28</sup> The selection of MOTS projects significantly reduces risk during project acquisition, where Project Maturity is far more advanced at approval than developmental projects.<sup>29</sup> The committee does acknowledge that in order to maintain regional superiority of ADF platforms it is necessary to conduct some developmental projects.

## Project Issues

### Joint Strike Fighter

- 4.33 With an approved budget of over \$15 billion, the F-35 JSF is the largest project listed in this year's MPR. The 2000 Defence White Paper confirmed the Government's commitment to consider new air combat capability options stating that '[u]p to 100 new air combat aircraft' would be acquired. The acquisition phase had been expected to start in 2006–07 with the first aircraft entering service in 2012.<sup>30</sup>
- 4.34 The project has experienced a number of problems and has been delayed with much has been written about the project's status. As it currently stands, the first F-35A aircraft will arrive in Australia in 2018 and the first squadron, Number 3 Squadron, will be operational in 2021. All 72 aircraft are now expected to be fully operational by 2023.<sup>31</sup>

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26 *Major Projects Report 2014-15*, p. 17. See also MPR paragraph 2.60, p. 60.

27 *Major Projects Report 2014-15*, p. 17. Further details are outlined at paragraph 2.65, MPR p. 62.

28 See Figures 8 and 9, pp. 50 – 51, *Major Projects Report 2014-15*.

29 *Major Projects Report 2014-15*, p. 38.

30 'The Joint Strike Fighter: overview and status', Parliamentary Library Research Paper, <[http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Library/pubs/BN/2012-2013/JointStrikeFighter#\\_Toc331070301](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BN/2012-2013/JointStrikeFighter#_Toc331070301)> accessed 11 April 2016.

31 'F-35A Lightning II', RAAF webpage, <<http://www.airforce.gov.au/Technology/Future-Acquisitions/F-35A-Lightning-II/?RAAF-ZRnYQhJU1u0e44uR32o1OT1rt+Ym4K3>> accessed 11 April 2016.

4.35 Defence fully acknowledges the risks associated with the project:

The JSF program is our largest project. It is a developmental program, and a developmental program is accompanied by a degree of risk. That is not to say that those risks will eventuate but it does mean that those risks are real and are being managed by the joint program office in the United States – and we very closely monitor their performance. At this stage, we do not have any indication that those risks will eventuate in a capability that is less than expected. We note that the US Marine Corps have declared initial operating capability for the F35B short take-off and landing variant of the aircraft in July this year. The US Air Force remains on schedule at this point in time to declare an initial operating capability, I think later this year or early next year. Our initial operating capability later on in the decade, at this point in time, is not considered under threat. But it is a risky program, and there are very real risks associated with it.<sup>32</sup>

4.36 Defence identified software integration, rather than the airframe itself, as the main risk moving forward:

The air vehicle tests have largely been completed. I do not think we see a risk with the air vehicle. I do not think we see a risk now with the engine platform. Obviously it is a highly integrated weapons system. The majority of the risk going forward will sit in the integration software that pulls all of the sensors together on that aircraft to provide a real game-changing capability for the Air Force.<sup>33</sup>

4.37 The United States is, obviously, the central player in the JSF project. Other countries apart from Australia are, however, part of the program and, at this point, are intending to purchase versions of the aircraft. The JSF Program countries are:

- the United Kingdom (signed 17 January 2001 for US\$2 billion);
- Italy (signed 24 June 2002 for US\$1 billion);
- the Netherlands (signed 17 June 2002 for US\$800 million);
- Turkey (signed 11 June 2002 for US\$175 million);
- Canada (signed 7 February 2002 for US\$150 million);
- Australia (signed 31 October 2002 for US\$150 million);
- Denmark (signed 28 May 2002 for US\$125 million); and

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32 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 7.

33 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 7.

- Norway (signed 20 June 2002 for US\$125 million).<sup>34</sup>
- 4.38 In addition, two of the three foreign military sale (FMS) customers, who are Israel, Japan and the Republic of Korea, will receive their first jets in 2016.<sup>35</sup>
- 4.39 Following the election of the Trudeau Government in Canada on 19 October 2015, media reporting indicated that the Canadian Government would be withdrawing from the JSF program possibly increasing the unit cost of the aircraft for Australia.<sup>36</sup> Since then, however, media reporting indicates that Canada intends, in the short term at least, to remain part of the JSF program, and that the JSF has not been entirely eliminated for consideration as the Canada's next fighter.<sup>37</sup> Given this uncertainty, Defence was unable to comment on whether the Canadian decision would in any way affect the cost of, or be a risk to, the Australian acquisition.<sup>38</sup>

## Air Warfare Destroyers

- 4.40 On 22 May 2015, the then Minister for Defence & Minister for Finance issued a Joint Media Release on the Air Warfare Destroyer (AWD) program stating that the most reliable estimates now suggest that the project will require an additional \$1.2 billion<sup>39</sup> to be completed, which will have to be funded at the expense of other Defence acquisitions.<sup>40</sup>

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34 'The Joint Strike Fighter: overview and status', Parliamentary Library Research Paper, <[http://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Library/pubs/BN/2012-2013/JointStrikeFighter#\\_Toc331070301](http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BN/2012-2013/JointStrikeFighter#_Toc331070301)> accessed 11 April 2016.

35 'F-35 Lightning II', Lockheed-Martin webpage, <<https://www.f35.com/global>>, accessed 11 April 2016.

36 'Australia's new Joint Strike Fighter jets could cost extra \$100 million after Canada withdrawal', ABC News 22 October 2015, <[http://www.abc.net.au/news/2015-10-22/australia-s-new-joint-strike-fighter-jets-could-cost-\\$100m-extra/6877028](http://www.abc.net.au/news/2015-10-22/australia-s-new-joint-strike-fighter-jets-could-cost-$100m-extra/6877028)> accessed 7 March 2016.

37 'Canada to stay in program of F-35 jet buyers despite pledge to withdraw', *The Global Mail*, 24 February 2016, <<http://www.theglobeandmail.com/news/politics/canada-to-stay-in-program-of-f-35-jet-buyers-despite-pledge-to-withdraw/article28897002/>> accessed 11 April 2016.

38 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 8.

39 The \$1.2 billion Real Cost Increase for the project, advised by government on 22 May 2015 was approved in July 2015. *Major Projects Report 2014-15*, p. 145.

40 Joint Media Release – Minister for Defence & Minister for Finance – "Air Warfare Destroyer program still fixing serious legacy issues", 22 May 2015, <<http://www.minister.defence.gov.au/2015/05/22/joint-media-release-minister-for-defence-the-hon-kevin-andrews-minister-for-finance-senator-the-hon-mathias-cormann-air-warfare-destroyer-program-still-fixing-serious-legacy-issues-22-ma/>> accessed 7 March 2016.

- 4.41 The alliance arrangement for the AWD is complex and consists of the then Defence Materiel Organisation, the Australian Submarine Corporation (ASC) and Raytheon.
- 4.42 An article by Mark Thomson from the Australian Strategic Policy Institute (ASPI) reviewed the AWD project. The article observed that:
- ...there's still been a massive cost blowout, for which the taxpayer will bear 90 per cent of the pain because ASC is government-owned. Every dollar spent directly on the project will continue to be recompensed 100 per cent by the taxpayer, and Raytheon will still receive its 'procurement fee' irrespective of performance. In theory, 'liquidated damages' are owed for late delivery. On the basis of the latest reschedule, the Commonwealth could seek damages of around \$557 million. Bizarrely, however, under the alliance contract, Defence is liable for 50 per cent of the liquidated damages and the rest is only recoverable against the already forgone 'fee'. As elsewhere under the alliance, the taxpayer has once again been left carrying the can.<sup>41</sup>
- 4.43 Defence was asked what the impact to the only privately owned partner in the alliance was regarding the cost and schedule increase seen on the AWD project. Defence explained the nature of the contract:
- The construct of the alliance is a pain-gain share relationship between industry and the Commonwealth in which the Commonwealth, of course, in the end will pay 100 per cent of the cost of the program and industry will share the pain above a target cost estimate line which gives them an opportunity under the original construct for around \$290 million worth of gain and also \$290 million worth of pain if they end up on the pain side. That relationship broke down as a result of cost overruns, effectively due to performance issues on the program. I will say that that was the subject of a review by Dr Winter and John White: the White-Winter review of June 2014. As a result of that, the program went through a cost review which basically said the program was running \$957 million over its estimate at completion and it therefore needed to be reset.
- During the resetting, a reform process was put in place in which industry was offered to be funded to the end of the program with a \$1.2 billion increase in the funding level of the program. This

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41 Thomson, M., "What on earth is going on with the Air Warfare Destroyer program?", 19 June 2015, <<http://www.aspistrategist.org.au/what-on-earth-is-going-on-with-the-air-warfare-destroyer-program/>> accessed 7 March 2016.



happened after this MPR report and was ratified by government in August 2015 as a \$1.2 billion RCI [Real Cost Increase]. As a result, the relationship between the industry and the Commonwealth has changed somewhat. We have brought on board Navantia as a subject expert on the design, but also in the construction of these ships, to take a lead role in the management of the build of the AWD to try to bring it back... inside that RCI of \$1.2 billion.<sup>42</sup>

- 4.44 Defence was asked to clarify why this situation had occurred. They responded that the program's schedule and estimates were inadequate and assumptions about the completeness of the ship's design and the shipyard's capacity were flawed:

The ANAO plus White and Winter [review] recognised that the estimates and the schedule for the program were less than adequate with respect to performance. There were a couple of issues. We expected that industry already had the performance capability to deliver the ships inside budget, and over time it became evident that the productivity and performance levels within the program, particularly with respect to shipbuilding, were not adequate and therefore costs were increasing.

We believe that the shipyard had too much white collar re-doing work that was already done by the designer. Also, in learning – and this is a really important thing for future programs – we were bringing a shipyard up from a zero base with no facilities and no people to a fully operational shipyard by 2009 to start production at a level which was commensurate with a cost estimate that was based on a performance that could not be achieved with a new shipyard, new team and new design never having been built in Australia before...<sup>43</sup>

- 4.45 One problem identified by the ANAO and acknowledged by Defence was that the ship's designers were left out of the original alliance structure and was thus not subject to the same obligations and incentives as the other organisations.

The ANAO report into the AWD program<sup>44</sup> clearly states that the designer was not part of the alliance and in future the designer needs to be much closer to the production element. That was not

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42 Mr Peter Croser, Director General, Specialist Ships Acquisition, Capability Acquisition and Sustainment Group, Department of Defence, *Committee Hansard*, 17 March 2016, pp. 11 – 12.

43 Mr Peter Croser, *Committee Hansard*, 17 March 2016, p. 12.

44 ANAO, Audit Report No. 22 (2013-14), *Air Warfare Destroyer Program*, <<https://www.anao.gov.au/work/performance-audit/air-warfare-destroyer-program>>, accessed 8 April 2016.

the case in this particular position. The company – Navantia – who designed this ship were government at the time and were reluctant to join and take a pain-gain share, as we understand it, so they were not brought into the alliance. We also believe that, during the early stage of the program, they were in part asked only when needed to do specific things around production as opposed to being integrated, which meant that in fact the knowledge was not being fully utilised. That now has been fixed. Navantia the designer and Navantia the previous shipbuilder of this F100-series derivative are now working in the yard and in charge of the management of the shipbuilding, bringing their design expertise, resolving issues that took a long time because you sent the problem to Spain to be resolved and then it came back months later when it has already missed the point to flow into the production. That now is on side in Osborne and working day by day, so you get 24/7 turnaround on issues. We have rectified it for future, and the learning will be pushed into future programs.<sup>45</sup>

- 4.46 Defence attempted to explain what financial impact on the three alliance partners involved in the AWD project as a result of the delays and cost blow-out. Defence conformed that all three alliance partners forfeited their share of the \$290 million pain-gain risk.<sup>46</sup> Further to that, and responding directly to the Thomson articles claim that: “Raytheon will still receive its ‘procurement fee’ irrespective of performance”; Defence stated:

Raytheon had a procurement fee which was part of the original contract because of their different role with respect to combat systems. I will take that on notice, but I believe it was around \$70 million over the program, and that was paid quarterly. The two companies – Raytheon and ASC – shared that gain on the basis of performance. In about 2012, the performance had dropped to the point where they were not technically on a *pro rata* basis in gain, and so payments of that in advance of delivery of the program share of the gain ceased. That was brought to account at the new contract in that they did not receive – and had to repay, in fact – their gain that they had received in advance based on performance. The new contract allows a gain share for Raytheon for future work from the time that the contract was signed in December last year, for Navantia for performance against the

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45 Mr Peter Croser, *Committee Hansard*, 17 March 2016, p. 12.

46 Mr Peter Croser, *Committee Hansard*, 17 March 2016, p. 12.

schedule and cost and for ASC a smaller element against performance.<sup>47</sup>

[Raytheon] were not asked to pay the pain but they lost all share of gain and their work is only paid for work that they have conducted, and there is no corporate overhead allowed to be paid against it.... The pain that they will see is the fact that they do not get their corporate overheads paid for for the elements of work that they have conducted up to the point at which the reset of the program occurred in December. They had to repay their gain element, which was money that they had received in advance, of course. The risk for the program was that if they were inflicted with more pain there would not be a reason to continue and complete the program and deliver the capability to Navy. There has to be some incentive to move forward, or the contract may have had to be stepped in on, which we did not do.<sup>48</sup>

4.47 When asked directly through a Question on Notice, Defence's response was still unclear as to what 'pain' Raytheon had actually taken:

Raytheon stood to earn what is known as a Target Fee, made up of corporate overhead and profit. The portion of the Target Fee that had been paid to Raytheon to 5 December 2015 – when the Alliance Based Target Incentive Agreement (ABTIA) was amended – was paid back to the Air Warfare Destroyer Program in accordance with the revised ABTIA terms. Raytheon also received a Procurement Fee, paid over 10 years. Raytheon's fees are commercial-in-confidence.

Raytheon's prospect of fee earnings under the revised ABTIA terms is reduced.<sup>49</sup>

4.48 Similarly, with regard to the \$1.2 billion real cost increase, it was unclear as to whether Raytheon suffered any substantial disadvantage due to the cost blow-out. Defence responded:

Raytheon is not entitled to any additional procurement fees under the revised Alliance Based Target Incentive Agreement (ABTIA) contract terms following the Real Cost Increase.

Under the revised ABTIA terms, Raytheon's direct project costs for Air Warfare Destroyer work performed will be reimbursed and, subject to meeting specific cost and schedule performance criteria, Raytheon will have an entitlement to gain share fees, a cost

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47 Mr Peter Croser, *Committee Hansard*, 17 March 2016, pp. 12 – 13.

48 Mr Peter Croser, *Committee Hansard*, 17 March 2016, p. 13.

49 Defence, *Submission 3*, p. 9.

performance fee and a schedule performance fee. Raytheon's potential gain share is a maximum of 30 per cent of savings against the Target Cost Estimate.<sup>50</sup>

## MRH-90 Multi-Role Helicopter

4.49 The MRH-90 has had a difficult history and has already been the subject of a separate audit by the ANAO.<sup>51</sup> Defence confirmed that the aircraft cannot, at this stage, be considered capable of flying in a high threat environment<sup>52</sup> though they are currently being deployed in lower threat environments.

4.50 The MRH-90 has experienced a number of problems, some of which have been resolved and some that are still in the process of being resolved. These include:

- changes to the cabin-floor;
- changes to the size and depth of the cabin seats; and
- cost of spare parts.

4.51 Although the aircraft has reached Initial Operational Capability (IOC) for both Navy and Army, Final Operational Capability (FOC) is yet to be achieved and is still 'a good period of time ahead'.<sup>53</sup> Defence explained:

The first [MRH90] aircraft was accepted in 2007. Since that time there have been a range of configuration changes broadly to improve the product and to resolve technical deficiencies. As a result of a series of improvements to the configuration across the worldwide fleet of NH90s, we have found that in the management of those configuration changes – because we are literally talking about a vast number of changes – we had to manage those changes carefully to make sure that we did not pose any risk to the safety of the product. Therefore we slowed down acceptances, effectively batched the modifications into groups so that we could manage the product more effectively as we operated it by Navy and Army... but we are still programming to accept the final MRH-90

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50 Defence, *Submission 3*, p. 10.

51 ANAO, Audit Report No. 52 (2013-14), *Multi-Role Helicopter Program*, <<https://www.anao.gov.au/work/performance-audit/multi-role-helicopter-program>>, accessed 8 April 2016.

52 Major General Andrew Mathewson, Head, Helicopter Systems Division, Capability Acquisition and Sustainment Group, Department of Defence, *Committee Hansard*, 17 March 2016, p. 4.

53 Major General Andrew Mathewson, *Committee Hansard*, 17 March 2016, p. 4.

in July 2017. We expect to catch up over the coming year to 18 months.<sup>54</sup>

- 4.52 One particular aspect of the aircraft's vulnerabilities is the deficiency of the Electronic Warfare System (EWS). Although functional, it is not meeting its specified performance requirements:

What has been highlighted in the report in relation to the EWS is a newly identified weakness in the EWS. It does not necessarily indicate that EWS does not work. It is just that it does not meet the specified performance requirements. That work is being undertaken now through industry...

The EWS... is one that can be deployed. It depends on the threat scenario in which the aircraft could potentially be taken.

Generally speaking, we would not take the aircraft into a high threat environment, based on the deficiencies that have been identified. Specifically, the aircraft that are used by Navy in the maritime support role would not be deployed until this issue has been resolved.<sup>55</sup>

- 4.53 When asked what the cost implications were for continued delay in the MRH-90 project, Defence were unable to produce a specific figure but did outline several enhanced contract provisions negotiated as a consequence of the delay:

An accurate aggregate figure for all cost implications as a result of the delayed delivery of the MRH90 aircraft is unable to be specified as many costs have been offset through commercial negotiations, improved support arrangements and improved intellectual property rights.

ANAO Performance Audit Report No.52 2013-14 estimated that a cost of \$311 million was incurred due to the need to extend the service life of S-70A-9 Black Hawk fleet. The increased costs to support Black Hawk have been partially offset by reduced flying hours on MRH90 and therefore savings to the Australian Government.

Costs recovered by Defence as a result of project delays were generally not direct financial payments, but rather enhanced acquisition and sustainment contract provisions. These enhancements included; additional access to intellectual property, new aircraft cabin seats, the 47th MRH90 aircraft, a Repair by the Hour Sustainment Scheme, final spares and support equipment, a

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54 Major General Andrew Mathewson, *Committee Hansard*, 17 March 2016, p. 4.

55 Major General Andrew Mathewson, *Committee Hansard*, 17 March 2016, p. 3.

warranty that sufficient major spares had been procured to support the mature rate of effort, resolution of technical deficiencies, obsolescence resolution and the strengthening of linkages between acquisition and sustainment contracts.

The MRH90 retrofit program undertaken on the first 13 aircraft, which remediated technical deficiencies and ensured all aircraft will be delivered to a consistent configuration, was undertaken at no additional cost to the Commonwealth.<sup>56</sup>

## Armed Reconnaissance Helicopter (ARH) – Tiger

4.54 The ARH Tiger is also an aircraft that has experienced a number of problems, though its current status has improved. Defence explained:

Tiger's current status is that all 22 aircraft have now been accepted by the Commonwealth. The retrofit program has been completed, and we are on the cusp of declaring the final operational capability expected within the next month. Tiger has had a vexed history, as you know, but is on a very good path right now. It is improving in terms of its rate of effort and delivery of performance to Army.<sup>57</sup>

4.55 As for FOC:

Tiger has not yet met the final operational capability. That determination is very close to being given by the Chief of Army. It does depend on getting a clear solution to the electronic warfare system. As I indicated, on Tiger that solution is now very mature in testing and has to be flowed through the fleet of aircraft before the aircraft would be deployed to a high-threat environment. That does not mean it cannot be deployed; it just means that we have to manage carefully where it can be deployed to.<sup>58</sup>

4.56 The Rate of Effort has been progressed, though there still remains room for improvement:

...some years ago that Tiger was both expensive and not achieving the rate of effort that Army has sought. We have achieved significant growth in rate of effort over the past two years following a renegotiation of our commercial arrangements with Airbus. There is a far stronger collective focus on achieving rate of effort. We are not yet at the point where Army is satisfied with the

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56 Defence, *Submission 3*, pp. 13-14.

57 Major General Andrew Mathewson, *Committee Hansard*, 17 March 2016, p. 8.

58 Major General Andrew Mathewson, *Committee Hansard*, 17 March 2016, p. 4.

rate of effort being delivered, but we are on a gradient that is very, very positive.<sup>59</sup>

- 4.57 The costs for operating the ARH Tiger have also improved, but remain high:

The cost of ownership for Tiger has been expensive in the past. In very broad terms, you look at the cost of investment with industry and divide that by the rate of effort – the flying hours. I think it reached a figure of around \$41,000 per flying hour, which is unacceptably high. The new commercial arrangements aim to drive that cost to approximately half. Today we look at a cost of ownership of around \$30,000 per flying hour. That in itself appears expensive, but Tiger is a very, very complex weapons platform, with weapons and sensors.<sup>60</sup>

- 4.58 As with the MRH-90, the ARH Tiger also has difficulties with its EWS as they are very similar systems. Defence reported that for both aircraft the issues is currently being resolved and a modification is being rolled out and expected to be completed by the end of 2016.<sup>61</sup>

## Collins-class submarines

- 4.59 Defence testified that the availability of the Collins-class submarines had improved and was now up to bench-mark standard. Defence explained:

..in terms of the submarine sustainment program progressing through the Coles recommendations is that they are on track to achieve the benchmark availability requirements this year. Right now, my understanding is they have four boats available...

Under the new usage and upkeep cycle, there will always be one boat in the full-cycle docking and there will always be one boat in the intermediate-cycle docking. Four is the benchmark – that is, two boats available to deploy and one to two boats available to deploy on station in Australia to maintain training. This is the benchmark that Coles has set.<sup>62</sup>

- 4.60 Defence testified that, as a result of the improved availability of the Collins-class submarines, the submarine training pipeline is running effectively.<sup>63</sup>

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59 Major General Andrew Mathewson, *Committee Hansard*, 17 March 2016, p. 4.

60 Major General Andrew Mathewson, *Committee Hansard*, 17 March 2016, p. 4.

61 Major General Andrew Mathewson, *Committee Hansard*, 17 March 2016, p. 3.

62 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 13.

63 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 14.

- 4.61 Furthermore, in regards the performance of the Collins-class submarines Defence stated that:

the Collins-class submarine has always been a very potent submarine. The issue has been the availability of it. From a capability perspective, despite what the popular press might say, it has always had a very potent capability.<sup>64</sup>

## UHF SATCOM

- 4.62 The Indian Ocean Region UHF Satellite Communications (SATCOM) is now expected to be delayed by 38 months from May 2015 to July 2018 due to ongoing issues with the modification of Commercial-Of-The-Shelf software.<sup>65</sup> Defence explained:

There was a contract change negotiated with ViaSat in the last quarter of last year. That will see an interim capability for the network control system being delivered in the third quarter of 2016, which will allow the material release to happen in February 2017. The final capability remains, as was contracted, in the second quarter of 2018. My understanding is that the issue has become that the software that underpins the network control system, which we expected to be commercial off the shelf, has turned out to be more developmental than we understood at the time. That has led to the current delays.<sup>66</sup>

- 4.63 Defence explained that despite these problems, the system is in use:

The new integrated waveform is not widely rolled out yet, but the system is available for use in an interim capability. The heart of this was the launch in 2012 of the payload on board an Intelsat satellite.<sup>67</sup>

- 4.64 Defence were asked how this situation occurred given that UHF SATCOM was expected to be an Off-the-Shelf project rather than one with a developmental aspect; and what the additional costs of the delay were. However, at the time of finalising this report Defence had not responded to this question.

## C-27J – battlefield airlift

- 4.65 The C-27J Spartan battlefield airlifters complements the capabilities of the current C-130J Hercules and C-17A Globemaster aircraft and uses
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64 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 14.

65 *Major Projects Report 2014-15*, p. 73.

66 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 5.

67 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 5.



common C-130J Hercules infrastructure and aircraft systems such as engines, avionics and the cargo handling systems.

- 4.66 The acquisition of the C-27J Spartan is expected to significantly improve the Australian Defence Force's ability to move troops, equipment and supplies. The new aircraft will provide battlefield airlift but are also capable of conducting airlift in our region. They can operate from rudimentary airstrips in Australia and overseas and can support humanitarian missions in remote locations. The C-27J was assessed by Defence as the aircraft which best met all the essential capability requirements and provides the best value for money.<sup>68</sup>
- 4.67 Initial Operational Capability (IOC) for the C-27J is expected in late 2016. The MPR PDSS indicates that the original estimate for FOC was December 2017, but this has been delayed to September 2018.<sup>69</sup>
- 4.68 The US Air Force has left the C-27J program and the MPR PDSS states that:
- The final impact to cost will be understood once contracts have been finalised between the US Government and L-3 [Product Integration Division], until final cost impact is known this remains a risk to the overall project budget.<sup>70</sup>
- 4.69 In response, Defence explained the expected impact on Australia's continued use of the aircraft:
- There are some flow-on effects to Air Force with the US divestiture, but it is still being procured through the US system as a Foreign Military Sale [FMS], so we still have access to the price that the U.S. Air Force had negotiated. As to the program maturing in its fully envisaged state in the US, that is not going to happen. So that has had some impact in Australia in terms of having to develop some additional airworthiness certificates and proof that the system will operate to its fullest extent in Australia.<sup>71</sup>
- 4.70 Nonetheless, Defence is still expecting the acquisition to proceed in budget.

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68 'C-27J Spartan', RAAF website, <<http://www.airforce.gov.au/Alenia-C-27J-Spartan-Battlefield-Airlifter/?RAAF-X+uk8a9VAAM3WxS8ueGxVwnuL3bxuN6b>> accessed 11 April 2016.

69 *Major Projects Report 2014-15*, p. 301.

70 *Major Projects Report 2014-15*, p. 303.

71 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 6.

Because the contract was signed through [Foreign Military Sale] it is being managed by the US still as a foreign military sale, and at the moment we are predicting that it will complete in budget.<sup>72</sup>

4.71 Responding to a Question on Notice Defence added:

Pricing for C-27J aircraft acquired by Australia is secured in the Foreign Military Sales case and has not changed despite United States Air Force divestiture decisions.<sup>73</sup>

## Heavyweight Torpedo

4.72 The Heavyweight Torpedo for the six Collins Class submarines has been supplied by the US Government under a Memorandum of Understanding with work performed by Raytheon US and the US Naval Undersea Warfare Center. ASC Pty Ltd is undertaking integration to the Collins Class submarine platform. The final weapons were delivered to Australia in January 2012. FOC was originally planned for November 2013 but is now expected in February 2019.<sup>74</sup>

4.73 When asked why the project was subject to a 63 month slippage, Defence explained:

The Heavyweight Torpedo modifications can only be undertaken during a Full Cycle Docking. Changes to the submarine Usage and Upkeep Cycle, including adoption of the 10+2 year operating cycle recommended in the Coles Report, have delayed completion of the *HMAS Collins* Full Cycle Docking until mid-2018. This date has not changed since the 2014-15 Major Projects Report was tabled, and Note 3 to Table 3.3 explains the variation.

The in-year delay of five months is due to a reassessment of the time required for administration and documentation activities leading to award of Final Operational Capability following completion of the *HMAS Collins* implementation. The delay in award of Final Operational Capability does not affect availability or employment of the submarines.<sup>75</sup>

4.74 Defence were also asked about a potential safety issue regarding the torpedo mounted dispenser. The MPR indicated a manual handling hazard for Navy personnel. Defence explained:

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72 Rear Admiral Anthony Dalton, *Committee Hansard*, 17 March 2016, p. 6.

73 Defence, *Submission 3*, p. 2.

74 *Major Projects Report 2014-15*, pp. 389-90 and p. 395.

75 Defence, *Submission 3*, p. 3.

The hazard applies to personnel fitting the guidance wire dispenser to a torpedo on-board the submarine, due to a combination of the weight of the dispenser and the cramped access conditions. This activity is only required if the fitted dispenser becomes defective on-board the submarine, as the torpedo is embarked with a dispenser already fitted.<sup>76</sup>

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<sup>76</sup> Defence, *Submission 3*, p. 4.



## Committee Comment

### Introduction

- 5.1 The evidence presented in Chapter 4 provides the context for the comments and recommendation in this chapter.

### Major Projects Report Overall

- 5.2 The Committee again notes with satisfaction that the MPR as a document and as a process has developed into an excellent tool to assess the status of Defence major acquisition projects. The Committee notes that in 2014-15, the results of the ANAO's priority assurance review of the 25 PDSSs, was that nothing has come to their attention that causes them to believe that the information and data in the PDSSs, within the scope of our review, has not been prepared, in all material respects, in accordance with the Guidelines.<sup>1</sup>
- 5.3 The Committee commends both the ANAO and the Department of Defence on their continued work on this document.

### Management issues

- 5.4 The Committee notes the ongoing management and administration issues identified by ANAO. The departmental reform that is occurring as part of the *First Principles Review* (FPR) provides an opportunity to resolve some of these issues. Ongoing commitment, resourcing and leadership will be required to fully exploit the opportunities that the FPR process offers. The Committee looks forward to hearing how the necessary reforms advocated by the FPR process are being implemented.

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1 *Major Projects Report 2014-15*, p. 12.

## Recommendation 1

**Noting the importance of clear roles, responsibilities, accountabilities and lifecycle management processes, the Committee recommends that the Department of Defence publish the outcomes from Recommendation 2:11<sup>2</sup> of the *First Principles Review* as soon as practicable and that a summary of this information be included in the next Major Projects Report.**

## Schedule slippage

- 5.5 The Committee also notes that project schedule slippage remains a concern despite the initial impression of improvement due to the exit of a number of projects which had not reached Final Operational Capability.<sup>3</sup> This year's report shows that more recent projects (post-2005) are incurring less slippage, which aligns with an increased use of MOTs acquisitions. The Committee agrees with ANAO, that it remains critical that Defence correctly assesses initial purchase type – that is, between COTS, MOTS, A-MOTS and Developmental – so that projects and their anticipated risks are managed at the appropriate level.<sup>4</sup>
- 5.6 The Committee urges the ANAO and Defence to consider how to present schedule slippage in projects where FOC has been amended due to Government revisiting second pass approval to alter the project.
- 5.7 The Committee anticipates that project schedule slippage will require ongoing examination.

## Expected capability estimates

- 5.8 The ANAO's assessment that the delivery of capability estimates are in some cases overly optimistic has been noted by the Committee with concern. At the macro-level this provides an overly-positive picture of

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2 Recommendation 2:11 'First Principles Review: Creating One Defence', <http://www.defence.gov.au/Publications/Reviews/Firstprinciples/Docs/FirstPrinciplesReviewB.pdf> accessed 9 March 2016. Table of Recommendations on p. 4.

*"...significant investment to develop an operational framework which comprehensively explains how the organisation operates and the roles and responsibilities within it; detailing the life cycle management processes which provide project and engineering discipline to manage complex materiel procurement from initiation to disposal; and reviewing architecture to reinforce accountability at all levels and bringing together information upon which good management decisions can be made."*

3 *Major Projects Report 2014-15*, p. 13, paragraph 30.

4 See *Major Projects Report 2014-15*, paragraph 36, p. 15.

project status and hence should be reviewed by Defence. The Committee supports continued ANAO assessments in this area in future MPRs.

## Recommendation 2

**To ensure consistency with project level risk information and to improve reliability, the Committee recommends that the Department of Defence review the procedure for development of expected capability estimates for future Major Projects Reports.**

### Risk management and contingency

- 5.9 This year's ANAO review indicates that the majority of project offices maintained risks and issues logs appropriately, but that Defence inconsistently recorded and reported major risks and issues.
- 5.10 In addition to the ANAO's assessment that key elements of Defence's risk assessment framework are unfinished, this raises concerns about how projects are being managed. The Committee encourages Defence leadership to act on ANAO's suggestion that increased scrutiny and accountability of project performance may be required to identify shortcomings and to support project offices manage their risks.
- 5.11 Similarly, the Committee encourages Defence to ensure that there is a uniform approach to applying contingency against risk.

### Project Maturity Scores

- 5.12 Project Maturity Scores are required policy for all major capital acquisition projects within Defence but are not consistently applied.<sup>5</sup> The Committee supports the ongoing use of a composite performance indicator for all Major Projects, as it provides an overall assessment of the projects status. The Committee sees the shift from the Project Maturity Scores to the Materiel Implementation Risk Assessment (MIRA), as problematic as these two approaches do not seem to serve the same purpose and are hence not interchangeable. Issues pertaining to the usefulness of Project Maturity Scores have been ongoing for some time having been reviewed in both JCPAA reports on the previous two MPRs. The Committee notes that while the guidance underpinning maturity scores was due for review in September 2012, this review is still yet to be finalized and Defence advised the ANAO that the release of the *First Principles Review* has meant that the guidance would require further consideration.

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5 *Major Projects Report 2014-15*, p. 32.

### Recommendation 3

**The Committee recommends that the Department of Defence work with the Australian National Audit Office to review and revise their policy regarding Project Maturity Scores in time for the new approach to be implemented in the next Major Projects Report.**

#### Air Warfare Destroyer contract arrangements

- 5.13 The requirement for the Government to provide a further \$1.2 billion for the three Air Warfare Destroyer (AWD) vessels is indicative of the level of problems encountered with this project.
- 5.14 The project is large and complex. The management approach was also complex – with ‘pain-gain arrangement’ and an alliance that included Defence (then DMO), the Australian Submarine Corporation and Raytheon, but originally left out the Spanish designer Navantia.
- 5.15 Contracting issues raised through both the ANAO’s report<sup>6</sup> and media reporting<sup>7</sup> were of concern to the Committee as they indicated that there were flaws in the contract arrangements that resulted in the Australian tax-payer carrying more of the burden of the problems encountered than should have been the case.
- 5.16 Advance payments of the ‘gain’ were questionable in themselves, and when the project began to falter it would appear the ‘pain’ was not inflicted on the other partners in any meaningful way. The contracting arrangements pursued appear to have been a flawed model.

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6 ANAO, Audit Report No. 22 (2013-14), *Air Warfare Destroyer Program*, <<https://www.anao.gov.au/work/performance-audit/air-warfare-destroyer-program>>, accessed 8 April 2016.

7 Thomson, M., “What on earth is going on with the Air Warfare Destroyer program?”, 19 June 2015, <<http://www.aspistrategist.org.au/what-on-earth-is-going-on-with-the-air-warfare-destroyer-program/>> accessed 7 March 2016.



**Recommendation 4**

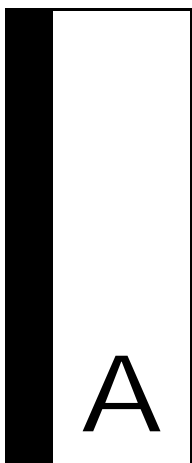
The Committee recommends that Defence conduct a review of the Air Warfare Destroyer (AWD) contractual arrangements, examining the distribution of liabilities for project problems. The report should examine:

- how much each alliance partner lost or was liable for when the project ran over budget; and
- what lessons have been learned from the AWD experience in terms of future contractual arrangements and how these lessons have been incorporated into the standard practices of Defence to help mitigate such issues arising in the future.

A report on that review should be provided to the Committee within 6 months of the tabling of this Committee report.

The Hon Ian Macfarlane MP  
Chair  
Date: 3 May 2016





## Appendix A – Submissions

1. Dr Keith Joiner
2. Australian National Audit Office
3. Department of Defence





## Appendix B – Public Hearings

17 March 2016

Australian National Audit Office

Mr Grant Hehir, Auditor General

Dr Tom Ioannou, Group Executive Director, Performance Audit Services Group

Mr Michael White, Executive Director, Assurance Audit Service Group

Mr Tony Steele, Senior Director, Assurance Audit Service Group

Department of Defence

Rear Admiral Anthony Dalton, Head, Joint Systems Division, Capability Acquisition and Sustainment Group

Major General David Coghlan, Head Land Systems, Capability Acquisition and Sustainment Group

Major General Andrew Mathewson, Head, Helicopter Systems Division, Capability Acquisition and Sustainment Group

Mr Peter Croser, Director General, Specialist Ships Acquisition, Capability Acquisition and Sustainment Group

Mr Geoffrey Brown, First Assistant Secretary, Audit and Fraud Control

