Australian National Audit Office

2014–15
No. 14

2013–14 Major Projects Report

Defence Materiel Organisation



Australian Government
Department of Defence
Defence Materiel Organisation

The Auditor-General
ANAO Report No.14 2014–15

2013–14 Major Projects Report

Defence Materiel Organisation

Australian National Audit Office

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Cover photos: Australian soldier using communications equipment acquired under project JP 2072 Phase 2A Battlespace Communications System (spine); C-27J Spartan aircraft being acquired under project AIR 8000 Phase 2 Battlefield Airlift – Caribou Replacement (left); Rheinmetall MAN vehicle being acquired under project LAND 121 Phase 3B Field Vehicles and Trailers (Overlander Medium/Heavy) (centre); and NUSHIP Canberra, one of two Landing Helicopter Docks (LHDs) being acquired under project JP 2048 Phase 4A/4B Amphibious Ships (right). (Source: Department of Defence)

Australian National
Audit Office

Canberra ACT
17 December 2014

Dear Mr President
Dear Madam Speaker

The Australian National Audit Office has undertaken a review of the status of selected major Defence equipment acquisition projects as at 30 June 2014, as presented by the Defence Materiel Organisation, in accordance with the authority contained in the *Auditor-General Act 1997*. Pursuant to Senate Standing Order 166 relating to the presentation of documents when the Senate is not sitting, I present the report of this review to the Parliament. The report is titled *2013–14 Major Projects Report*.

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

Yours sincerely

Ian McPhee
Auditor-General

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

AUDITING FOR AUSTRALIA

The Auditor-General is head of the Australian National Audit Office (ANAO). The ANAO assists the Auditor-General to carry out his duties under the *Auditor-General Act 1997* to undertake performance audits, financial statement audits and assurance reviews of Commonwealth public sector bodies and to provide independent reports and advice for the Parliament, the Australian Government and the community. The aim is to improve Commonwealth public sector administration and accountability.

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Contents

Australian National Audit Office

Defence Materiel Organisation

Project Data Summary Sheets

2013–14 Major Projects Report Guidelines

Abbreviations

ADF	Australian Defence Force
ANAO	Australian National Audit Office
ASAE	Australian Standard on Assurance Engagements
CEO DMO	Chief Executive Officer, Defence Materiel Organisation
CFO DMO	Chief Finance Officer, Defence Materiel Organisation
DCP	Defence Capability Plan
DMO	Defence Materiel Organisation
FMR	Final Materiel Release
FMS	Foreign Military Sales
FOC	Final Operational Capability
IMR	Initial Materiel Release
IOC	Initial Operational Capability
JCPAA	Joint Committee of Public Accounts and Audit
JPD	Joint Project Directive
MAA	Materiel Acquisition Agreement
Major Projects	Major Defence equipment acquisition projects
MOTS	Military-Off-The-Shelf
MOU	Memorandum Of Understanding
MPR	Major Projects Report
MRM	Materiel Release Milestone
MRS	Monthly Reporting System
PDSS	Project Data Summary Sheet

Note: A full list of the Major Projects and their abbreviations are included in Part 1, at page 7, of this report.

Part 1. ANAO Review and Analysis

Auditor-General's Foreword

The Defence Materiel Organisation (DMO) supports the capacity and capability of the Australian Defence Force by undertaking important acquisition and sustainment activities. This important work is the subject of this, the seventh Major Projects Report (MPR), which continues the annual review and analysis by the Australian National Audit Office (ANAO) on the progress of selected major Defence equipment acquisition projects (Major Projects), managed by the DMO.

This report builds on the earlier work by the DMO and the ANAO to improve the transparency of, and accountability for, the status of Major Projects for the benefit of the Parliament, the Government and other stakeholders.

The management of Major Projects is complex and, for this reason, it is a major challenge for the DMO to deliver the required capability on schedule and within budget. Consistent with previous years, schedule slippage remains a key focus for the DMO, particularly for projects regarded as developmental. However, given the ongoing interest in all aspects of the delivery of Major Projects, the ANAO will continue to monitor delivery in terms of cost, schedule and capability.

In such a complex environment, the ongoing support of the Joint Committee of Public Accounts and Audit (JCPAA) has been important to the development of the MPR, providing guidance and insights from their considerations. Each year the JCPAA endorses the Guidelines for the review, and provides direction and recommendations to assist the development of future MPRs.

As previously, this year's review continued the strong working relationship between the ANAO and the DMO. Other key stakeholders within the Department of Defence, and in particular the Capability Managers, and industry stakeholders, also provided valuable input to assist with the review.

Ian McPhee

8 December 2014

Summary

Introduction

1. Major Defence equipment acquisition projects (Major Projects) remain the subject of considerable parliamentary and public interest, in view of their high cost and impact on the economy, contribution to national security and the challenges involved in completing them within budget, on time and to the required level of capability.

2. The proposed 2015[1] Defence White Paper is expected to consider the Australian Defence Force's (ADF's) priorities for future capability investment for the Commonwealth. These considerations will concern the acquisition of new submarines and frigates, as well as the replacement of the land vehicle fleet, and are foreshadowed to involve some of the most significant investment decisions in the Commonwealth's history.[2] In addition, the Government has commissioned the Defence First Principles Review which is aimed at delivering 'a more commercially astute and focused materiel acquisition and sustainment capability'.[3] The findings of this review are expected to inform the development of the White Paper.

3. The Defence Materiel Organisation (DMO) provides support to ADF operations through the acquisition and sustainment of ADF capabilities[4] and expended some $4.1 billion on major and minor capital acquisition projects in 2013–14.[5]

4. However, acquisitions by the DMO alone do not generate new capability for the ADF until they have been successfully introduced into service. The overarching responsibility for the introduction into service of Major Projects, for example, provision of personnel, training and command,

1 The Minister for Defence, Senator the Hon. David Johnston, *Defence Minister releases White Paper public consultation,* 28 July 2014.

2 The Minister for Defence, Senator the Hon. David Johnston, *Address to the American Chamber Of Commerce in Australia*, 9 October 2014.

3 The Minister for Defence, Senator the Hon. David Johnston, *Defence Minister announces First Principles Review panel*, 5 August 2014.

4 Department of Defence, *Defence Annual Report 2013–2014*, Volume 1, Chapter 6 – Defence Materiel Organisation, p. 93.

5 Department of Defence, *Defence Annual Report 2013–2014*, Volume 2, Financial Statements, p. 145.

normally resides within other areas of the Australian Defence organisation.[6] However, while the DMO's acquisition role is only part of the introduction into service of new capability, it is a significant one.

The 2013–14 Major Projects Report

5. This seventh Major Projects Report (MPR) covers 30 of the DMO's Major Projects and is the first report covering this many projects (2012–13 and 2011–12: 29, and 2010–11: 28). This report builds on the earlier work to improve the transparency of, and accountability for, the status of Major Projects, and is supported by the commitment of the Joint Committee of Public Accounts and Audit (JCPAA), '...to maximise transparency and accountability in the Defence acquisition process for major projects managed by DMO.'[7]

6. The Australian National Audit Office's (ANAO's) review of Major Projects in the MPR is completed in conjunction with the regular program of performance and financial statement audits conducted within the Defence portfolio. While by its nature, the report is not as in depth as a performance audit, it provides an opportunity to analyse data across a consistent range of projects over time. The benefits of this analysis have been noted by a variety of stakeholders, including Ministers, Parliamentary Committee members, industry and the media.

The 2013–14 Major Projects

7. Projects included in the MPR are selected based on criteria included in the *2013–14 Major Projects Report Guidelines* (the Guidelines), as endorsed by the JCPAA. These criteria provide a selection of the most significant Major Projects managed by the DMO, on behalf of the ADF. The total approved budget for the Major Projects included in the 2013–14 MPR is approximately $59.4 billion, covering nearly 63 per cent of the budget within the Approved Major Capital Investment Program of $94.7 billion.[8]

8. The projects and their approved budgets are listed in Table 1, below.

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6 Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, pp. 2–4.

7 JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, Foreword, p. vii.

8 Based on information contained in the Approved Major Capital Investment Program provided to the ANAO by the DMO.

Table 1: MPR projects and approved budgets at 30 June 2014

Project Number (Defence Capability Plan)	Project Name (on DMO advice)	DMO Abbreviation (on DMO advice)	Approved Budget $m
AIR 6000 Phase 2A/2B	New Air Combat Capability	Joint Strike Fighter	13 455.5
SEA 4000 Phase 3	Air Warfare Destroyer Build	AWD Ships	7 847.9
AIR 5077 Phase 3	Airborne Early Warning and Control Aircraft	Wedgetail	3 873.1
AIR 9000 Phase 2/4/6	Multi-Role Helicopter	MRH90 Helicopters	3 785.1
LAND 121 Phase 3B	Medium Heavy Capability, Field Vehicles, Modules and Trailers	Overlander Medium/Heavy [1]	3 469.0
AIR 9000 Phase 8	Future Naval Aviation Combat System Helicopter	MH-60R Seahawk	3 196.9
JP 2048 Phase 4A/4B	Amphibious Ships (LHD)	LHD Ships	3 089.4
AIR 5349 Phase 3	EA-18G Growler Airborne Electronic Attack Capability	Growler [1]	3 036.6
AIR 87 Phase 2	Armed Reconnaissance Helicopter	ARH Tiger Helicopters	2 033.0
AIR 5376 Phase 2	F/A-18 Hornet Upgrade	Hornet Upgrade	1 881.3
AIR 5402	Air to Air Refuelling Capability	Air to Air Refuel	1 821.4
SEA 1390 Phase 2.1	Guided Missile Frigate Upgrade Implementation	FFG Upgrade	1 452.6
AIR 8000 Phase 2	Battlefield Airlift – Caribou Replacement	Battlefield Airlifter [1]	1 289.5
LAND 116 Phase 3	Bushmaster Protected Mobility Vehicle	Bushmaster Vehicles	1 250.4
LAND 121 Phase 3A	Field Vehicles and Trailers	Overlander Light	1 020.5
JP 2008 Phase 4	Next Generation SATCOM Capability	Next Gen Satellite	869.3
SEA 1448 Phase 2B	ANZAC Anti-Ship Missile Defence	ANZAC ASMD 2B	678.4
AIR 9000 Phase 5C	Additional Medium Lift Helicopters	Additional Chinook	617.2
JP 2043 Phase 3A	High Frequency Modernisation	HF Modernisation	580.1
JP 2072 Phase 2A	Battlespace Communications System	Battle Comm. Sys. (Land)	460.1
SEA 1439 Phase 4A	Collins Replacement Combat System	Collins RCS	450.1
SEA 1429 Phase 2	Replacement Heavyweight Torpedo	Hw Torpedo	426.6
JP 2008 Phase 5A	Indian Ocean Region UHF SATCOM	UHF SATCOM	419.1
SEA 1439 Phase 3	Collins Class Submarine Reliability and Sustainability	Collins R&S	411.7
SEA 1390 Phase 4B	SM-1 Missile Replacement	SM-2 Missile	407.3
SEA 1448 Phase 2A	ANZAC Anti-Ship Missile Defence	ANZAC ASMD 2A	386.9
LAND 17 Phase 1A	Artillery Replacement	155mm Howitzer	336.1
AIR 5418 Phase 1	Follow On Stand Off Weapon	Stand Off Weapon	317.4
LAND 75 Phase 3.4	Battlefield Command Support System	Battle Comm. Sys.	314.8
JP 2048 Phase 3	Amphibious Watercraft Replacement	LHD Landing Craft [1]	239.9
Total			**59 417.2**

Source: See the Project Data Summary Sheets in Part 3, from page 175, of this report.

Note 1: Overlander Medium/Heavy, Growler, Battlefield Airlifter and LHD Landing Craft are included in the MPR program for the first time in 2013–14.

Report objective and structure

9. The objective of this report is to provide the Auditor-General's independent assurance over the status of selected Major Projects, as reflected in the Statement by the Chief Executive Officer (CEO) DMO, and the Project Data Summary Sheets (PDSSs), prepared by the DMO. Assurance from the ANAO's review of the preparation of the PDSSs is conveyed in the Auditor-General's Independent Review Report, prepared pursuant to the endorsed Guidelines, and included in Part 3 of this report (pp. 165–542) along with the aforementioned Statement by the CEO DMO and PDSSs.

10. Excluded from the scope of the ANAO's review is PDSS data on projects' budget adequacy, the identification of Risks and Issues, the Measures of Materiel Capability Delivery Performance, and 'forecasts' of future dates and the achievement of future outcomes. By its nature, this information relates to future events and depends on circumstances that have not yet occurred or may not occur, or may be impacted by events that have occurred but have not yet been identified. Accordingly, the conclusion of this review does not provide any assurance in relation to this information.

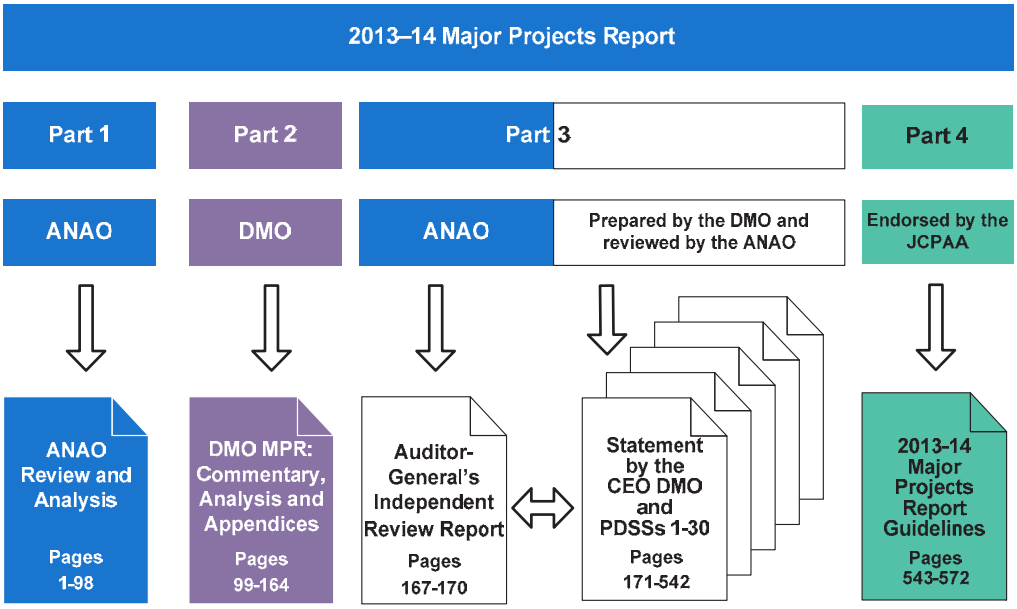
11. The ANAO's analysis on the three key elements of the PDSSs—cost, schedule and the progress towards delivery of required capability, in particular, longitudinal analysis across these key elements of projects over time, are contained in Part 1 (pp. 1–98). The ANAO's analysis on other elements of the PDSSs, for example, project maturity and elements excluded from the scope of the formal review, are also included in this part, to provide readers with a balanced perspective over all key acquisition elements.

12. Further insights and context by the DMO on issues highlighted during the year are contained in Part 2 (pp. 99–164)—although not included within the scope of the review by the ANAO.

13. Part 4 includes the Guidelines endorsed by the JCPAA (pp. 543–572).

14. Figure 1, below, depicts the key parts of this report. To assist in conducting inter-report analysis, the presentation of data remains largely consistent and comparable with the 2012–13 MPR.

Figure 1: Report structure



Refer to paragraphs 9 to 13 in Part 1, at page 8, of this report.

15. For each Major Project, a corresponding PDSS includes detailed information on project performance: the approved budgeted cost and expenditure; schedule progress; the DMO's assessment of progress toward delivering those aspects of key capabilities for which the DMO is responsible; major risks and issues; maturity scores; and lessons learned. This information has been prepared by the DMO in accordance with the Guidelines as endorsed by the JCPAA. Additionally, as projects appear in the MPR for multiple years, changes to the PDSS from the previous year are depicted in bold purple text.

16. Each PDSS comprises:

- 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 2014);

- 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)[9] [10];
- Section 4—Project Cost and Schedule Status: represents the project's cost and schedule status in a graphical format as at 30 June 2014;
- Section 5—Materiel Capability Delivery Performance: provides a summary of the DMO's assessment of its progress on delivering key capabilities;
- Section 6—Major Risks and Issues: outlines the major risks and issues of the project;
- Section 7—Project Maturity: provides a summary of the project maturity as defined by the DMO and a comparison against the benchmark score;
- Section 8—Lessons Learned: outlines the key lessons that have been learned at the project level (further information on lessons learned by the DMO are included in the DMO's Appendix 3); and
- Section 9—Project Line Management: details current project management responsibilities within the DMO.

17. Consistent with the Guidelines, information of a classified nature has been excluded from the PDSSs.

9 IMR and FMR are milestones that mark the completion and release of DMO acquisition project supplies required to support the achievement of Initial Operational Release (IOR) and FOC respectively. They are defined in the MAA. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 121–122.

10 IOC and FOC are the points when the first or final subset of a capability system that can be operationally employed is realised. They are capability states endorsed at project approval at Second Pass, and reported as having been reached by the Capability Manager. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 121 and p. 123.

The role of the Joint Committee of Public Accounts and Audit

18. Influential in establishing the MPR, the JCPAA has taken an active role in the development and review of the MPR program. Each year, the Committee considers the draft Guidelines, incorporating the selection of projects for review, and provides the Committee's views in relation to the Guidelines' content and development, prior to their endorsement. Following endorsement by the Committee, the Guidelines provide the basis for the DMO's preparation of the PDSSs and the criteria for the ANAO's review.[11]

19. The main change to the 2013–14 Guidelines was the inclusion of a statement within each PDSS in relation to whether a project has, or has not, applied contingency funds during the year. The DMO applies contingency to known and emergent risks as a part of standard risk management processes[12], however, the application of contingency does not necessarily result in expenditure, unless risks materialise and require action to be taken. Although the amount of contingency funds applied, or whether the applied contingency funds were expended does not have to be disclosed, this amendment will provide readers with the opportunity to identify, at a minimum, projects that have had contingency funds applied during the financial year.

20. Subsequent to the tabling of the MPR in Parliament each year, the JCPAA considers the inclusion of the report in its schedule of review. In March 2014, the JCPAA held a public hearing into the results of the 2012–13 review and in May 2014 the Committee published Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*. The JCPAA's recommendations are set out below[13]:

11 The Guidelines for the 2013–14 MPR were endorsed by the JCPAA in March 2014 and have been included in Part 4, at page 543, of this report.

12 Department of Defence, DMO, Defence Materiel Manual Project, DMM (PROJ) 11-0-002, *DMO Project Risk Management Manual (PRMM) 2013*, July 2013, Chapter 9 – Management Of Contingency Budgets in DMO Acquisition Projects, 9.6 Contingency budget allocations, p. 112.

13 JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, pp. xiii–xv.

Recommendation 1

The Committee recommends that starting from the 2013–14 Major Projects Report, the Defence Materiel Organisation and the Australian National Audit Office publish expanded information on each Major Project's budget estimates and actual expenditure during the financial year. Additional details for each Major Project could include:

- Comparison of variation citing specific dollar amounts;
- Percentage of variance; and
- Overall totals and averages, where calculable.

Additionally, ANAO should analyse DMO's reasons and explanations for projects' in-year budget variance.

Recommendation 2

The Committee recommends that the Australian National Audit Office and Defence Materiel Organisation consult as necessary and amend Section 2.2 of the PDSSs, in time for submission of the draft 2014–15 MPR Guidelines to the JCPAA, to ensure that the following are reported:

(a) each Major Project's 1 July budget estimates, as published in the Portfolio Budget Statements;

(b) mid-year estimates, as published in the Portfolio Additional Estimates Statements;

(c) if necessary, any more subsequent estimates since the mid-year estimates; and

(d) 30 June actual expenditure; along with

(e) explanations of variance between each of the above.

Recommendation 3

The Committee recommends that Defence and the Defence Materiel Organisation take the necessary actions to ensure there is improved line of sight between the Major Projects Report and the Portfolio Budget Statements and Portfolio Budget Estimates Statements. For example, by improving the consistency of project names and groupings between the documents.

Recommendation 4

The Committee recommends that the Defence Materiel Organisation prepares a suitable and separate methodology for reporting sustainment activity and expenditure, and that this methodology be reported to the Committee within six months of the tabling of this report.

Recommendation 5

That starting from the 2013–14 Major Projects Report, ANAO publish a similar version of Figure 8 (on page 64 of the 2012–13 MPR), relating to Major Project total slippage post Second Pass Approval and acquisition type by approval date.

(continued over page)

Recommendation 6

That the Australian National Audit Office and Defence Materiel Organisation consult as necessary to ensure that statements or graphs relating to capability in the PDSSs, particularly Section 1.2 and 5.1, be appropriately qualified in the 2013–14 Major Projects Report, by noting that:

- The graphs in Section 5.1 do not necessarily represent capability achieved; and
- The capability assessments and forecasts in the PDSSs are not subject to ANAO's assurance audit.

Recommendation 7

To improve the robustness of capability performance information, that the Australian National Audit Office and Defence Materiel Organisation consult as necessary and propose amendments to Section 5.1 and 1.2 in the 2014–15 MPR Guidelines, to:

- Apply a more objective method to assessing capability performance; and
- Distinguish capability achieved from capability yet to be achieved, capability unlikely to be achieved, and capability exceeded.

ANAO and DMO should provide a specific proposal to the Committee preferably by the end of August 2014 in line with submission of the 2014–15 MPR Guidelines.

Recommendation 8

That DMO maintain the ability to publish project maturity scores in future Major Projects Reports until these are no longer required by the guidelines endorsed by the Joint Committee of Public Accounts and Audit.

Recommendation 9

That all future Major Projects Reports, including the 2013–14 Major Project Report, include information on recently exited Major Projects, at a level similar to Tables 2.1 to 2.3 on pages 114 to 116 of the 2012–13 Major Project Report.

Recommendation 10

The Australian National Audit Office and Defence Materiel Organisation consult as necessary to propose amendments to the 2014–15 MPR Guidelines to make provision for information on exited Major Projects.

21. The Committee's recommendations contribute to the development of the MPR each year and the formal response by the Department of Defence to the above-mentioned recommendations was provided to the Committee in late November 2014, for its consideration. However, while at the time of preparing this report the Committee's views on the Department's response was not known, the ANAO and the DMO's actioning of recommendations in the 2013–14 MPR is summarised below:

- Recommendation 1—Actioned: In-year budget to actual variance analysis is included in the 2013–14 MPR at paragraphs 2.29 to 2.31 in Part 1, and Table 2.2 and paragraph 2.10 in Part 2;

- Recommendation 2—Actioned: A revised Section 2.2 is included in the 2014–15 MPR Guidelines, which were endorsed in September 2014;
- Recommendation 3—Actioned: Improved consistency of project names is addressed at Table 1 in Part 1 and throughout the MPR;
- Recommendation 4—See further explanation at paragraphs 22 and 23, below;
- Recommendation 5—Actioned: A longitudinal representation of total slippage post Second Pass Approval and acquisition type by approval date is included at Figures 8 and 9 in Part 1;
- Recommendation 6—Actioned: Statements and graphs relating to capability are appropriately caveated in Sections 1.2 and 5.1 of each PDSS in Part 3;
- Recommendation 7—Actioned (partially): High level enhancements to the clarity of capability performance information is outlined at paragraph 2.65 in Part 1 and included in the 2014–15 MPR Guidelines;
- Recommendation 8—Actioned: Project maturity score analysis is included at paragraphs 2.12 to 2.14 in Part 1, and the PDSSs in Part 3;
- Recommendation 9—Actioned: The DMO has included information on recently exited Major Projects at Table 1.3 in Part 2; and
- Recommendation 10—Actioned: Information on exited Major Projects will be included within the MPR from 2014–15.

22. While Defence sustainment projects are generally outside of the scope of the MPR, the Collins R&S project (which is defined as a sustainment project by the DMO) has been included in the MPR at the request of the JCPAA since 2009–10. In addition, while ARH Tiger Helicopters and Collins RCS have been transferred to 'sustainment', they will be included within the 2014–15 MPR following the endorsement of the 2014–15 Guidelines.

23. In September 2014 the JCPAA also requested that the ANAO develop an options paper on sustainment reporting, and review other international works in this area. The ANAO will consult with the DMO in preparing a response to the JCPAA on this issue. The options developed will need to recognise that assessments in relation to readiness and availability of major Defence capabilities are classified.

24. Additionally, a performance audit to examine the contribution made by Materiel Sustainment Agreements to the effective sustainment of specialist military equipment, is expected to be tabled in 2015.

Overall outcomes

25. This seventh MPR continues the review of seven of the nine DMO Major Projects which were initially introduced in the 2007–08 MPR and has continued to introduce new projects up to the originally agreed maximum of 30 projects for review.[14] The MPR maintains the transparency and accountability for performance relating to cost, schedule and progress towards delivering the key capabilities of Major Projects, and provides opportunities for further longitudinal and other analysis into the future.

The 2013–14 Major Projects review (Chapter 1)

26. Under section 19A(5) of the *Auditor-General Act 1997*, the ANAO has reviewed the PDSS data as contained in this volume as a ***priority assurance review*** and presents the Auditor-General's Independent Review Report, at page 167.

27. As noted in paragraph 19, at page 11, the 2013–14 Guidelines required the introduction of a 'contingency statement' in Section 1.2 Current Status (Cost Performance) within each PDSS. Project offices are now required to indicate whether they have had contingency funds applied during the year, as well as disclosing which risks were mitigated by the application of those contingency funds. The six projects which applied contingency funds in 2013–14 were Joint Strike Fighter[15], AWD Ships[16], MRH90 Helicopters[17], LHD Ships, FFG Upgrade and Additional Chinook.

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14 Seven of the nine projects in the 2007–08 MPR remain included under the Guidelines endorsed by the JCPAA. The C-17 Heavy Airlift and Armidales projects met the requirements for FOC in December 2011 and October 2012 respectively and were subsequently removed from the MPR.

15 Further information on Joint Strike Fighter can be found in ANAO Audit Report No.6 2012–13, *Management of Australia's Air Combat Capability—F-35A Joint Strike Fighter Acquisition*, September 2012.

16 Further information on AWD Ships can be found in ANAO Audit Report No. 22 2013–14, *Air Warfare Destroyer Program*, March 2014.

17 Further information on MRH90 Helicopters can be found in ANAO Audit Report No.52 2013–14, *Multi-Role Helicopter Program*, June 2014.

28. Additionally, the ANAO continued to assess the progress of the DMO in addressing previously raised issues in relation to the administration of Major Projects. In 2013–14 issues were again noted within the following areas of project management, including:

- continued concerns of project offices in relation to price indexation and budget allocations, and inconsistency in the recording and application of contingency funds, (Section 1 of the PDSS);
- inconsistency in the application of the project maturity framework[18], reducing its level of reliability of the maturity assessment, (Section 7 of the PDSS);
- inconsistency in the recording and reporting of major risks and issues by project offices, and in the terminology and reporting within the mandated Predict! and Excel risk management systems[19], (Section 6 of the PDSS); and
- inconsistency in the application of the capability assessment framework[20], (Section 5 of the PDSS).

29. The Auditor-General's Independent Review Report takes into account the overall governance of Major Projects, the results of our examination of the DMO's project management and reporting arrangements, and the results of our substantive procedures to gain assurance in relation to key information reported in PDSSs. In 2013–14, the results of the ANAO's ***priority assurance review*** of the 30 PDSSs was that nothing has come to the attention of the ANAO that causes us 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.

18 The project maturity framework outlined in the Department of Defence, DMO, Defence Materiel Standard Procedure (Project Management), DMSP (PROJ) 11-0-007, *Project Maturity Scores at Life Cycle Gates*, September 2010, is a methodology used to quantify the maturity of projects as they progress through the acquisition life cycle.

19 Department of Defence, DMO, *Submission No. 1 to the JCPAA*, 6 March 2013, Attachment A, p. 5.

20 The capability assessment framework is a methodology used to assess the likelihood of delivering the key capabilities outlined in project's Materiel Acquisition Agreement (for more information, refer to paragraphs 1.57 to 1.64 in Part 1, at pages 38 to 40, of this report).

Analysis of projects' performance (Chapter 2)

30. The data reviewed in the PDSSs covers the three major dimensions of project performance: cost, schedule, and progress towards delivering the planned capability.

31. Table 2, below, provides summary data on the DMO approved budget, schedule performance and progress toward delivering capabilities for the Major Projects covered in this report, and compares data against that reported in previous MPR editions.

Table 2: Summary longitudinal analysis

	2011–12 MPR	2012–13 MPR	2013–14 MPR
Number of Projects	29	29	30
Total Approved Budget	$47.3 billion	$44.3 billion	$59.4 billion
Total Budget Variation since Second Pass Approval	$5.9 billion	$6.5 billion	$16.8 billion
In-year Approved Budget Variation	-$1.1 billion (-2.4 per cent)	-$1.5 billion (-3.4 per cent)	$12.8 billion (21.5 per cent)
Total Schedule Slippage [1, 2]	822 months (30 per cent)	957 months (36 per cent)	1 115 months (36 per cent)
Average Schedule Slippage per Project	30 months	35 months	38 months
In-year Schedule Slippage [3]	99 months (4 per cent)	147 months (5 per cent)	205 months (7 per cent)
Expected Capability [4] • High level of confidence of delivery (Green)	91 per cent	95 per cent	96 per cent
• Under threat, considered manageable (Amber)	8 per cent	5 per cent	4 per cent
• Unlikely to be met (Red)	1 per cent	0 per cent	0 per cent

Refer to paragraphs 31 to 45 in Part 1, at pages 17 to 22, of this report.

Note 1: The data for the 30 Major Projects in the 2013–14 MPR compares the data from projects in the 2012–13 MPR and 2011–12 MPR. A comparison of the data across years should be interpreted in this context, i.e. once a project is removed from the MPR, data is removed from the total slippage calculation for all years, but remains within in-year calculations where relevant.

Note 2: Slippage refers to the difference between the original government approved date and the current forecast date. These figures exclude schedule reductions over the life of the project.

Note 3: Based on the 27 projects from the 2010–11 MPR, 29 projects from the 2011–12 MPR and 26 projects from the 2012–13 MPR respectively.

Note 4: The grey section of the table is excluded from the scope of the ANAO's ***priority assurance review***. See further explanation in paragraph 10, at page 8, of this report.

Cost

32. Within the review period, all projects continued to operate within the total approved budget of $59.4 billion.[21]

33. The total budget for Major Projects included in this MPR has increased by $16.8 billion (37.9 per cent) since Second Pass Approval. Refer to Table 3, below.

Table 3: Budget variation over $500 million post Second Pass Approval by Variation type

Project	Variation	Explanation	Year	Amount $b	
Joint Strike Fighter	Scope increase	58 additional aircraft	2013–14	10.5	
MRH90 Helicopters	Scope increase/budget transfers	34 additional aircraft	2005–06	2.4	
Overlander Medium/Heavy	Scope increase/budget transfers	General program supplementation	2013–14	0.7	
Bushmaster Vehicles	Scope increase	715 additional vehicles	Various	0.8	
Other	Scope increase/budget transfers (net)	Other scope changes and transfers	Various	(2.3)	
	Sub-total				12.1
	Price Indexation – materials and labour (net)				6.1
	Exchange Variation – foreign exchange (net)				(1.4)
	Total				**16.8**

Source: The ANAO's analysis of the 2013–14 PDSSs. Refer to paragraph 33, above.

Note: For the breakdown of in-year variation, refer to Table 7, at page 54, of this report.

34. Overlander Vehicles, provided with Second Pass Approval in August 2007, was separated into two phases, Phase 3A Lightweight and Light Capability and Phase 3B Medium and Heavy Capability, in December 2011. Phase 3A was reapproved for Second Pass at that time; however Phase 3B did not receive Second Pass Approval until July 2013 and was reflected as a scope decrease of $2.2 billion in the 2012–13 MPR. This timing difference has now been readjusted in this report.

21 See Table 7 in Part 1, at page 54, of this report.

Schedule

35. Maintaining Major Projects on schedule remains an ongoing challenge for the DMO[22]; in turn affecting when the capability is made available for operational release and deployment by the ADF.

36. In the 2013–14 MPR, the total schedule slippage for the 30 Major Projects as at 30 June 2014 is 1 115 months (2012–13: 957 months) when compared to the initial schedule first approved by government. This represents a 36 per cent (2012–13: 36 per cent) increase on the originally approved schedule. Refer to Table 4, below.

Table 4: Schedule slippage from original planned FOC

Project	In-year (months)	Total (months)	Project	In-year (months)	Total (months)
Joint Strike Fighter	0	0	Next Gen Satellite	0	0
AWD Ships	0	22	ANZAC ASMD 2B	0	57
Wedgetail	0	78	Additional Chinook	0	0
MRH90 Helicopters	60	60	HF Modernisation	0	147
Overlander Medium/Heavy	0	0	Battle Comm. Sys. (Land)	0	4
MH-60R Seahawk	0	0	Collins RCS	1	109
LHD Ships	0	0	Hw Torpedo	58	58
Growler	0	0	UHF SATCOM	0	0
ARH Tiger Helicopters	0	79	Collins R&S	0	99
Hornet Upgrade	16	39	SM-2 Missile	11	26
Air to Air Refuel	12	57	ANZAC ASMD 2A	0	72
FFG Upgrade	12	132	155mm Howitzer	7	7
Battlefield Airlifter	0	0	Stand Off Weapon	4	37
Bushmaster Vehicles	0	0	Battle Comm. Sys.	15	23
Overlander Light	9	9	LHD Landing Craft	0	0
Total				**205**	**1 115**

Source: The ANAO's analysis of the 2013–14 PDSSs. Refer to paragraph 36, above.

37. While it should be noted that platform availability contributes to the slippage within the 'Collins' projects, the other most significant slippage delays relate to those projects with the most developmental content.

38. Disaggregation according to a project's Second Pass Approval shows that 80 per cent (2012–13: 87 per cent) of the total schedule slippage across the

22 See the DMO's Executive Summary in Part 2, at page 103, of this report.

Major Projects covered in the 2013–14 MPR is made up of projects approved prior to the DMO's demerger from the Department of Defence, in July 2005. This is a positive indicator of the benefits that the DMO, as a specialist acquisition and sustainment organisation, is able to bring to complex Defence procurement. It also demonstrates the impact on schedule performance during the transition to higher levels of Military-Off-The-Shelf (MOTS) acquisitions following the *Defence Procurement Review 2003* (Kinnaird Review).[23]

39. Additional ANAO analysis (refer to Figure 8, at page 62) presents project slippage as reported in each of the seven MPRs against the DMO classification of projects as MOTS, Australianised MOTS or developmental.[24] These classifications are a general indicator of the difficulty associated with the procurement process. This figure highlights, prima facie, that the more developmental in nature a project is, the more likely it will result in project slippage, as well as demonstrating the advantages of selecting MOTS acquisitions.[25] For the first time, Figure 9 (at page 63) begins the analysis of completed projects which have been removed from the MPR.

40. 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 (see paragraphs 2.29 to 2.31 in Part 2).

Capability

41. The third major aspect of project performance examined by this report is progress towards the delivery of capability required by government and specified by the ADF. Assessment of expected capability delivery by the DMO is outside the scope of the Auditor-General's formal review conclusion, but is included in the analysis to provide an overall perspective of the three major components of project performance.

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23 Kinnaird, Malcolm, *Defence Procurement Review 2003*, August 2003.

24 See Table 2.4 in Part 2, at page 123, of this report.

25 Off-The-Shelf (OTS): Hardware or software that already exists, is in service with one or more other customers for an equivalent purpose and requires no, or minimal, change. Sometimes expressed as COTS (Commercial Off-The-Shelf) or MOTS (Military Off-The-Shelf). Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 125.

42. The DMO expects that the 30 projects in this year's MPR will deliver all of their key capability requirements, recognising that some elements of the capability required may be under threat, but considered manageable (assessed as either green or amber). This is consistent with the 2012–13 assessment, and represents five project offices currently having challenges (2012–13: six).

43. This year, as reported by the DMO, the delivery of four per cent (2012–13: five per cent) of the key capabilities is considered to be under threat but is considered manageable. The projects considered to have some elements under threat, but considered manageable are: Joint Strike Fighter, Wedgetail, MRH90 Helicopters, Air to Air Refuel and FFG Upgrade. Further details are outlined at paragraph 2.77, at page 78. Refer also to Table 5, below.

Table 5: Longitudinal Expected Capability Delivery

Expected Capability	2011–12 MPR	%	2012–13 MPR	%	2013–14 MPR	%
High Confidence (Green)	- All Projects [1]	91	- All Projects	95	- All Projects	96
Under Threat, considered manageable (Amber)	- Wedgetail (Developmental) - MRH90 Helicopters (AMOTS) - ARH Tiger Helicopters (AMOTS) - Air to Air Refuel (Developmental) - FFG Upgrade (Developmental) - Stand Off Weapon (AMOTS) [2] - 155mm Howitzer (MOTS) [3]	8	- Joint Strike Fighter (Developmental) - Wedgetail (Developmental) - MRH90 Helicopters (AMOTS) - Air to Air Refuel (Developmental) - FFG Upgrade (Developmental) - 155mm Howitzer (MOTS) [3]	5	- Joint Strike Fighter (Developmental) - Wedgetail (Developmental) - MRH90 Helicopters (AMOTS) - Air to Air Refuel (Developmental) - FFG Upgrade (Developmental)	4
Unlikely (Red)	- Wedgetail (Developmental) - MRH90 Helicopters (AMOTS)	1		0		0
Total		**100**		**100**		**100**

Source: The ANAO's analysis of the PDSSs in published MPRs.

Note 1: All projects had some component/s with high confidence of delivery.

Note 2: Removal of the moving target capability from the project scope in 2010–11, combined with resolution of fuze production issues and successful completion of Operational Test and Evaluation in 2012–13, has led to this project achieving its remaining scope.

Note 3: The Course Correcting Fuze has been cleared for production in the United States and is no longer considered 'under threat' of delivery.

44. As shown in Table 5, above, the majority of projects for which the DMO's expected capability delivery is below 100 per cent, are developmental or Australianised MOTS (AMOTS). The only exception is 155mm Howitzer, which was awaiting clearance of the Course Correcting Fuze for production, which has since occurred.[26]

45. In addition, the DMO has continued the practice of including declassified information on settlement actions for projects in the interests of providing greater transparency to readers of this report. In 2013–14, a renegotiation with Airbus Defence and Space regarding delivery of Air to Air Refuel contracted requirements resulted in the signing of a Deed of Settlement.[27] Prior settlements for projects within this report include Wedgetail[28], MRH90 Helicopters[29] and ARH Tiger Helicopters.[30]

Developments in acquisition governance (Chapter 3)

46. Consistent with previous years, developments in acquisition governance processes are covered in the ANAO's review, with general indications of positive impacts from some of the more recent initiatives. As might be anticipated, while some initiatives continue to mature, others require further progress prior to achieving their intended impact. These developments broadly relate to the following key acquisition governance areas.

Gate Review Boards

47. First introduced in 2008, the Gate Review process[31] was designed to provide the CEO DMO with assurance that all identified risks for a project are manageable, and that costs and schedule are likely to be under control prior to a project passing various stages of its life cycle. However, while the Gate Review process is continuing to evolve, the DMO intend to review their application within acquisition and expand into sustainment in future years.

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26 See the 155mm Howitzer PDSS in Part 3, at page 493, of this report.

27 See the Air to Air Refuel PDSS in Part 3, at page 303, of this report.

28 See the Wedgetail PDSS in Part 3, at page 205, of this report.

29 See the MRH90 Helicopters PDSS in Part 3, at page 217, of this report.

30 See the ARH Tiger Helicopters PDSS in Part 3, at page 279, of this report.

31 ANAO Audit Report No.52 2011–12, *Gate Reviews for Defence Capital Acquisition Projects*, June 2012, paragraph 13, pp. 15–16, found that while generally the DMO has improved the effectiveness of the program, there remain opportunities for further improvement and rigour.

Projects of Concern

48. First established in 2008, the Projects of Concern process was implemented to address project issues of concern to the DMO and government, relating to cost, schedule and capability. The process has continued to play an important, although limited role, across the portfolio of MPR projects. The Projects of Concern within the MPR at 30 June 2014 are AWD Ships, MRH90 Helicopters and Air to Air Refuel.

Early Indicators and Warnings

49. In May 2011, the then Government announced the impending implementation of the Early Indicators and Warnings (EI&W) system to identify problems with projects in the formative stages of the life cycle. However, following the June 2013 review by the Defence Capability and Investment Committee, the CEO DMO proposed a new reporting system in December 2013, the Quarterly Project Performance Report, which is expected to replace EI&W. Further analysis of this new system will be undertaken in future MPRs.

Joint Project Directives

50. The introduction of a requirement for Joint Project Directives (JPDs)[32] in 2009–10, for all projects approved by government from March 2010 is maturing and expected to have a greater influence over the portfolio of MPR projects in future years. To date only eight MPR projects have completed a JPD.[33] It is expected that JPDs will provide a sound basis for ensuring government requirements are delivered and further review of the JPD process will be undertaken in future MPRs.

Business systems rationalisation

51. The DMO's business systems[34] rationalisation is aimed at consolidating processes and systems in order to provide a more manageable system

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32 Joint Project Directive: A project-specific directive issued by the Secretary, Department of Defence and the Chief of the Defence Force to the nominated Capability Manager, assigning overall responsibility, authority and accountability for realisation of the capability system to an in-service state. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 124.

33 Overlander Medium/Heavy, MH-60R Seahawk, Growler, Battlefield Airlifter, Bushmaster Vehicles, Overlander Light, Battle Comm. Sys. (Land) and LHD Landing Craft.

34 JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, paragraph 3.116, p. 39.

environment. Although progress to date has been limited, the DMO advises it has taken some steps in this area through the development of an Integrated Project Management System which is expected to improve reporting practices across the DMO and will be tested on selected project offices in 2014–15.

Project management and skills development

52. Project management and skills development within the DMO and the Defence Industry is a key challenge for the Government and industry alike. Over the last decade, more than $300 million has been provided by government alone to assist with professionalising DMO staff and up-skilling participants within the Defence Industry. While DMO activities have increased professional competencies held by the DMO staff, the measurement of the impact within industry has been limited. The ANAO will continue to review project management and skills development programs in the 2014–15 MPR.

53. Consistent with previous years, the ANAO's detailed assessment of these governance initiatives is contained in Chapter 3 of Part 1.

1. The 2013–14 Major Projects Review

Introduction

1.1 This chapter provides an overview of the 2013–14 review scope and approach adopted by the Australian National Audit Office (ANAO) in consideration of the Project Data Summary Sheets (PDSSs) and the subsequent results of the review.

1.2 Previous reviews have highlighted issues which impact on the Defence Materiel Organisation's (DMO's) administration of major Defence equipment acquisition projects (Major Projects), and their related frameworks. These issues were reconsidered, where appropriate, in order to assess the DMO's progress in addressing them during 2013–14. Key frameworks considered further in this chapter include:

- the financial framework as it applies to the management of project budgets and expenditure, in an out-turned budget environment;
- the project maturity framework and systems in place to support the provision of maturity data in the PDSS;
- the enterprise risk management framework as it applies to major risk and issue data and its maturity; and
- the capability assessment framework, as it relates to the DMO's evaluation of the probability of delivering required capabilities.

1.3 This chapter also makes reference to areas of focus raised by the Joint Committee of Public Accounts and Audit (JCPAA) for consideration in the development of this and future Major Projects Reports (MPRs). As noted in paragraph 20, at page 11, the JCPAA examined the 2012–13 MPR in March 2014, publishing Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report* in May.

1.4 Chapter 2 of Part 1 provides consideration of the DMO's project performance, based on the information provided in the PDSSs.

1.5 Chapter 3 of Part 1 includes developments in the DMO's acquisition governance arrangements, which were also taken into consideration during the review process.

Review scope and approach

1.6 In 2012 the JCPAA identified the review of the DMO's PDSSs as a ***priority assurance review*** under section 19A(5) of the *Auditor-General Act 1997*. The main consequence of the Committee identifying a review as a ***priority assurance review***, is that it provides the ANAO full access to the information gathering powers under the *Auditor-General Act 1997*.

1.7 The ANAO's review of the individual project PDSSs, which are contained in Part 3, were conducted in accordance with the Australian Standard on Assurance Engagements (ASAE) 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* issued by the Australian Auditing and Assurance Standards Board.

1.8 Excluded from the scope of the ANAO's review is PDSS data on projects' budget adequacy, the identification of Risks and Issues, the Measures of Materiel Capability Delivery Performance, and 'forecasts' of future dates and the achievement of future outcomes. By its nature, this information relates to future events and depends on circumstances that have not yet occurred or may not occur, or may be impacted by events that have occurred but have not yet been identified. Accordingly, the conclusion of this review does not provide any assurance in relation to this information.

1.9 While our work is appropriate for the purpose of providing an Independent Review Report in accordance with ASAE 3000, our review of individual PDSSs is not as extensive as individual 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 30 Major Projects is less than that provided by our program of audits.

1.10 However, the MPR is well positioned to examine systemic issues and provide longitudinal analysis for the 30 projects reviewed, and may also reflect on, or have implications for, general project management practices in the DMO, or more broadly within other areas of the Australian Defence organisation.

Areas of review focus

1.11 The ANAO's review of the information presented in the individual PDSSs included:

- examination of each PDSS and the documents and information relevant to them;
- a review of relevant processes and procedures used by the DMO in the preparation of the PDSSs;
- an assessment of the systems and controls that support project financial management, risk management, and project status reporting, within the Australian Defence organisation;
- interviews with persons responsible for the preparation of the PDSSs and those responsible for the management of the 30 projects;
- taking account of industry contractor comments provided to the ANAO and the DMO on draft PDSS information;
- assessing the assurance by the DMO managers attesting to the accuracy and completeness of the PDSSs;
- examination of the representations by the Chief Finance Officer (CFO) DMO supporting the project financial assurance and contingency statements, and the independent third-party review of the project financial assurance statements;
- examination of confirmations, provided by the Secretary of the Department of Defence and Chief of the Defence Force, from the Capability Managers, relating to each project's progress toward Initial Materiel Release (IMR) and Final Materiel Release (FMR), and Initial Operational Capability (IOC) and Final Operational Capability (FOC); and
- examination of the 'Statement by the Chief Executive Officer (CEO) DMO', including significant events occurring post 30 June, and management representations by the CEO DMO.

1.12 The ANAO's processes and procedures to provide independent assurance over the PDSSs also focused on reviewing the DMO's project management and reporting arrangements, and the number and nature of processes in place that contribute to the overall governance of Major Projects within the DMO and the broader Australian Defence organisation. These included:

- the financial framework, particularly as it applies to the project financial assurance and contingency statements and managing project budgets in an out-turned budget environment, (Section 2 of the PDSSs);

- schedule management and test and evaluation processes, (Section 3 of the PDSSs);
- the capability assessment framework, as it relates to the DMO's evaluation of the likelihood of delivering key capabilities, (Section 5 of the PDSSs);
- ongoing review of the implementation of the enterprise risk management framework and major risk and issue data, (Section 6 of the PDSSs);
- the project maturity framework and reporting and the systems in place to support the provision of this data, (Section 7 of the PDSSs); and
- developments in the areas of acquisition governance including Gate Review Boards, Projects of Concern, Early Indicators and Warnings, Joint Project Directives, business systems rationalisation, and project management and skills development within the Commonwealth and industry, (Chapter 3 in Part 1).

1.13 This review informed the ANAO's understanding of the systems and processes supporting the PDSSs for the 2013–14 review period, and highlighted issues in those systems and processes that could be beneficially addressed by the DMO in the longer term.

Results of the review

1.14 The following sections outline the results of the ANAO's review, and which contribute to the overall conclusion in the Auditor-General's Independent Review Report for 2013–14.

Financial framework

1.15 In 2012–13, the ANAO reviewed the financial framework as it applied to managing project budgets, in an out-turned budget environment, and the project financial assurance statements. The review indicated that all project offices expected to deliver all required capabilities within the allocated budget.

1.16 However, a number of project offices added additional disclosures to their PDSSs, and in particular, AWD Ships, LHD Ships and ANZAC ASMD Phase 2B recognised that available funding for price indexation was a key concern. Prior to 1 July 2010 projects were periodically supplemented for price

indexation, whereas the allocation for price indexation is now provided for on an out-turned basis at Second Pass Approval.[35] This change in supplementation policy has meant that price indexation has emerged as a risk for some projects, which would generally emerge later in a project's life cycle.

1.17 As discussed in the 2012–13 MPR, the emergence of indexation risk has, to some extent, changed the nature and use of the contingency budget from dealing only with project risk management to including broader price management. This requires project office finance staff to have a greater understanding of the factors that influence indices and their likely movement over the life of the project.

1.18 A project's total approved budget comprises:

- the programmed budget, which covers the project's approved activities; and
- the contingency budget, which is established to provide adequate budget to cover the inherent cost, schedule and technical risks.[36]

1.19 The DMO's management of this financial risk is based on a portfolio management approach within the responsibilities of the CFO (refer to paragraph 1.12 in Part 2 of the 2011–12 MPR, where this is explained further).

1.20 In conjunction with the financial assurance statement, introduced in the 2011–12 MPR, the contingency statements were introduced for the first time in this, the 2013–14 MPR. Together, they provide greater transparency of projects' financial status, following the move to out-turned budgeting in 2010, and highlight the use of contingency funding to mitigate projects risks.

1.21 In 2013–14, the ANAO reviewed the financial framework as it applies to managing project budgets, including contingency, in an out-turned budget environment, and the project financial assurance and contingency statements.

35 Out-turning a project budget takes into account the planned increases in overall Defence spending due to inflationary pressures. JCPAA, Report 429, *Review of the 2010–11 Defence Materiel Organisation Major Projects Report*, May 2012, Appendix C, p. 46.

36 Department of Defence, DMO, Defence Materiel Manual Project, DMM (PROJ) 1-0-001, *DMO Project Management Manual*, April 2012, Chapter 7 – Cost Management, paragraph 7.1.5, p. 39.

Project financial assurance statement

1.22 The project financial assurance statement was added to the PDSSs in the 2011–12 MPR, to provide readers with a clear articulation of a project's financial position and to provide transparency in regard to whether there is 'sufficient remaining budget for the project to be completed.'[37]

1.23 The 2012–13 project financial assurance statements indicated that all project offices expected to complete within budget. However, AWD Ships, LHD Ships and ANZAC ASMD Phase 2B recognised that available funding for price indexation was a key concern. In the case of AWD Ships, the 2012–13 Statement by the CEO DMO also noted emerging concerns around cost overruns and associated delays in shipbuilding aspects of the AWD Program.[38]

1.24 In 2013–14, while all projects again continued to operate within their total approved budget, the AWD Ships[39], LHD Ships and ANZAC ASMD 2B project offices continued to recognise that available funding may be insufficient as contracted indices escalation may be greater than the approved project budget. In relation to the AWD Ships project, the 2013–14 Statement by the CEO DMO, continues to note concerns in relation to the adequacy of the total project budget, which will be dependent on the results of the AWD Reform Program.[40]

1.25 In addition, during 2013–14, the DMO continued to support the project financial assurance statements with an independent third-party review, considering factors including: remaining budget, Projects of Concern listing, complexity, diversity across divisions and past history.

1.26 Projects selected for third-party review in support of the financial assurance statement assurance process included:

- detailed review—Overlander Medium/Heavy, MH-60R Seahawk, Growler and Additional Chinook; and

37 JCPAA, Report 436, *Review of the 2011–12 Defence Materiel Organisation Major Projects Report*, May 2013, paragraph 3.4, p. 14.

38 ANAO Report No.12 2013–14, *2012–13 Major Projects Report*, December 2013, Statement by the CEO DMO, Part 3, p. 143.

39 The AWD Ships project was also the subject of an ANAO Performance Audit during this period. See ANAO Audit Report No. 22 2013–14, *Air Warfare Destroyer Program*, March 2014, for further detailed information on this project.

40 The Minister for Defence, Senator the Hon. David Johnston, and the Minister for Finance, Senator the Hon. Mathias Cormann, *Putting the Air Warfare Destroyer program back on track*, 4 June 2014.

- standard review—Joint Strike Fighter, AWD Ships, MRH90 Helicopters, LHD Ships, Battlefield Airlifter and Next Gen Satellite.

1.27 Observations from the review included that both the AWD Ships and LHD Ships projects have significant contractual exposure to indexation factors and that both project offices have recognised and costed a risk in relation to this matter.

1.28 In conclusion, while for the 2013–14 MPR, the CFO's representation letter to the CEO DMO on the project financial assurance statements was unqualified, the project financial assurance statement is restricted to the current financial contractual obligations of the DMO for these projects including the result of settlement actions and the receipt of any liquidated damages; and current known risks and estimated future expenditure as at 30 June 2014.

1.29 In contrast, for each of the projects discussed in paragraph 1.24, above, the project offices are acknowledging their continuing concerns in relation to price indexation and allocations provided at Second Pass Approval. The ANAO will continue to assess the outcomes of the financial assurance statements in future MPRs.

Contingency statements

1.30 As noted above, 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. The six projects which had contingency funds applied in 2013–14 were Joint Strike Fighter (increased costs of Stage 1 aircraft), AWD Ships (budget and skill/knowledge risks), MRH90 Helicopters (technical and integration risks), LHD Ships (IT standard operating environment risks), FFG Upgrade (workforce resource risks) and Additional Chinook (workforce and facilities risks).

1.31 The examination of the contingency statements also highlighted that:

- where projects had contingency funds applied, the purpose was within the approved scope of the project;

- the clarity of the relationship between contingency application and identified risks varied. Of the 29 projects that have a formal contingency allocation[41], 19 did not explicitly align their contingency log, with their risk log; and
- the method for applying contingency varied, with only seven project offices using the 'expected costs' of the risk treatment (as required by the DMO Project Risk Management Manual (PRMM) version 2.4) and the remaining 22 using either a proportionate allocation of the likelihood of the risk eventuating (the method outlined in PRMM version 2.3), or having no application of contingency against risk.[42]

1.32 Finally, although the ANAO found that all projects 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. For example, project offices varied in whether they maintained a record of reviews of their contingency log, and its adequacy, or included risk identifiers and descriptors for allocations of their contingency budget. All of which are requirements outlined in the PRMM version 2.4.

Project maturity framework

1.33 Project maturity assessments have been a feature within the MPR since its inception in 2007–08. At that time the DMO reflected that they were introduced within the DMO as Project Risks Scores in 2004, and later renamed Project Maturity Scores in 2005.

1.34 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.[43]

1.35 While the DMO has raised some doubts about the effectiveness of the current framework, the DMO has agreed to retain maturity scores following

41 The Collins R&S project does not have a formal contingency allocation.

42 The alteration in contingency log methodology occurred during the fieldwork period of the review and will be an ongoing area of examination for the 2014–15 MPR. There were no allowances made in the DMO's policy for project offices to make the transition to the updated contingency recording methodology.

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

the recent JCPAA recommendation.[44] 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.

1.36 While the ANAO has previously raised inconsistency in the application of project maturity scores as an issue, during 2013–14, the ANAO noted that project offices were more consistently assigning maturity scores than in previous years. However, while some subjectivity necessarily remains, in the context of a framework that relies upon the application of professional judgement across a diverse range of projects (from Military-Off-The-Shelf (MOTS) to developmental), project life cycles and project managers, with the detailed guidance available to project offices, it is a repeatable process for external review or audit.

1.37 The ANAO has also previously noted that while the 2012 Defence Capability Plan (DCP) recognises different benchmarks for Off-The-Shelf and developmental projects at First Pass and Second Pass Approval, the DMO's project maturity framework does not.[45] The benchmark for all seven attributes is the same for all projects regardless of acquisition type.

1.38 The DMO's current guidance[46] provides a breakdown of the project life cycle gates, what they represent, and the applicable benchmark maturity score.

1.39 Maturity scores are a composite indicator, constructed through the assessment and summation of seven different attributes which cumulatively form a project 'maturity score'. The attributes are: Schedule, Cost, Requirement, Technical Understanding, Technical Difficulty, Commercial, and Operations and Support, which are assessed on a scale of one to ten.

1.40 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 a predetermined benchmark, is satisfactory. Refer to Table 6, below.

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

45 A more recent DCP has not been published.

46 Department of Defence, DMO, Defence Materiel Standard Procedure (Project Management), DMSP (PROJ) 11-0-007, *Project Maturity Scores at Life Cycle Gates*, September 2010.

Table 6: Capability Definition and Acquisition Life Cycle Gates

Project Life Cycle Gates ▫CDG Responsibility ▫DMO Responsibility	Represents	Benchmark Maturity Score	DMO Schedule Milestone
ENTER DEFENCE CAPABILITY PLAN	*The stage at which a project is recommended to Government for inclusion in the Defence Capability Plan*	13	
Decide Viable Capability Options	*The stage in the capability definition/ development process when 1st Pass options that will be put to Government are decided by CCDG*	16	
1st Pass Approval	*The stage at which 1st Pass options to be put to Cabinet are endorsed by the DCC*	21	R01
Industry Proposals/ Offers	*The stage at which formal responses from industry to an RFP or RFT have been received and evaluated*	30	
2nd Pass Approval	*The stage in the capability definition/ development process when 2nd Pass Approval is sought from Cabinet*	35	R02
Contract Signature	*On completion of contract negotiations and on concluding contract signature of a contract that has maximum influence on the project.*	42	R03
Preliminary Design Review(s)	*On completion of System Requirements Reviews and when Preliminary Design Reviews are completed*	45	R04
Detailed Design Review(s)	*On completion of Detailed Design Reviews*	50	R05
Complete System Integration and Test	*On completion of Verification and Validation activities at the system and subsystem levels*	55	R08
Complete Acceptance Testing	*On completion of all contractual acceptance testing and associated testing activities nominated in the TEMP*	57	R10
Initial Materiel Release (IMR)	*Occurs when the materiel components that represents the DMO contribution to Initial Operational Release (IOR) are ready for transition to the Capability Manager*	60	R11
Final Materiel Release (FMR)	*Occurs when all the products and services within the MAA have been transitioned to the Capability Manager.*	63	R13
Final Contract Acceptance	*On Final Acceptance as defined in the contract*	65	R14
MAA Closure	*Occurs when all of the actions necessary to finalise the MAA have been completed, including completion of all financial transactions and records, completion of contracts and transfer of remaining fund.*	66	R15
Acceptance Into Service	*The point at which the Capability Manager accepts the Materiel System, supplies and services for employment in operational service*[1]	67	
Project Completion	*Project closure is achieved when the project is financially closed, support arrangements have been transitioned and all MAA requirements have been demonstrated and transitioned.*	70	

Source: DMSP (PROJ) 11-0-007, *Project Maturity Scores at Life Cycle Gates*, September 2010.

Note: Where multiple elements of a mission system are involved (e.g. 3 surface combatants) this date represents Initial Operational Capability (IOC) of the initial Subset, including its associated operational support, that is, when the Initial Operational Capability is achieved. (DI(G) OPS 45-2 refers).

1.41 The guidance underpinning the attribution of maturity scores would benefit from a review for internal consistency and relationship to the Australian Defence organisation's contemporary business. For example, allocating approximately 50 per cent of the maturity score at Second Pass Approval, despite acquisition type, is often inconsistent with the proportion of project funds expended, and the remaining work required in order to deliver the project.

1.42 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.

1.43 Finally, while the DMO guidance underpinning maturity scores was due for review in September 2012[47], this review has not yet been finalised. The ANAO will continue to review the framework and attribution of maturity scores in subsequent MPRs.

Enterprise risk management framework

1.44 In the 2012–13 MPR, the ANAO's review concluded that while the DMO continued to work toward improving the standard of risk management arrangements applying to Major Projects, the inherently uncertain nature of risks and issues meant that PDSS data could not be considered complete because of unknown risks and issues that may emerge in the future. For this reason, under arrangements for the ***priority assurance review***, major risks and issues data in the PDSSs continues to remain out of scope of the Auditor-General's formal review conclusion, but is included in the analysis to provide an overall perspective of how risks and issues are managed.

1.45 In 2013–14 the ANAO again reviewed the developments with risk management at an enterprise and project level, in order to update its understanding of the DMO's risk management systems and processes.

47 DMSP (PROJ) 11-0-007, *Project Maturity Scores at Life Cycle Gates*, September 2010, with a stated 24 month review period.

1.46 The development of the DMO's enterprise risk management framework (ERMF), was identified in 2008–09, by the ANAO as a challenging but necessary step for the DMO in achieving its goal of improving project management. This was consistent with advice from the DMO that it would take some time before reliance could be placed on the framework.[48] The ANAO highlighted particular challenges, such as the gap between project office risk management practices and those preferred practices, as set out in the ERMF.[49]

1.47 Risk management was also a major focus within the sustainment function of the DMO's business in the *Plan to Reform Support Ship Repair and Management Practices* (Rizzo Report). The Rizzo Report stated that 'Navy and DMO need to improve coordination and integrate their interdependent activities more effectively'[50] and as a result, recommended that Navy and the DMO establish an Integrated Risk Management System.[51] In response, the Interdependent Mission Management System (IMMS) was developed to provide joint visibility of risks at the enterprise level between the DMO and with Defence Capability Managers, and introduce greater accountability in relation to risk management. In May 2014, the Navy Reform Board endorsed the use of IMMS to manage interdependent risk in Navy more comprehensively.[52]

1.48 The DMO advised that in the maritime sustainment domain, risk registers have been developed at the division, branch and business unit levels, to reflect the different responsibilities for risk management at each level and show both the internal DMO risks and the interdependent risks with the Capability Manager. These registers are then uploaded via the Predict! risk management system to IMMS, to provide visibility of both internal and interdependent risks.

1.49 A system module relevant to the acquisition function of the business, has been integrated into IMMS, and which will eventually provide for a focus

48 Dr SJ Gumley, *Official Committee Hansard*, Joint Committee of Public Accounts and Audit Hearing, 15 March 2010, p. PA14.

49 ANAO Report No.13 2009–10, *2008–09 Major Projects Report*, November 2009, Part 1, paragraphs 2.12 to 2.18, pp. 37–39.

50 Rizzo, Paul J, *Plan to Reform Support Ship Repair and Management Practices*, July 2011, p. 7. See: <http://www.defence.gov.au/oscdf/rizzo-review/Review.pdf> [accessed 13 November 2014].

51 Rizzo, Paul J, *Plan to Reform Support Ship Repair and Management Practices*, July 2011, p. 12. See: <http://www.defence.gov.au/oscdf/rizzo-review/Review.pdf> [accessed 13 November 2014].

52 The focus of implementation is on naval sustainment, with business application expected to be expanded over time.

on acquisition activities, as outlined in the Materiel Acquisition Agreements (MAAs).[53] The DMO has also advised that it is intended that IMMS will also be used to integrate information captured in the DMO Assurance Management Information System (DAMIS), which is expected to collate, manage and report on all DMO assurance activities.

1.50 The ANAO appreciates that these developments at the corporate level are at a formative stage and will monitor progress further in 2014–15.

1.51 In 2012–13, the ANAO reported inconsistencies in risk management processes applied by project offices. At a project level, risk management guidance is provided by the DMO's PRMM version 2.4, which was updated during the review period, and discussed earlier in this chapter in the financial framework section.

1.52 In 2013–14, the ANAO examined projects' risk and issue logs, which are created and maintained utilising the mandated Excel or Predict! software.[54] For the majority of project offices, risks and issues logs were maintained appropriately, however, they were often only updated infrequently and not in line with the requirement of PRMM.[55] For example, the ANAO noted that some project offices only conduct their risk and issue reviews prior to scheduled Gate Reviews or ANAO site visits in relation to the MPR.

1.53 Other issues the ANAO observed included:

- risk and issue logs were incomplete or an inaccurate representation of project risks and issues;
- risks descriptors within Predict! were inconsistent with PRMM guidance[56];
- incorrect application of DMO risk matrix calculations, resulting in inappropriate risk score outcomes; and

53 Materiel Acquisition Agreement: An agreement between the Capability Manager, Capability Development Group and DMO that states in concise terms what services and products the DMO (as supplier) will deliver to Defence, for how much and when. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 124.

54 Department of Defence, DMO, *Submission No. 1 to the JCPAA*, 6 March 2013, Attachment A, p. 5.

55 Department of Defence, DMO, DMM (PROJ) 11-0-002, *DMO Project Risk Management Manual (PRMM) 2013*, July 2013, Chapter 7 – Contract Risk Management, p. 97, requires that risk reviews should be undertaken at a number of key decision points and milestones during the acquisition phase.

56 The DMO has advised that this is a corporate software configuration issue and subsequently resolved.

- where both Excel and Predict! are used by projects concurrently, inconsistencies existed between risk and issues logs.

1.54 In 2012–13 the ANAO also reported that project offices were no longer able to report their major risks and issues in the Monthly Reporting System, following a corporate review to reduce the reporting burden on project offices.[57] Further, a risk health assessment conducted in September 2013 revealed that the DMO Executive does not receive systematic reporting on risks, nor is there a consistent approach for rolling up or aggregating disparate risks across business units.[58]

1.55 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 DMO is developing a single Risk Management Manual, which is expected to be finalised in 2015.[59]

1.56 The ANAO will continue to review the DMO's progress on risk management and reporting across the Major Projects in 2014–15.

Capability assessment framework

1.57 The DMO's evaluation of the probability of delivering key capabilities, as denoted by Materiel Release Milestones (MRMs) and Completion Criteria in MAAs, specify the key elements required for the achievement of materiel release to the Australian Defence Force, and are set out as a 'traffic light' pie chart in Section 5.1 of each project's PDSS. These measures of materiel capability delivery performance primarily focus on the anticipated future attainment of particular technical, regulatory and operational requirements.

1.58 During prior reviews, the ANAO found that the measures of capability delivery performance recorded in the Monthly Reporting System (MRS) did not always align with MAAs, and were inconsistent in terms of the degree of detail represented by each measure with reference to platform value and complexity. For example, the AWD Ships project ($7.9 billion) has four MRMs

57 In 2013, the DMO informed the ANAO that 46 per cent of the Monthly Reporting System data fields were turned off as a result of this review in 2012.

58 Deloitte Touche Tohmatsu, *Risk Management in the DMO, Summary of Project Outcomes, Observations and Recommendations*, September 2013, p. 12.

59 This will consolidate existing DMO risk management policy including the *DMO Project Risk Management Manual 2013*, July 2013 and the DMM (PROJ) 11-0-005, *Project Risk Management*, November 2010.

and Completion Criteria (IMR—Ship 1, MR 2—Ship 2, MR 3—Ship 3 and FMR), whereas the 155mm Howitzer project ($0.3 billion) has 23 MRMs and Completion Criteria.

1.59 In addition, MRMs and Completion Criteria often include schedule and cost factors which need to be excised from the PDSS in order to present data solely focussed on materiel capability delivery performance. The ANAO continued to observe these issues in 2013–14, and noted that there can be lengthy delays in receiving advice in relation to achievement of key milestones such as IOC and FOC, given the complexity of some projects.

1.60 Further, in relation to projects' progression through each of the key milestones, IMR, IOC, FMR and FOC, the Capability Managers are required to review projects' achievements against the MRMs and Completion Criteria.[60] This underpins the relationship between the DMO and the Capability Managers in relation to the acquisition and delivery of capability, and is encapsulated within the specific details of the MAAs.

1.61 During 2013–14, the ANAO also observed that in relation to the ARH Tiger Helicopters project, the Capability Manager had co-signed the acceptance of achievement of FMR, albeit with significant caveats.[61] The significance of the Capability Manager's caveats has been reflected as a high risk to achievement of project completion and FOC, within the acceptance documentation.

1.62 However, the capability assessment provided within the PDSS indicates an expectation by the DMO of 100 per cent delivery for this project despite the risks as assessed by the Capability Manager.

1.63 Inevitably, the assessment of future capability delivery typically involves making certain assumptions in predicting achievements and consequently involves some subjectivity in approach. Taking into consideration this subjectivity and the inherent uncertainty of future events, this information continues to be excluded from the scope of the ANAO's review. However the ANAO has included the DMO's capability forecasts in

60 Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, paragraph 5.2.20, p. 88.

61 This advice was set out in a minute from the Head Capability Systems, *AIR87PH2 ARH – CDG Endorsement of FMR Approval*, 17 February 2014, with attached Army caveats and requirements in relation to the approval of FMR from Head Modernisation and Strategic Planning - Army.

addition to our analysis of projects' performance in relation to budgeted cost and schedule in Chapter 2 of Part 1.

1.64 Finally, the ANAO's analysis of capability performance is further detailed in Chapter 2, for all projects in the MPR.

Review conclusion

1.65 The Auditor-General's Independent Review Report takes into account the overall governance of major projects, the results of our examination of the DMO's project management and reporting arrangements, and the results of our substantive procedures to gain assurance in relation to key information reported in PDSSs. In 2013–14, the results of the ANAO's ***priority assurance review*** of the 30 PDSSs was that nothing has come to the attention of the ANAO that causes us 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.

2. Analysis of Projects' Performance

Introduction

2.1 Project performance information is important in the management and delivery of major Defence equipment acquisition projects (Major Projects). Such information provides an important focus for management attention to inform decisions to be made about the allocation of resources, to support advice to government on project progress and performance, and to allow for the Parliament and the public to assess the progress of the Defence Materiel Organisation (DMO) in discharging its responsibilities.

2.2 The Australian National Audit Office (ANAO) has derived three key indicators to analyse the three major dimensions of a project's progress and performance, utilising data extracted from the Project Data Summary Sheets (PDSSs), and to provide a series of performance information snapshots. These indicators are the:

- percentage of budget expended (Budget Expended)—which measures the total expenditure as a percentage of the total current budget;
- percentage of time elapsed (Time Elapsed)—which measures the percentage of time elapsed from original approval to the forecast Final Operational Capability (FOC)[62] [63]; and
- percentage of key materiel capabilities expected to be delivered (Expected Capability)—which is the DMO's assessment of the likelihood of delivering the required level of capability.

2.3 These indicators are measured in percentage terms, to enable comparisons between projects of different characteristics, and to provide a portfolio view across project progress and performance.

62 IMR and FMR are milestones that mark the completion and release of DMO acquisition project supplies required to support the achievement of Initial Operational Release (IOR) and FOC respectively. They are defined in the MAA. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 121–122.

63 IOC and FOC are the points when the first or final subset of a capability system that can be operationally employed is realised. They are capability states endorsed at project approval at Second Pass, and reported as having been reached by the Capability Manager. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 121 and p. 123.

2.4 As in previous Major Projects Reports (MPRs), the ANAO has included an analysis of the key indicators against the DMO's assessment of project maturity, at defined milestones[64], as a percentage of the predefined maximum maturity score of 70 (Project Maturity).

2.5 As explained in the previous chapter, the DMO's project maturity framework is an assessment methodology used for quantifying, in a practical and communicable manner, project maturity as projects progress through the capability definition and acquisition life cycle. Project maturity comprises a matrix of seven attributes: Schedule, Cost, Requirement, Technical Understanding, Technical Difficulty, Commercial, and Operations and Support, which are each assessed on a scale of one to 10.[65] Project maturity is a composite performance indicator available to the DMO, Defence Executive and government for decision making, and to assess the overall status of Major Projects.[66]

2.6 However, the DMO has advised the Joint Committee of Public Accounts and Audit (JCPAA) that although project maturity scores are a helpful tool, they '…are ultimately indicative and advisory'[67], and that a Materiel Implementation Risk Assessment (MIRA) which '…covers similar matters to the maturity scores but provides a narrative description of the risks and their impacts' is summarised in the Government Approval Submissions instead.[68]

2.7 Nevertheless, the JCPAA has requested that the project maturity scores be maintained for the MPR until they are no longer required by the Guidelines endorsed by the JCPAA.[69] The DMO has agreed to this request.

2.8 The first snapshot, Figure 2, at page 45, provides an overview of the three major dimensions of project performance, and sets out Budget Expended,

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64 Project maturity scores are required to be recorded by Major Projects at 16 stages, also known as gates, throughout the project's life cycle. Department of Defence, DMO, Defence Materiel Standard Procedure (Project Management), DMSP (PROJ) 11-0-007, *Project Maturity Scores at Life Cycle Gates*, September 2010, pp. 4–5.

65 Source 1: See Appendix 2 in Part 2, at page 149, of this report.
Source 2: DMO, DMSP (PROJ) 11-0-007, *Project Maturity Scores at Life Cycle Gates*, September 2010, p. 1.

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

67 Department of Defence, DMO, *Submission No. 1 to the JCPAA*, 6 March 2013, Attachment A, p. 4.

68 Department of Defence, *Executive minute on JCPAA Report No. 436 Review of the 2011–12 Defence Materiel Organisation Major Projects Report*, 29 November 2013, p. 2.

69 JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, pp. 38–39.

Time Elapsed[70] and Expected Capability.[71] The figure shows that, for most projects (24 of 30), the Budget Expended is broadly in line with, or lagging behind, the Time Elapsed.[72] This relationship is generally expected in an acquisition environment predominantly based on milestone payments. However, Budget Expended being greater than Time Elapsed by a significant amount provides management with an indication that the project budget may be at risk or that procurement activities have been undertaken in advance of installation activities.

2.9 Projects where Budget Expended leads Time Elapsed (from government approval to FOC) by more than 10 per cent, include:

- AWD Ships—contracted indexation rates have been higher than the out-turning applied in the project budget and productivity costs have been greater than expected (12 per cent variance);
- LHD Ships—contracted indexation rates have been higher than the out-turning applied in the project budget, and materiel and equipment has been acquired in advance of installation (11 per cent variance);
- Overlander Light—the majority of equipment has been delivered to the DMO, but is awaiting rollout to the Australian Defence Force (ADF), which requires time to complete (12 per cent variance);
- Collins Replacement Combat System and Reliability and Sustainability projects—most of the materiel has been acquired and expenditure undertaken. In addition, originally planned installation dates have been extended, based on submarine availability, reducing the proportion of total Time Elapsed (25 per cent for the Replacement Combat System project and 21 per cent for the Reliability and Sustainability project); and
- UHF SATCOM—significant milestones have been achieved (IS-22 Satellite launch and all 20 channels delivered), however FOC

70 A project's budgeted cost and schedule data is at 30 June 2014, and may differ from originally approved budgets and schedules.

71 As the DMO's assessment of the likelihood of delivering key capabilities involves high levels of uncertainty which may cause actual outcomes to differ materially from that stated in the PDSSs, this data and the DMO's assessment are outside the scope of the ANAO's review.

72 A project's budgeted cost expended is accrual based. In cases where pre-payments/committed funds have been made but have not been expensed/amortised (for example, the AWD Ships and LHD Ships projects), cash paid by a project will be proportionately greater than the percentage of budget expended.

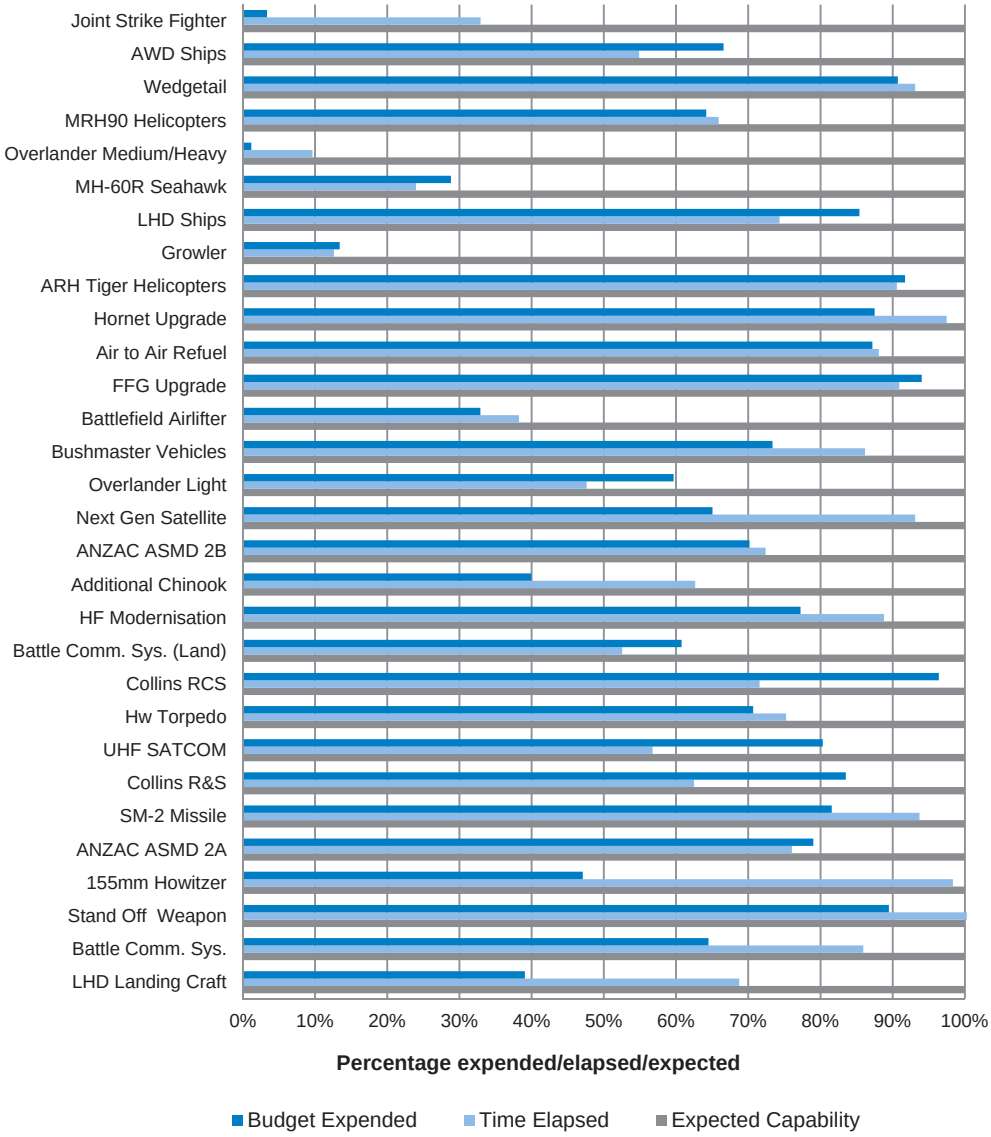
(Pacific Ocean) is not forecast to be achieved until June 2018, when the Chief Information Officer Group will be in a position to acquire agreed UHF capacity from the United States (US) as the US capacity builds up in the region (24 per cent variance).

2.10 Where Time Elapsed leads Budget Expended by a significant amount, this may indicate the project has encountered unexpected delays. Projects where the Time Elapsed is approximately 20 per cent greater than the Budget Expended, include:

- Joint Strike Fighter—large scope increase ($10.5 billion) for the purchase of additional aircraft was approved in April 2014 with the project yet to enter contract (30 per cent variance);
- Next Gen Satellite—the project has achieved the delivery of the required capability up to Final Materiel Release (FMR) with significant funds remaining, which is expected to be returned to the Defence budget on closure of the project (28 per cent variance);
- Additional Chinook—delivery and acceptance of helicopters has been delayed, although FMR and FOC are still scheduled to be achieved as planned (23 per cent variance);
- 155mm Howitzer—delivery of the Course Correcting Fuze capability has been delayed. This is currently in the process of being transferred to project LAND 17 Phase 1C.1 (51 per cent variance);
- Battle Comm. Sys.—meeting design requirements remains a challenge as the project is exposed to multiple platform design authorities, and delays in final delivery of some equipment has contributed to ongoing slippage (21 per cent variance); and
- LHD Landing Craft—expenditure for delivery and acceptance of the majority of equipment is scheduled for the next 12 months with FMR and FOC currently scheduled for September 2015 (30 per cent variance).

2.11 The DMO expects that all 30 projects in this year's MPR will deliver all of their key capability requirements, recognising that some elements of the capability required for some projects may be under threat, but are considered manageable (assessed as either green or amber). This is consistent with the DMO's 2012–13 assessment, and an improvement on the 2011–12 assessment, where both Wedgetail and MRH90 Helicopters were assessed as unlikely to meet all of their capability requirements.

Figure 2: Project snapshot—Budget Expended, Time Elapsed and Expected Capability



Source: The ANAO's analysis of the 2013–14 PDSSs. Refer to paragraphs 2.8 to 2.11 in Part 1, at pages 42 to 44, of this report.

Note: The Expected Capability for Wedgetail has been assessed against the Supplies section of the Materiel Acquisition Agreement, which lists the equipment to be delivered.

Cost performance analysis

Project snapshot—Budget Expended and Project Maturity

2.12 The second snapshot, Figure 3, below, sets out each project's Budget Expended against Project Maturity.[73] As noted previously, Figure 2 shows that, for most projects (24 of 30), the Budget Expended is broadly in line with, or lagging behind, the Time Elapsed, which is expected in an acquisition environment predominantly based on milestone payments. Figure 3 shows that Project Maturity leads Budget Expended for the majority of the projects (23 of 30), and that the variance between expenditure and maturity score progress can be significant.

2.13 Unlike the relationship between Budget Expended and Time Elapsed, and consistent with prior years, there are no major exceptions to Project Maturity leading Budget Expended (greater than 20 per cent). Projects where Project Maturity leads Budget Expended with an approximate differential of 20 per cent or more at 30 June 2014 include: Joint Strike Fighter (58 per cent); Overlander Medium/Heavy (65 per cent); MH-60R Seahawk (47 per cent); Growler (52 per cent); Battlefield Airlifter (33 per cent)[74]; Overlander Light (23 per cent); Next Gen Satellite (34 per cent); Additional Chinook (34 per cent); Battle Comm. Sys. (Land) (26 per cent); 155mm Howitzer (46 per cent); and LHD Landing Craft (45 per cent). All of which are either Military-Off-The-Shelf (MOTS) or Australianised MOTS, except Joint Strike Fighter, which is expected to be MOTS by acquisition.

2.14 In part, these variances are the result of the DMO's project maturity framework attributing approximately 50 per cent of the total project maturity at Second Pass Approval. This reduces the value of project maturity assessments within the acquisition phase, which is predominantly the longest and most expensive component of Major Project acquisition.

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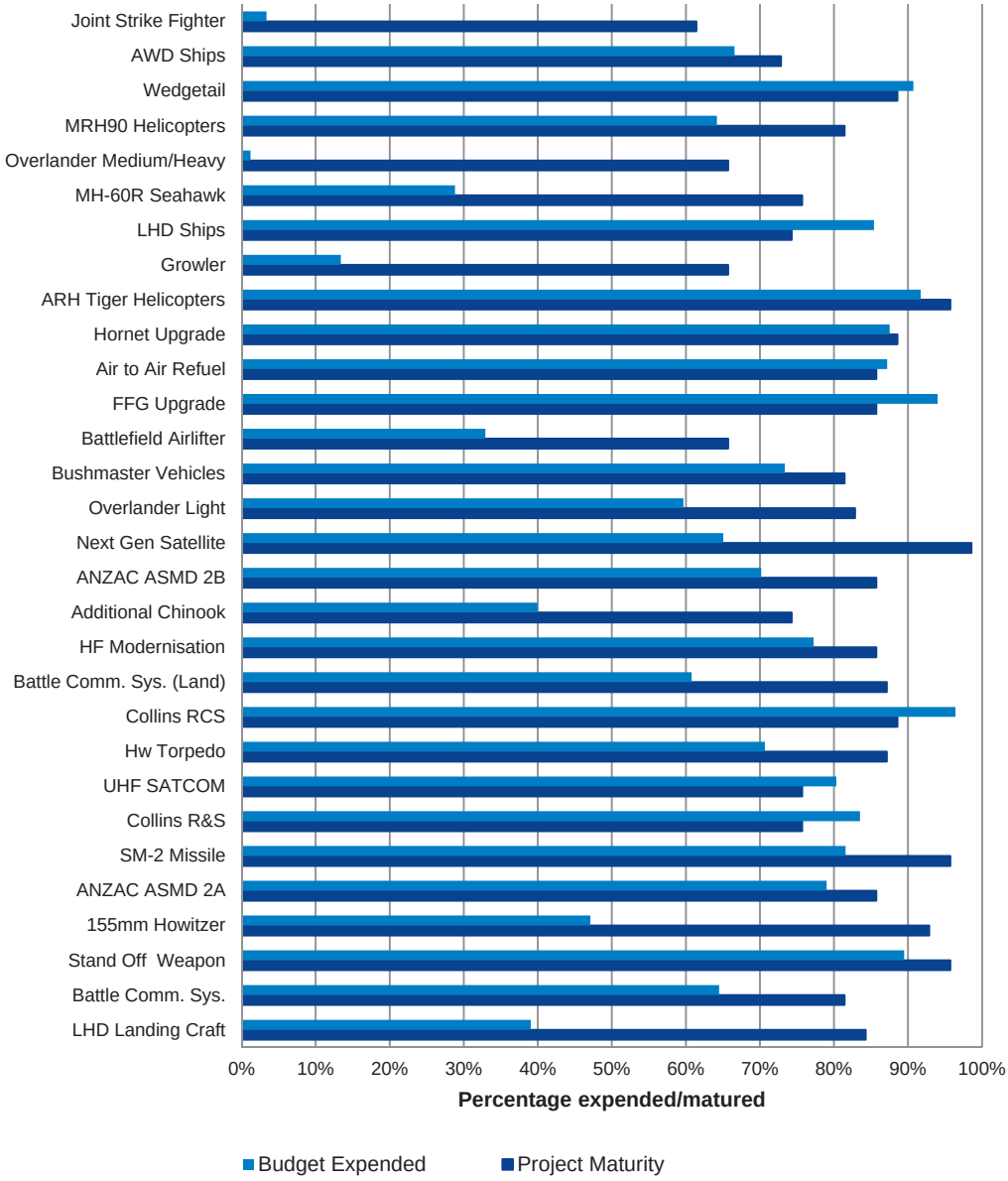
73 The JCPAA has recommended that the DMO maintain the ability to publish project maturity scores until they are no longer required by the JCPAA. JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, pp. 38–39.

74 Further information on Battlefield Airlifter can be found in ANAO Audit Report No.3 2013–14, *AIR 8000 Phase 2—C-27J Spartan Battlefield Airlift Aircraft*, August 2013.

Figure 3: Project snapshot—Budget Expended and Project Maturity



Source: The ANAO's analysis of the 2013–14 PDSSs. Analysis for the 2013–14 MPR continues to highlight inconsistencies within the application of project maturity, reducing the level of reliability of maturity assessments for key decision makers and other stakeholders; however, improved focus and review by project offices was noted by the ANAO during 2013–14 fieldwork. Refer to paragraphs 2.12 to 2.14 in Part 1, at page 46, of this report.

Note: ANZAC ASMD 2B's Project Maturity is based on the progress of the lead ship, not on the current eight ship program.

Second Pass Approval and 30 June 2014 approved budget

2.15 For the 30 Major Projects, Figure 4, below, compares each project's approved budget at Second Pass Approval (the main investment decision by government) and their approved budget at 30 June 2014.

2.16 The total approved budget for the 30 projects at 30 June 2014 was $59.4 billion, a net increase of $16.8 billion, when compared to their Second Pass Approval approved budget of $42.6 billion (the analysis of this variance is included in Figure 5, at page 52).[75]

2.17 Figure 4 indicates relative budget variations from Second Pass Approval of 150 per cent or greater for the following projects:

- Joint Strike Fighter—scope increase of $10.7 billion, mainly for 58 additional aircraft in 2013–14 (total increase of 389.0 per cent);
- MRH90 Helicopters—scope increase of $2.8 billion, mainly for 34 additional aircraft in 2005–06 (total increase of 295.4 per cent);
- Bushmaster Vehicles—scope increase of $955.4 million, mainly for 715 additional vehicles in 2007–08 (437 vehicles), 2011–12 (70 vehicles) and 2012–13 (208 vehicles) (total increase of 323.9 per cent);
- ANZAC ASMD 2B—scope increase of $429.6 million, including $214.7 million for ships 2–8 in 2011–12 (total increase of 172.7 per cent); and
- Collins R&S—increase of $339.7 million, including $302.8 million for additional scope in 2001–02 (total increase of 471.8 per cent).

2.18 Overlander Vehicles, initially provided with Second Pass Approval for a broad suite of platforms in August 2007, was separated into two phases, Phase 3A Lightweight and Light Capability and Phase 3B Medium and Heavy Capability, in December 2011. Phase 3A was reapproved for Second Pass at that time however Phase 3B was not reapproved for Second Pass until July 2013.[76] As a result of this, the 2012–13 MPR reflected a scope decrease of $2.2 billion. This timing difference has now been readjusted with the inclusion of Phase 3B in the 2013–14 MPR, with an approved budget of $3.5 billion.

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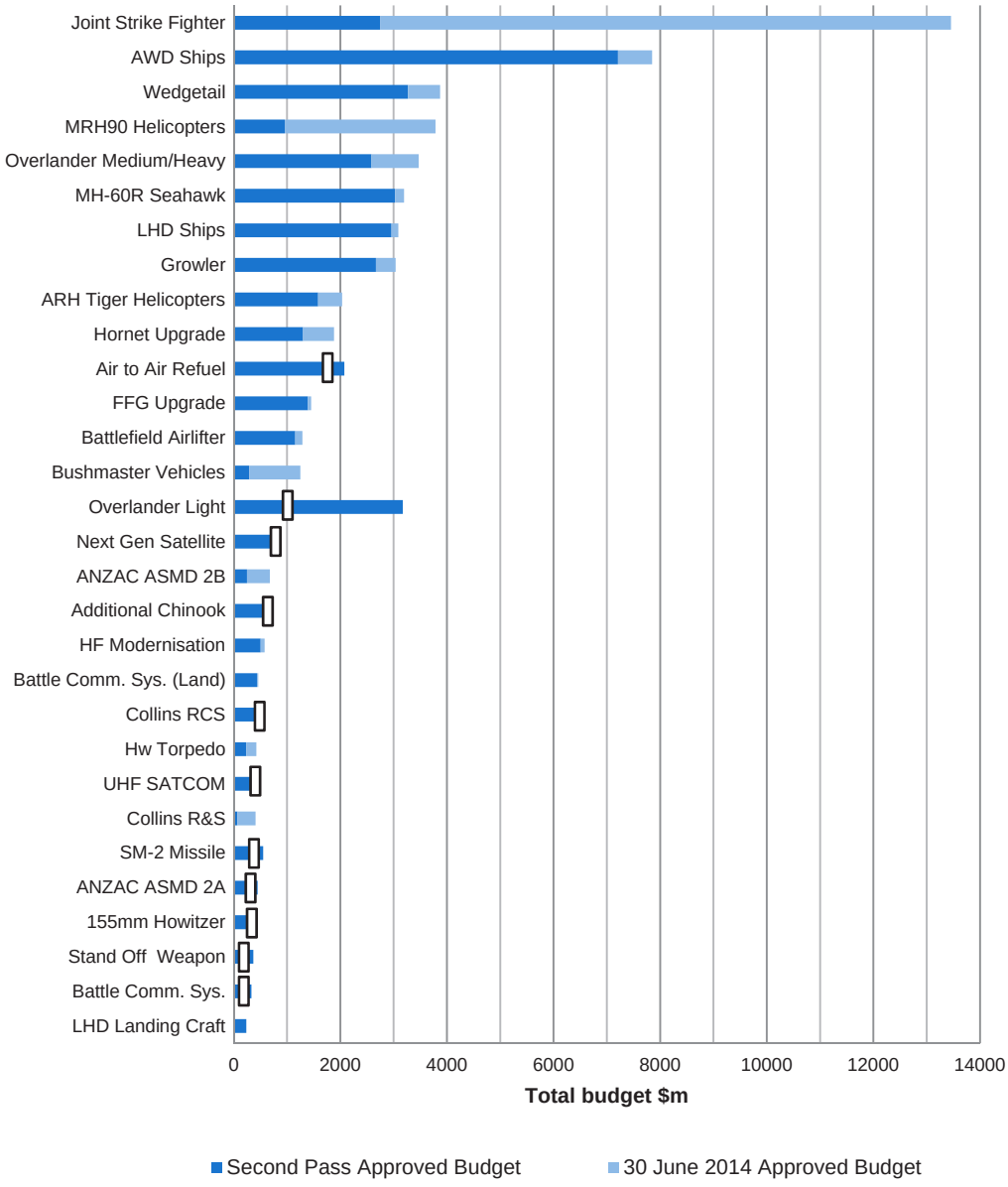
75 Analysis provided within Figures 4 and 5 includes real variances, foreign exchange and indexation for each Major Project however, Table 3, at page 18, of this report, separates the variations across all Major Projects.

76 Overlander Medium/Heavy also received approximately $700 million in additional supplementation at this time.

Figure 4: Projects' Second Pass Approval and 30 June 2014 approved budget ($m)



Source: The ANAO's analysis of the 2013–14 PDSSs. Refer to paragraphs 2.15 to 2.18 in Part 1, at page 48, of this report.

Note: ▯ indicates that the budget for the project at 30 June 2014 is less than the original budgeted cost. However, for Overlander Light this reflects a transfer of $2.2 billion to Overlander Medium/Heavy on separation of the original project into two phases in December 2011.

Budget performance

2.19 The subsequent figures and tables illustrate the following for the 30 projects in the 2013–14 MPR:

- the three main factors contributing to budget variations in each of the last six years;
- the in-year impact of variations;
- the 2013–14 in-year budget variations; and
- the expenditure forecasting performance against the actual expenditure for the 2013–14 financial year.

Longitudinal and in-year budget variance analysis

2.20 As noted in paragraph 1.16, at pages 28 to 29, from 1 July 2010 price indexation is now provided as part of a project's budget at Second Pass Approval. This is defined as the budget being 'out-turned'.[77] However, for the following analysis, approved budget variations are disaggregated into three main factors: price indexation (material and labour), exchange rate and real variation. The 2013–14 budget variation of $16.8 billion for the 30 Major Projects, when compared to their Second Pass Approval budget, comprises net price variation increases of $6.2 billion, foreign exchange rate movement decreases of $1.4 billion and real variation increases of $12.0 billion.

2.21 Figure 5, at page 52, examines the three main factors contributing to budget variations in each of the last six years, and highlights the in-year impact of variations for the 30 projects in the 2013–14 MPR.

2.22 Exchange rate variations in project budgets are a result of projects' exposure to foreign currencies and movement in foreign exchange rates against the Australian dollar.[78] The exposure of specific projects to currency exchange variations is established through the initial government procurement decision and contractual agreement. The US dollar and the Euro are the main influences, although other currencies also have an impact. This year the Australian dollar varied significantly across the year but by the end of the

77 See paragraph 1.9 in Part 2, at page 110, of this report.

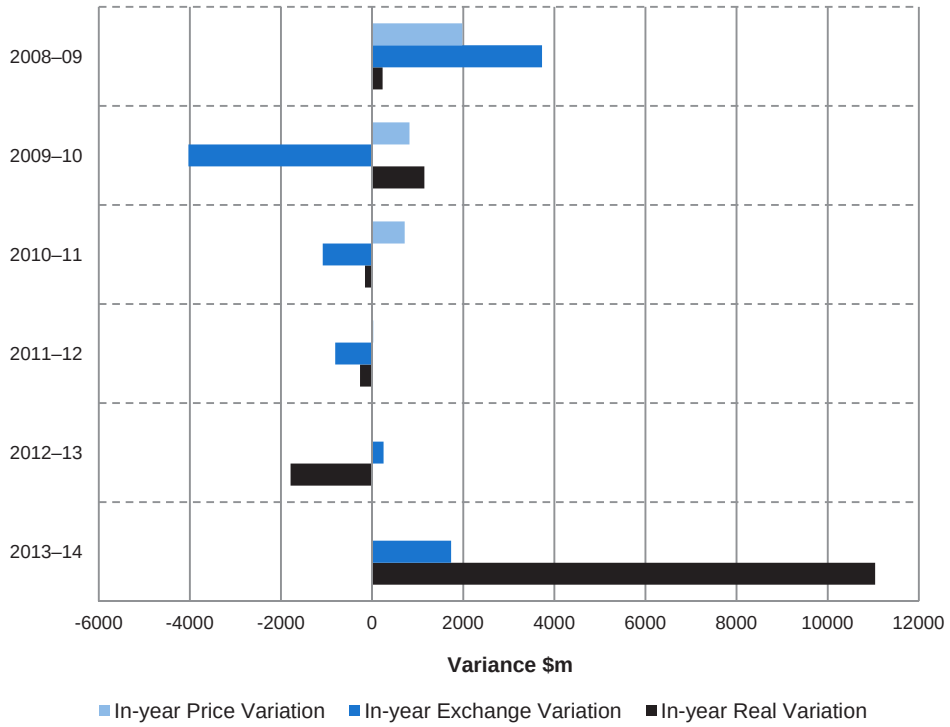
78 Australian Government arrangements for foreign exchange variation involve 'no win/no loss' supplementation. As a matter of policy, unless specifically approved, individual agencies are not permitted to 'hedge' against foreign exchange risk.

financial year had stabilised to a similar level to where it began, against the US dollar and Euro.

2.23 The larger than normal in-year exchange variation of $1.7 billion is primarily the result of adjustments in August 2013 and February 2014 totalling $1.2 billion and $0.4 billion respectively. These adjustments accounted for foreign exchange movements from May to August 2013 and from November 2013 to February 2014 which were both periods of pronounced decline in the value of the Australian dollar.

2.24 Real variations in project budgets primarily reflect changes in the scope of projects, transfers between projects for approved equipment/capability, and budgetary adjustments such as administrative savings decisions. The comparatively larger in-year variation this year reflects a $10.5 billion increase in the total approved budget for the Joint Strike Fighter project for additional aircraft as explained in paragraph 2.17 (at page 48) and $0.7 billion increase for the Overlander Medium/Heavy project for general program supplementation and scope transfers from other projects.

Figure 5: Longitudinal budget variations for 2008–09 to 2013–14 ($m)



Source: The ANAO's analysis of the 2013–14 PDSSs and Project Budget Approval Histories. Refer to paragraphs 2.20 to 2.24 in Part 1, at pages 50 to 51, of this report.

2.25 Table 7, at page 54, sets out the 2013–14 in-year budget variations for each of the 30 Major Projects. Overall, the 30 June 2014 approved budget for the 30 projects in the 2013–14 MPR increased by $12 775.4 million in 2013–14 or 32.0 per cent, compared to their 30 June 2013 approved budget. This was driven by net real increases of $11 042.9 million (mostly for scope increases), and exchange variation increases of $1 732.5 million.

2.26 In 2013–14, of the real variations affecting projects' budgets, the most significant change was due to the Joint Strike Fighter scope variation. Projects with larger real cost variations include:

- Joint Strike Fighter—large scope increase of $10 515.4 million for additional aircraft;
- AWD Ships—real cost decrease of $109.9 million for transfer of funding for facilities construction to the Defence Support and Reform Group; and

- Overlander Medium/Heavy—supplementation of $712.2 million and scope transfers from other projects at Second Pass Approval.

2.27 Additionally, as noted in paragraph 2.18 (at page 48), Overlander Vehicles was separated into two phases in December 2011. Phase 3A was reapproved for Second Pass at that time however Phase 3B was not reapproved for Second Pass until July 2013. As a result of this the 2012–13 MPR reflected a scope decrease of $2.2 billion. This timing difference has now been readjusted with the inclusion of Phase 3B in the 2013–14 MPR, with an approved budget of $3.5 billion.

2.28 Projects with larger movements in foreign exchange, as a result of the depreciating Australian dollar, include:

- Joint Strike Fighter—$347.7 million, or 13.4 per cent increase in budget;
- MRH90 Helicopters—$135.2 million, or 3.7 per cent increase in budget;
- Overlander Medium/Heavy—$170.9 million, or 4.9 per cent increase in budget;
- MH-60R Seahawk—$277.8 million, or 9.4 per cent increase in budget;
- Growler—$368.5 million, or 12.1 per cent increase in budget; and
- Battlefield Airlifter—$107.8 million, or 8.4 per cent increase in budget.

Table 7: In-year (2013–14) budget variations by project

Project	Approved Budget 2012–13 $m	Approved Budget 2013–14 $m	In-year Exchange Variation $m	In-year Real Variation $m	Total Variance $m	Total Variance (per cent)
Joint Strike Fighter	2,592.4	13,455.5	347.7	10,515.4	10,863.1	419.0
AWD Ships	7,869.2	7,847.9	88.6	(109.9)	(21.3)	(0.3)
Wedgetail	3,843.7	3,873.1	29.4	-	29.4	0.8
MRH90 Helicopters	3,649.9	3,785.1	135.2	-	135.2	3.7
Overlander Medium/Heavy	-	3,469.0	170.9	712.2	883.1	25.5
MH-60R Seahawk	2,958.3	3,196.9	277.8	(39.2)	238.6	8.1
LHD Ships	3,073.5	3,089.4	15.9	-	15.9	0.5
Growler	-	3,036.6	368.5	-	368.5	12.1
ARH Tiger Helicopters	2,031.5	2,033.0	1.5	-	1.5	0.1
Hornet Upgrade	1,878.6	1,881.3	2.7	-	2.7	0.1
Air to Air Refuel	1,802.6	1,821.4	18.8	-	18.8	1.0
FFG Upgrade	1,450.1	1,452.6	2.5	-	2.5	0.2
Battlefield Airlifter	-	1,289.5	107.8	-	107.8	8.4
Bushmaster Vehicles	1,254.3	1,250.4	4.4	(8.3)	(3.9)	(0.3)
Overlander Light	990.5	1,020.5	30.0	-	30.0	3.0
Next Gen Satellite	863.7	869.3	5.6	-	5.6	0.6
ANZAC ASMD 2B	675.9	678.4	2.5	-	2.5	0.4
Additional Chinook	564.0	617.2	53.2	-	53.2	9.4
HF Modernisation	580.1	580.1	-	-	-	-
Battle Comm. Sys. (Land)	441.2	460.1	18.9	-	18.9	4.3
Collins RCS	449.9	450.1	0.2	-	0.2	-
Hw Torpedo	425.3	426.6	1.3	-	1.3	0.3
UHF SATCOM	435.8	419.1	1.4	(18.1)	(16.7)	(3.8)
Collins R&S	411.4	411.7	0.3	-	0.3	0.1
SM-2 Missile	400.2	407.3	7.1	-	7.1	1.8
ANZAC ASMD 2A	386.5	386.9	0.4	-	0.4	0.1
155mm Howitzer	323.9	336.1	12.2	-	12.2	3.8
Stand Off Weapon	317.4	317.4	1.5	(1.5)	-	-
Battle Comm. Sys.	308.0	314.8	6.8	-	6.8	2.2
LHD Landing Craft	-	239.9	19.4	(7.7)	11.7	4.9
Total	39,977.9	59,417.2	1,732.5	11,042.9	12,775.4	32.0

Sources: The ANAO's analysis of the 2012–13 and 2013–14 PDSSs. Refer to paragraphs 2.25 to 2.28 in Part 1, at pages 52 to 53, of this report.

In-year forecast and actual expenditure

2.29 Accurately forecasting expenditure is an important element in the effective management of a portfolio of projects and understandably receives close attention within the Australian Defence organisation and by key stakeholders, including the JCPAA. Figure 6, at page 57, sets out the expenditure forecasting performance of each project against the actual expenditure for the 2013–14 financial year. In total, the actual expenditure for the 30 projects at 30 June 2014 was $3.3 billion, against an initial forecast expenditure of $2.9 billion and revised forecast of $3.3 billion. The main factors contributing to the initial variance were changes to delivery schedules, scope changes and foreign exchange fluctuations.

2.30 As part of its review of the 2012–13 MPR, the JCPAA recommended that expanded information regarding project's budget estimates and actual expenditure during the financial year be published, including comparisons of variations, the percentage of variance and overall totals and averages where calculable. The DMO agreed to provide this data in their section of this, the 2013–14 MPR and can be found at Table 2.2 in Part 2. In addition, the JCPAA recommended that the ANAO perform analysis on this data.[79] This table presents the Portfolio Budget Statements (PBS) estimate; the Portfolio Additional Estimates Statements (PAES) budget; the final planned budget for the financial year; actual expenditure; the variance between the final planned budget and actual expenditure, in both amount and per cent terms; and totals for this data across the 30 Major Projects.

2.31 The DMO commentary on the variances identified at Table 2.2 and paragraph 2.10 in Part 2, highlights that the main contributors to these variances are changes in schedule, cost savings, and delays in suppliers billing the DMO for goods. This is consistent with the explanations provided in the individual project PDSSs in Part 3 of this report.

2.32 The JCPAA also recommended that Section 2.2 of the PDSSs be amended to report each Major Project's budget estimates, as published in the PBS; mid-year estimates, as published in the PAES; any subsequent estimates since the mid-year estimates; actual expenditure for the financial year and

79 JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, p. 28.

explanations of variances between each of the above.[80] These changes have been incorporated into the 2014–15 MPR Guidelines and will assist in providing greater clarity in budget to actual variance analysis in future years.

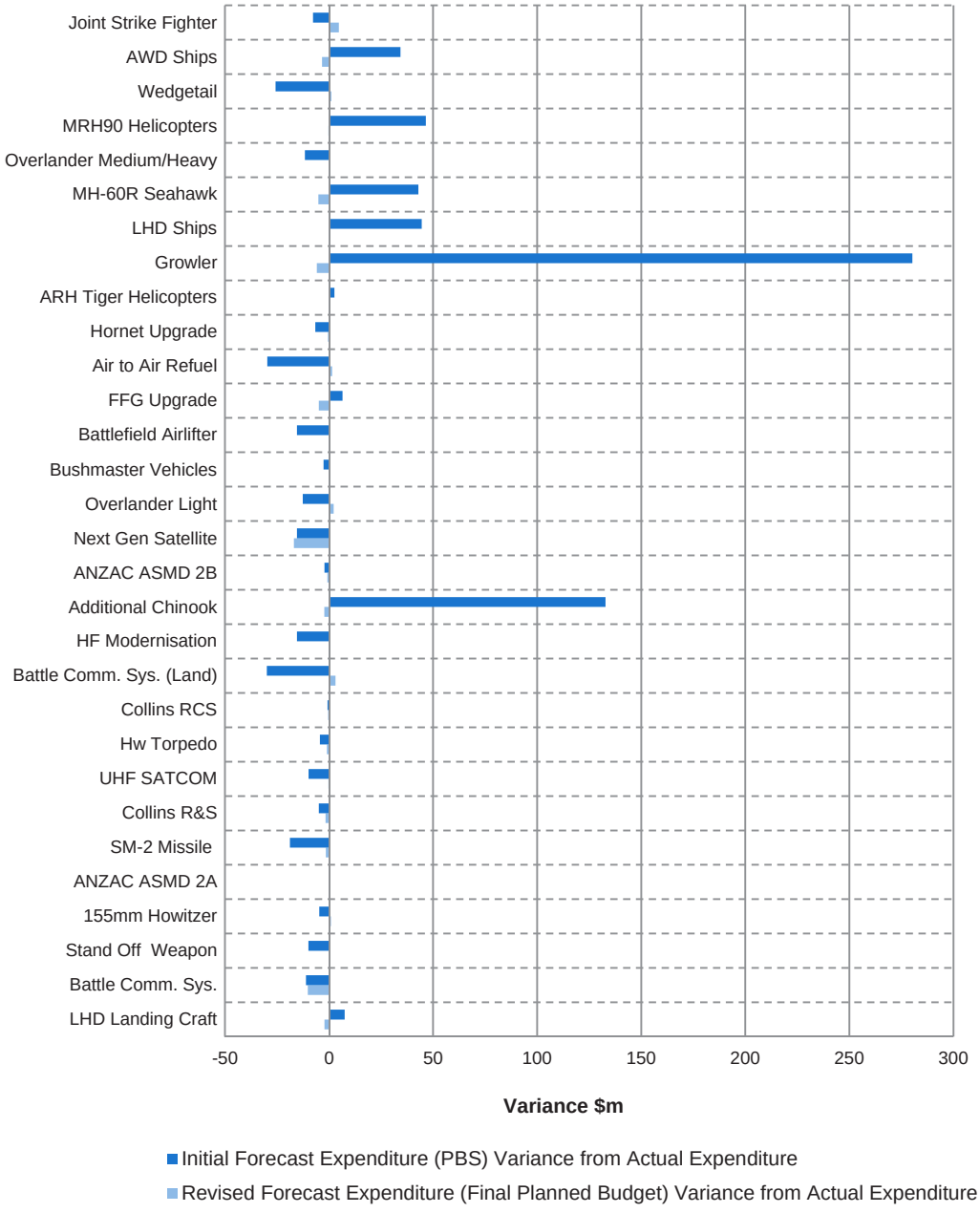
2.33 The ANAO's analysis at Figure 6 highlights that when compared to the initial forecast expenditure, notable in-year underspends occurred in the Wedgetail ($25.7 million), Air to Air Refuel ($29.7 million), and Battle Comm. Sys. (Land) ($29.9 million) projects.

2.34 Compared to the initial budget allocation, notable increases from original in-year budget occurred in the AWD Ships ($34.3 million), MRH90 Helicopters ($46.5 million), MH-60R Seahawk ($42.9 million), LHD Ships ($44.5 million), Growler ($280.3 million) and Additional Chinook ($132.8 million) projects.

2.35 The overall project expenditure in the portfolio of projects was as expected in the revised forecast.

80 JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, p. 28.

Figure 6: In-year (2013–14) projects' forecast expenditure performance compared to actual expenditure ($m)



Sources: The ANAO's analysis of the 2013–14 PDSSs and Defence Portfolio Budget Statements. Refer to paragraphs 2.29 to 2.35 in Part 1, at pages 55 to 56, of this report.

Schedule performance analysis

2.36 The DMO continues to acknowledge that schedule performance is the key issue in delivering and sustaining equipment for the ADF.[81] Further, in 2013, the Minister for Defence, Senator the Hon. David Johnston confirmed this, stating:

> We need to be able to do things much more time effectively, because time is money and this is one of the things we see as the principal causes of problems inside Defence. We want to know when things are beginning to lag, schedule is starting to slip... being forewarned we can give the project appropriate attention.[82]

2.37 In addition, project slippage could effectively introduce or exacerbate an existing capability gap or require extension to the planned withdrawal date for those platforms being replaced for example, the withdrawal dates for the Sea King and Black Hawk helicopter fleets included consideration of the introduction of replacement capability.

Project snapshot—Time Elapsed and Project Maturity

2.38 The third snapshot, Figure 7, at page 60, sets out each project's Time Elapsed against the Project Maturity.[83] Similar to Figure 3, at page 47, which sets out the relationship between Budget Expended and Project Maturity, Figure 7 shows that Project Maturity leads Time Elapsed for 21 of 30 projects (Figure 3, 23 of 30) with no major exceptions. Projects where Project Maturity leads Time Elapsed with an approximate differential of 20 per cent include: Joint Strike Fighter (28 per cent); Overlander Medium/Heavy (56 per cent); MH-60R Seahawk (52 per cent); Growler (53 per cent); Battlefield Airlifter (27 per cent); Overlander Light (35 per cent); and Battle Comm. Sys. (Land) (35 per cent). Similar to Figure 3 and as noted in paragraph 2.13 (at page 46), all of these projects are either MOTS or Australianised MOTS, except Joint Strike Fighter, which is expected to be MOTS by acquisition.

2.39 The difference between Time Elapsed and Project Maturity for the Joint Strike Fighter project (28 per cent) reflects that a fully defined schedule

81 See the CEO DMO Foreword in Part 2, at page 101, of this report.

82 Australian Financial Review, *Cost fear sets off $8bn warships review*, 7 October 2013, p. 2.

83 The JCPAA has recommended that the DMO maintain the ability to publish project maturity scores until they are no longer required by the JCPAA. JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, pp. 38–39.

including an FOC date has been set this year with the approval of the purchase of additional aircraft to acquire the complete capability. A comparison of these two attributes has not previously been possible as the project did not have an FOC date.

2.40 However, the design of the project maturity framework and inconsistencies in its application, reduce the value of Project Maturity as an indicator.[84] For example, the MRH90 Helicopters project recorded 10 out of 10 for schedule in the 2012–13 MPR, because it had achieved 'In-Service Date'[85] (in accordance with one part of the framework). This year it records a score of 8 out of 10 for schedule due to a reassessment against the achievement of Initial Materiel Release (IMR) and FMR (in accordance with other parts of the framework). This example indicates how an overly optimistic assessment of project maturity may result. This also demonstrates the limited ability of the framework to show project maturity progress during the later stages of a project's life, as a result of adopting 8 out of 10 prior to the achievement of FMR, with the PDSS currently indicating that FMR will not be reached until December 2017.

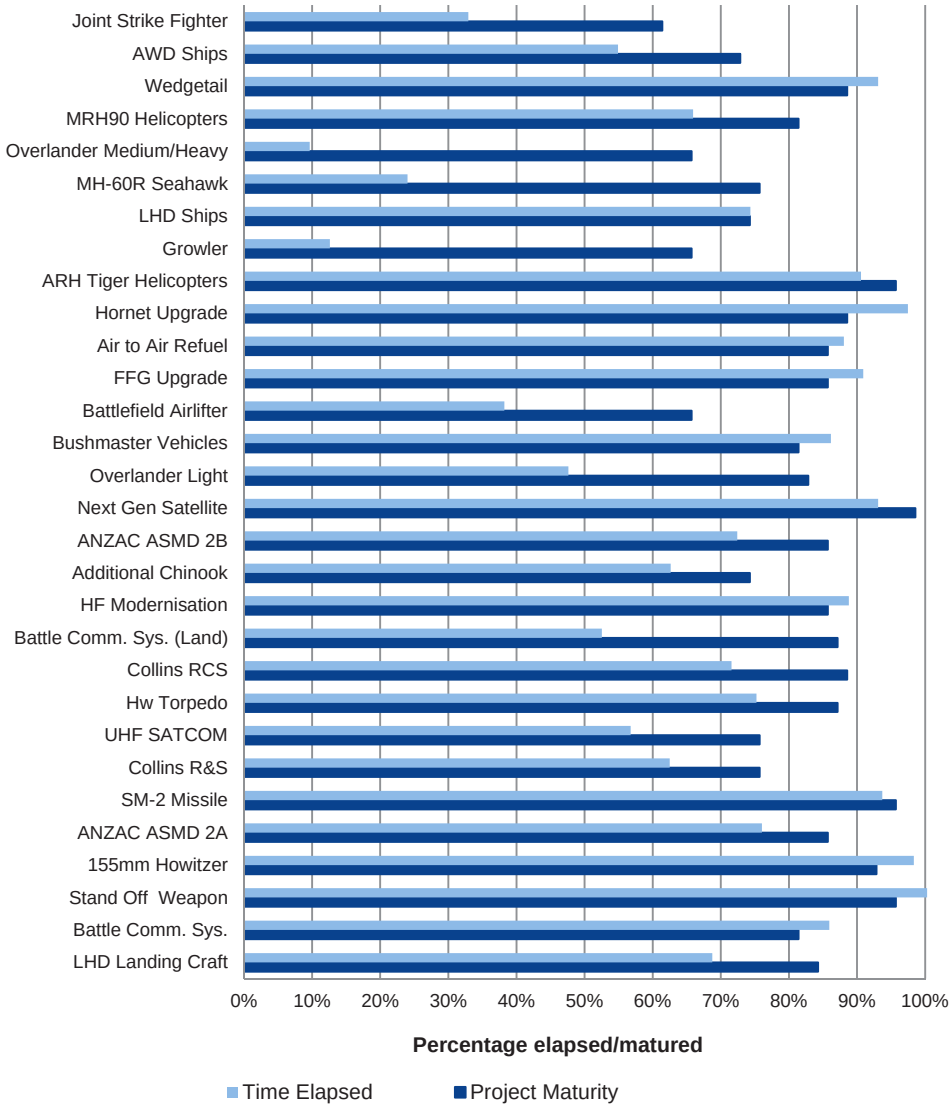
2.41 As noted in paragraph 2.14 (at page 46), by attributing approximately 50 per cent of the total Project Maturity at Second Pass Approval, the project maturity framework is weighted towards pre Second Pass Approval processes. This reduces the available score for project managers to adequately indicate progress during the build phases. Descriptors used to define project maturity post Second Pass Approval are broader and cover the more complex steps, which generally take longer and where issues are more likely to arise.[86] For example, in terms of Requirement (one of the seven attributes within the framework), one point is accumulated for endorsing requirements and one point for testing.

84 For further information on the DMO's project maturity framework refer to paragraphs 1.33 to 1.43 in Part 1, at pages 32 to 35, of this report.

85 In-Service Date is the point in time that symbolically marks the beginning of the transition of a capability system, in part or full, from the acquisition phase to the in-service phase. Defence Instructions (General) OPS 45–2 C*apability Acceptance Into Operational Service*, November 2012, Annex B, p. B3.

86 See Appendix 2 in Part 2, at page 149, of this report.

Figure 7: Project snapshot—Time Elapsed and Project Maturity



Source: The ANAO's analysis of the 2013–14 PDSSs. Analysis for the 2013–14 MPR continues to highlight inconsistencies within the application of project maturity, reducing the level of reliability of maturity assessments for key decision makers and other stakeholders; however, improved focus and review by project offices was noted by the ANAO during 2013–14 fieldwork. Refer to paragraphs 2.38 to 2.41 in Part 1, at pages 58 to 59, of this report.

Note: ANZAC ASMD 2B's Project Maturity is based on the progress of the lead ship, not on the current eight ship program.

Schedule slippage and acquisition type by approval date

2.42 Examination of the portfolio of projects in the MPR highlights that when dealing with large and complex Major Projects, slippage can occur for a variety of reasons. Projects are delivered through a range of procurement options, and are subject to multiple pressures including: actions by contractors; economic conditions impacting on workforce supply and demand; and procurement decisions by other nations (particularly in Foreign Military Sales cases) which may impact on downstream purchases in terms of time to delivery.

2.43 Providing forecasts on the future schedule performance of Major Projects is difficult, requiring a deep understanding of project technical elements and a realistic assessment of the capacity of the private sector to deliver in the expected timeframe.[87] Reference to the historical performance of projects may be useful in this context.

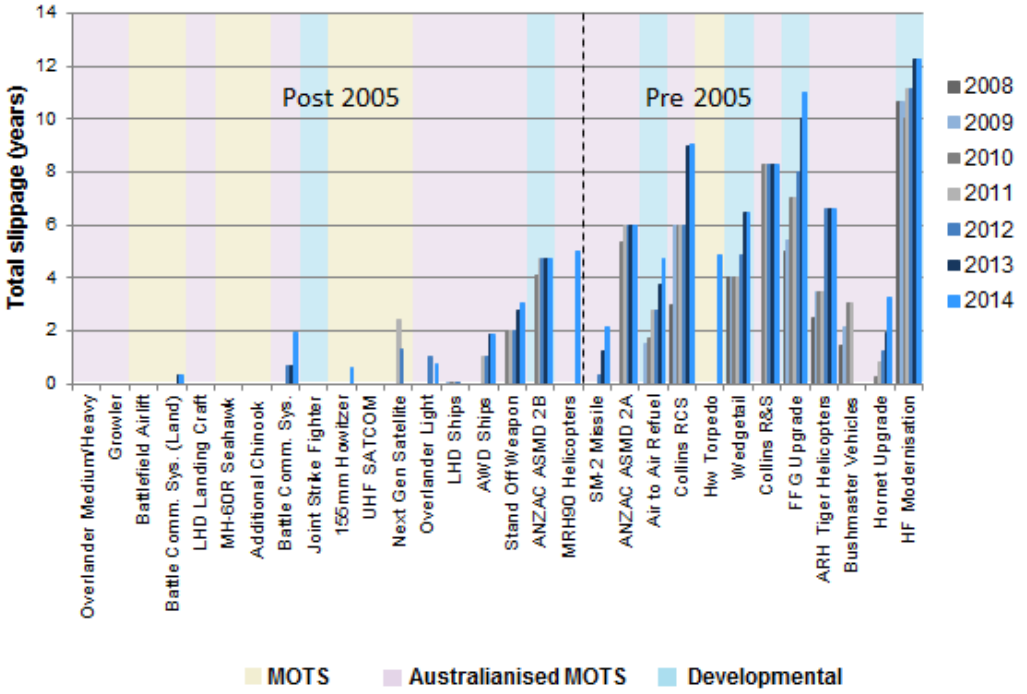
2.44 Figure 8, below, illustrates the total schedule slippage since Second Pass Approval for projects in the 2013–14 MPR, demonstrating how this key performance indicator has altered over time. It also depicts the acquisition type and places projects in order of government approval, allowing for more detailed analysis.

2.45 Figure 9, at page 63, illustrates the total schedule slippage for projects which have exited the MPR to allow further analysis. This figure will be updated each year in conjunction with Figure 8 to allow for greater longitudinal analysis of project performance over time.

2.46 It should be noted that a greater focus on MOTS and Australianised MOTS acquisitions is, prima facie, reducing the slippage in the Major Projects profile. However it is not always possible to acquire the necessary capability in this manner, but within the portfolio of Major Projects allows for management focus on a limited number of developmental projects at any one time.

87 Source 1: Vice Admiral P Jones, *Official Committee Hansard*, Joint Committee of Public Accounts and Audit Hearing, 7 April 2014, p. 1.
Source 2: Mr W King, *Official Committee Hansard*, Foreign Affairs, Defence and Trade Legislation Committee, Estimates Hearing, 3 June 2014, pp. 72–73.

Figure 8: Total slippage post Second Pass Approval and acquisition type by approval date (years)



Source: The ANAO's analysis of the PDSSs in published MPRs. Refer to paragraphs 2.44 to 2.50 in Part 1, at pages 61 to 64, of this report.

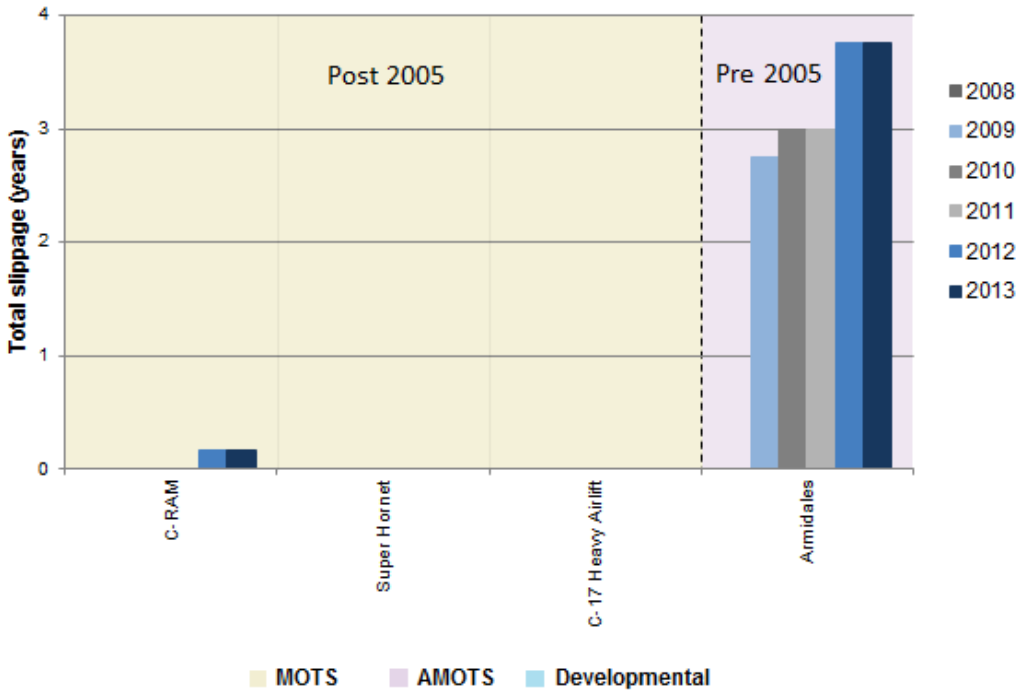
Note 1: The order of the projects is from latest to earliest approved. All project slippage relates to FOC dates.

Note 2: The MRH90 Helicopters project was originally categorised as a MOTS solution but has since been reassessed as more developmental than envisaged and has been reclassified as Australianised MOTS. This advice was set out in a minute to the CEO Australian Aerospace Ltd from the General Manager Systems DMO, *MRH90 Gate Review Outcomes*, 15 April 2011.[88]

Note 3: Bushmaster Vehicles has an FOC date for each Production Period (discrete order). The FOC used for this year's MPR analysis is Production Period Five.

88 Further information on MRH90 Helicopters can be found in ANAO Audit Reports No.48 2008–09, *Planning and Approval of Defence Major Capital Equipment Projects*, June 2009, pp. 84, 90 and 133; No.52 2011–12, *Gate Reviews for Defence Capital Acquisition Projects*, June 2012, pp. 86–87 and pp. 130–133; and No.52 2013–14, *Multi-Role Helicopter Program*, June 2014.

Figure 9: Total slippage post Second Pass Approval and acquisition type by approval date (years) for projects exited the MPR



Source: The ANAO's analysis of the PDSSs in published MPRs. Refer to paragraphs 2.45 to 2.46 in Part 1, at page 61, of this report.

Note 1: The order of the projects is from latest to earliest approved. All project slippage relates to FOC dates.

Note 2: Does not include the AIR 5376 Phase 3.2 Hornet Refurb project which exited in 2012 as this project did not introduce a new capability and so did not have an FOC date.

2.47 The data at Figure 8, above, illustrates that older projects, which achieved Second Pass Approval prior to 2005, generally experienced the most slippage. These projects tend to be more developmental (complex) in nature and typically experienced schedule slippage in the past, and have continued to do so. This shows an ongoing trend of slippage in historically late projects

including SM-2 Missile, Air to Air Refuel, FFG Upgrade, and Hornet Upgrade.[89]

2.48 This year, three of the four new projects included in the 2013–14 MPR were classified as Australianised MOTS (Overlander Medium/Heavy, Growler and LHD Landing Craft) with the fourth project (Battlefield Airlifter) classified as MOTS. Further information about the classification of the projects can be found in the PDSSs in Part 3, from page 175, of this report.

2.49 The challenge of gaining a full understanding of the complexities of developmental aspects of projects at Second Pass Approval is evident by the extent of slippage over time. The *2008 Audit of the Defence Budget* (Pappas Review) identified technical risk as the largest source of post Second Pass Approval schedule slippage for 'post Kinnaird' projects[90], and also observed that schedule slippage causes cost escalation.[91]

2.50 In JCPAA Report 442, the Committee flagged its intention to continue to monitor activity in this area, and the ANAO will continue to compile data for further longitudinal analysis in the future.[92]

Schedule performance

2.51 The subsequent figures and tables illustrate the following for the 30 projects in the 2013–14 MPR:

- the original and 30 June 2014 forecasts for achieving FOC;
- in-year schedule changes to achieving FOC;
- total schedule slippage across the Major Projects; and
- total slippage according to a project's Second Pass Approval date.

Original and 30 June 2014 Final Operational Capability forecasts

2.52 Figure 10, at page 66, presents information on the projects' original and 30 June 2014 forecasts for achieving FOC. The total schedule slippage for the

89 Further information on Hornet Upgrade can be found in ANAO Audit Report No.5 2012–13, *Management of Australia's Air Combat Capability–F/A-18 Hornet and Super Hornet Fleet Upgrades and Sustainment*, September 2012.

90 Kinnaird, Malcolm, *Defence Procurement Review 2003*, August 2003.

91 Pappas, George, *2008 Audit of the Defence Budget, Department of Defence*, April 2009, p. 76.

92 JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, pp. 29–31.

30 Major Projects to date is 1 115 months when compared to the initial prediction when first approved by government. This slippage represents a 36 per cent increase on the expected schedule since the main investment decision.[93] Of the 30 projects in the 2013–14 MPR, 19 have experienced schedule slippage.

2.53 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.[94] In other cases, a project office's ability to gain access to the platform (asset) for upgrading, can delay the schedule (for example, the two Collins submarine projects and Hw Torpedo).[95] Defence's 2011 Defence Capability Plan Review reported that an estimated 80 per cent of project schedule changes were due to internal factors.[96]

2.54 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.[97] Instances of misclassification in this respect have resulted in extended schedule slippage for MRH90 Helicopters[98] and ARH Tiger Helicopters.[99] The review of FMR and FOC for MRH90 Helicopters as a result of deed negotiations with the contractor, which was underway last year, has now been finalised and has resulted in 38 and 60 months slippage for these milestones, respectively.

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93 In instances where a Major Project has multiple segments/capabilities with separate FOC dates, the ANAO has used the project's current lead/main capability FOC for calculating schedule performance. The DMO's approach is to use the final FOC date for a project listed in the 2013–14 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 2013–14 MPR (ANAO—36 per cent; DMO—35.8 per cent).

94 See the PDSSs in Part 3, from page 175, of this report.

95 See the Collins RCS, Hw Torpedo and Collins R&S PDSSs in Part 3, at pages 421, 433 and 455, of this report.

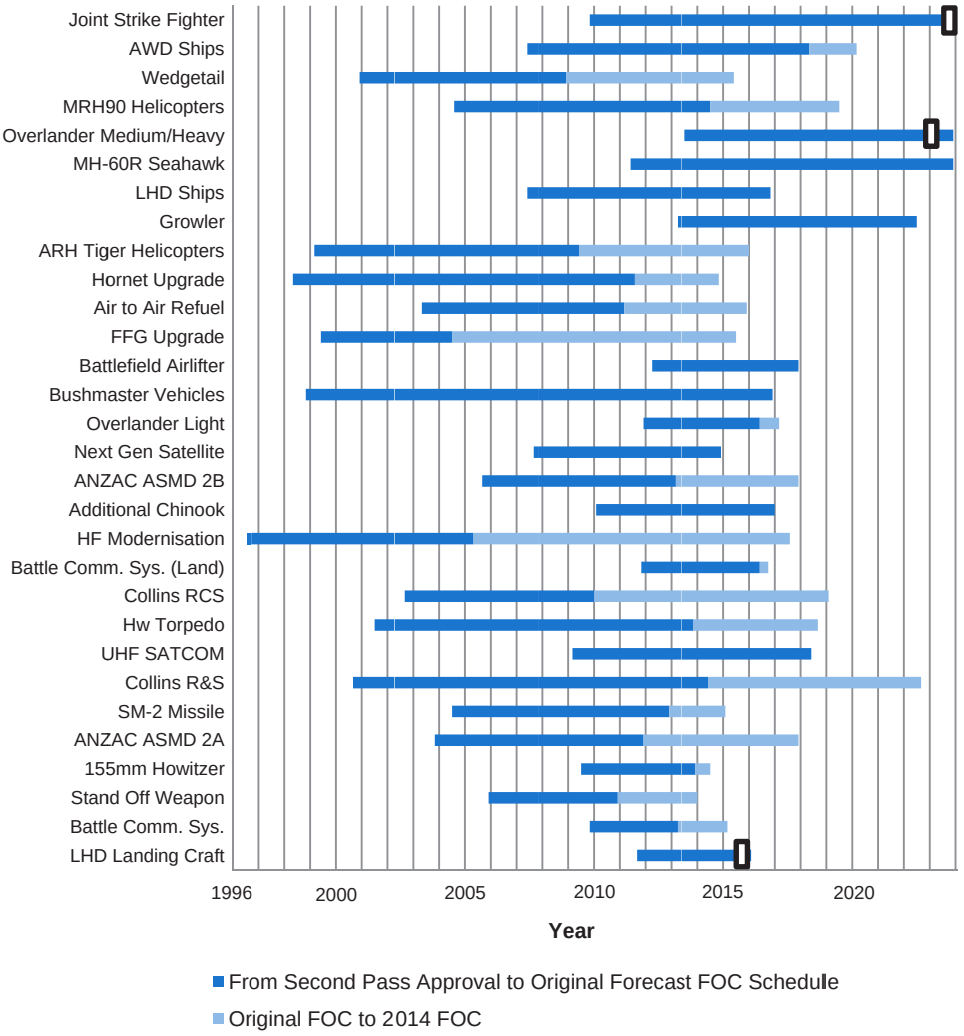
96 ANAO Audit Report No.6 2013–14, *Capability Development Reform*, October 2013, p. 155.

97 ANAO Audit Report No.6 2013–14, *Capability Development Reform*, October 2013, paragraphs 9.1 to 9.4, pp. 198–199.

98 Further information on MRH90 Helicopters can be found in ANAO Audit Reports No.48 2008–09, *Planning and Approval of Defence Major Capital Equipment Projects*, June 2009, pp. 84, 90 and 133; No.52 2011–12, *Gate Reviews for Defence Capital Acquisition Projects*, June 2012, pp. 86–87 and pp. 130–133; and No.52 2013–14, *Multi-Role Helicopter Program*, June 2014.

99 See the ARH Tiger Helicopters PDSS in Part 3, at page 279, of this report.

Figure 10: Projects' original and 30 June 2014 FOC forecasts



Source: The ANAO's analysis of the 2013–14 PDSSs. Refer to paragraphs 2.52 to 2.54 in Part 1, at pages 64 to 65, of this report.

Note 1: ▯ indicates that the forecast FOC date for the project at 30 June 2014 is earlier than the original FOC date.

Note 2: Hornet Upgrade FOC date relates to Phase 2.3.

Note 3: Bushmaster Vehicles has an FOC date for each Production Period (discrete order). The FOC used for this year's MPR analysis is Production Period Five.

In-year schedule performance

2.55 In 2013–14, there was a total schedule slippage of 205 months in the forecast achievement of FOC for the 30 Major Projects. Figure 11, at page 69, shows negative slippage for three projects:

- Joint Strike Fighter—currently expects to achieve FOC in October 2023, two months ahead of the original schedule;
- Overlander Medium/Heavy—currently expects to achieve FOC in January 2023, 11 months ahead of the original schedule; and
- LHD Landing Craft—currently expects to achieve FOC in September 2015, five months ahead of the original schedule.

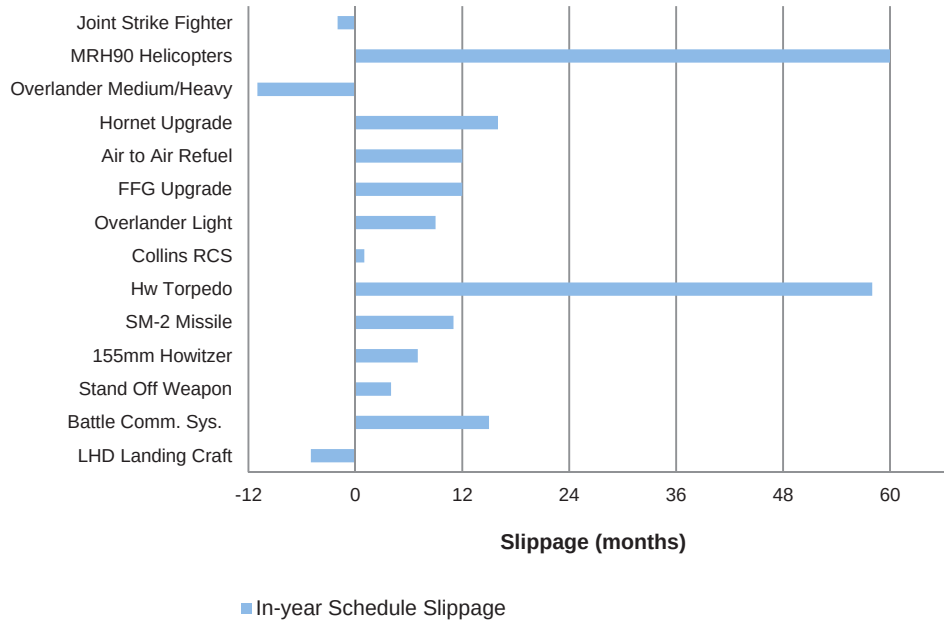
2.56 In-year schedule slippage involved the following 11 projects[100] (the explanation provided, drawn from the 2013–14 PDSSs, may also include the reasons for prior slippage):

- MRH90 Helicopters—delays resulting from deed negotiations with the contractor and ongoing technical deficiencies;
- Hornet Upgrade—achieved Supplemental Type Certification and Service Release in November 2012, however additional testing was necessary in 2014 with time allowed for finalisation of data analysis prior to Capability Manager sign off;
- Air to Air Refuel—delays resulting from issues around the Aerial Refuelling Boom System and flight testing and maintenance requirements on test aircraft;
- FFG Upgrade—schedule extended to allow for passive sonar (PANORAMA) capability to be included in the project;
- Overlander Light—delays resulting from complexity in finalising the design and manufacture of the Command Post Mobile;

100 Further, in the Statement by the CEO DMO in Part 2, at page 171, of this report, the CEO makes reference to additional information on milestone achievement dates for AWD Ships, MRH90 Helicopters, LHD Ships, Hornet Upgrade, ANZAC ASMD 2B, ANZAC ASMD 2A, 155mm Howitzer and LHD Landing Craft.

- Collins RCS—slippage resulting from changes to the Full Cycle Docking schedule affecting the installation schedule based on submarine availability;
- Hw Torpedo—slippage resulting from changes to the Full Cycle Docking schedule affecting the installation schedule based on submarine availability;
- SM-2 Missile—delays in receipt of missile spares and arrangement of in-service support requirements;
- 155mm Howitzer—delays resulting from the time taken to approve the transfer of the Course Correcting Fuze capability to project LAND 17 Phase 1C.1;
- Stand Off Weapon—delivery delays due to issues with the reliability of the fuze; and
- Battle Comm Sys.—delays in receipt of final equipment.

Figure 11: In-year (2013–14) schedule changes to achieving FOC



Source: The ANAO's analysis of the 2013–14 PDSSs. Refer to paragraphs 2.55 to 2.56 in Part 1, at pages 67 to 68, of this report.

Note: The DMO's PDSSs indicate that 16 of the 30 MPR projects did not record changes to their FOC dates this year.

Longitudinal schedule performance

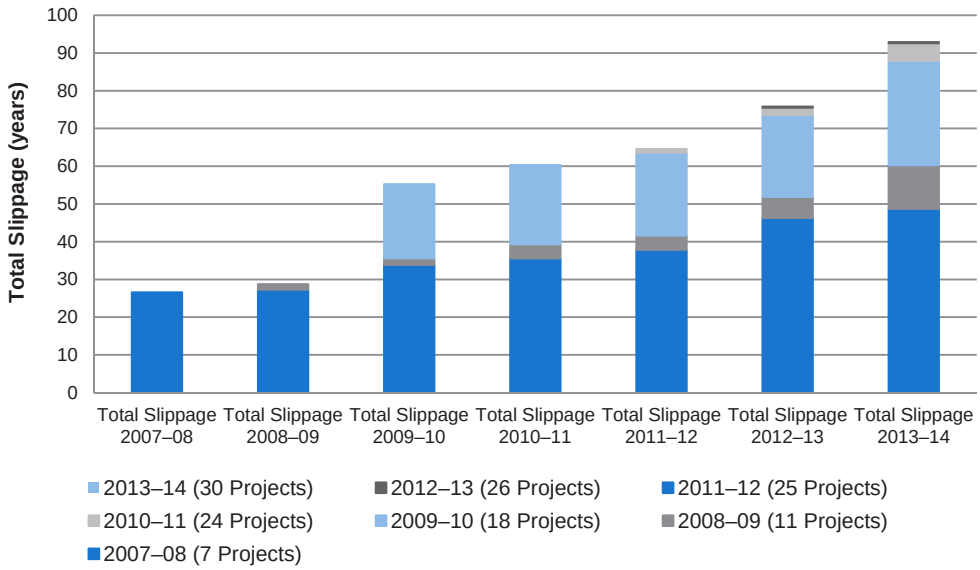
2.57 Figure 12, below, shows the schedule slippage of the Major Projects included in the 2007–08 to 2013–14 MPRs (Table 8, at page 71, provides the accompanying details of the projects included in the analysis). The figure shows that the total cumulative schedule slippage for the:

- seven projects in 2007–08 was 26.6 years (319 months) and that the total schedule slippage for these projects in 2013–14 was 48.7 years or 584 months (an increase of 22.1 years or 265 months over six years);
- 11 projects in 2008–09 was 28.8 years (345 months) and that the total schedule slippage for these projects in 2013–14 was 60.2 years or 723 months (an increase of 31.4 years or 378 months over five years);
- 18 projects in the 2009–10 MPR was 55.2 years (663 months) and that the total schedule slippage for these projects in 2013–14 was 87.9 years or 1 055 months (an increase of 32.7 years or 392 months over four years);

- 24 projects included in the 2010–11 MPR was 60.3 years (724 months) and that the total schedule slippage for these projects in 2013–14 was 92.6 years or 1 111 months (an increase of 32.3 years or 387 months over three years);
- 25 projects in 2011–12 was 64.6 years (775 months) and that the total schedule slippage for these projects in 2013–14 was 92.6 years or 1 111 months (an increase of 28.0 years or 336 months over two years); and
- 26 projects in 2012–13 was 75.8 years (910 months) and that the total schedule slippage for these projects in 2013–14 was 92.9 years or 1 115 months (an increase of 17.1 years or 205 months over one year).

2.58 The figure shows that 52.4 per cent (48.6 years or 584 months) of the total schedule slippage across the Major Projects covered in the 2013–14 MPR (92.9 years or 1 115 months) is made up of the schedule slippage from the initial seven projects reported in the 2007–08 MPR.

Figure 12: Longitudinal schedule slippage across years (in years)



Source: The ANAO's analysis of the PDSSs in published MPRs. Refer to paragraphs 2.57 to 2.58 in Part 1, at pages 69 to 70, of this report.

Note 1: The total schedule slippage in 2013–14 across the 30 projects is 1 115 months. Overlander Medium/Heavy, Growler, Battlefield Airlifter and LHD Landing Craft, which are new to this year's MPR, have not experienced slippage against FOC according to the DMO's PDSS.

Note 2: Bushmaster Vehicles has an FOC date for each Production Period (discrete order). The FOC used for this year's MPR analysis is Production Period Five.

Table 8: Projects included in Figure 12 analysis by MPR

Project	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14
Joint Strike Fighter				✓	✓	✓	✓
AWD Ships		✓	✓	✓	✓	✓	✓
Wedgetail	✓	✓	✓	✓	✓	✓	✓
MRH90 Helicopters		✓	✓	✓	✓	✓	✓
Overlander Medium/Heavy							✓
MH-60R Seahawk					✓	✓	✓
LHD Ships		✓	✓	✓	✓	✓	✓
Growler							✓
ARH Tiger Helicopters	✓	✓	✓	✓	✓	✓	✓
Hornet Upgrade	✓	✓	✓	✓	✓	✓	✓
Air to Air Refuel		✓	✓	✓	✓	✓	✓
FFG Upgrade	✓	✓	✓	✓	✓	✓	✓
Battlefield Airlifter							✓
Bushmaster Vehicles	✓	✓	✓	✓	✓	✓	✓
Overlander Light			✓	✓	✓	✓	✓
Next Gen Satellite			✓	✓	✓	✓	✓
ANZAC ASMD 2B			✓	✓	✓	✓	✓
Additional Chinook				✓	✓	✓	✓
HF Modernisation	✓	✓	✓	✓	✓	✓	✓
Battle Comm. Sys. (Land)						✓	✓
Collins RCS	✓	✓	✓	✓	✓	✓	✓
Hw Torpedo			✓	✓	✓	✓	✓
UHF SATCOM				✓	✓	✓	✓
Collins R&S			✓	✓	✓	✓	✓
SM-2 Missile				✓	✓	✓	✓
ANZAC ASMD 2A			✓	✓	✓	✓	✓
155mm Howitzer				✓	✓	✓	✓
Stand Off Weapon			✓	✓	✓	✓	✓
Battle Comm. Sys.				✓	✓	✓	✓
LHD Landing Craft							✓

Source: The ANAO's analysis of the PDSSs in published MPRs.

2.59 Further disaggregation according to a project's Second Pass Approval date in Table 9, below, shows that 80 per cent of the total schedule slippage across the Major Projects covered in the 2013–14 MPR is made up of projects approved prior to the DMO's demerger from the Department of Defence, in July 2005.

Table 9: Project slippage by Project approval

Project	No. of months between Approval and Original FOC date	No. of months between Approval and 30/6/14 FOC date	No. of months slippage between Original FOC and 30/6/14 FOC date
Projects Approved pre July 2005			
Wedgetail	96	174	78
ARH Tiger Helicopters	123	202	79
Hornet Upgrade	159	198	39
Air to Air Refuel	94	151	57
FFG Upgrade	61	198	132 [1]
Bushmaster Vehicles	217	217	0
HF Modernisation	105	241	147 [2]
Collins RCS	88	197	109
Hw Torpedo	148	206	58
Collins R&S	165	264	99
SM-2 Missile	101	127	26
ANZAC ASMD 2A	97	167	72 [2]
Sub Total – Projects Approved pre July 2005	**1 454**	**2 342**	**896**
Percentage of Total – Projects Approved pre July 2005	**46%**	**56%**	**80%**
Projects Approved post July 2005			
Joint Strike Fighter	169	167	0 [2]
AWD Ships	131	153	22
MRH90 Helicopters	119	179	60
Overlander Medium/Heavy	125	114	0 [2]
MH-60R Seahawk	150	150	0
LHD Ships	113	113	0
Battlefield Airlifter	68	68	0
Growler	111	111	0
Overlander Light	54	63	9
Next Gen Satellite	87	87	0
ANZAC ASMD 2B	90	145	57 [2]
Additional Chinook	83	83	0
Battle Comm. Sys. (Land)	55	59	4
UHF SATCOM	111	111	0
155mm Howitzer	53	60	7
Stand Off Weapon	60	97	37
Battle Comm. Sys.	41	64	23
LHD Landing Craft	53	48	0 [2]
Sub Total – Projects Approved post July 2005	**1 673**	**1 872**	**219**
Percentage of Total – Projects Approved post July 2005	**54%**	**44%**	**20%**
Total – All Projects With Slippage	**3 127**	**4 214**	**1 115**

Source: The ANAO's analysis of the 2013–14 PDSSs. Refer to paragraph 2.59 in Part 1, at page 71, of this report.

Note 1: This figure does not add as new FOC dates were introduced in 2010–11 which were later than the original FOC date. This was not caused by project issues.

Note 2: These figures do not add precisely due to the exclusion of schedule reductions over the life of the project.

Capability performance analysis

2.60 The ADF defines capability as the power to achieve a desired operational effect in a nominated environment, within a specified time, and to sustain that effect for a designated period.[101] An operational effect is achieved by combining the eight Fundamental Inputs to Capability: personnel; organisation; collective training; major systems; supplies; facilities and training areas; support; and command and management.[102]

2.61 In acquiring Defence platforms and systems, a range of documentation (including capability definition documents, operational concept documents, function and performance specification, and test concept documents) is developed and sets out the detailed requirements/performance attributes to be achieved. In the case of an aircraft, for example, this would include elements such as its range and speed, handling characteristics, self protection abilities, requirements for runway length and other ground support, civil and military communications and guidance systems, maximum takeoff weights, cargo capacity, maintenance requirements and compliance with military and civil certification regulations and requirements. Depending on the nature of this information, it can be classified for national security reasons and therefore cannot be made public.

2.62 The DMO's assessment of capability performance (Expected Capability) is against the Materiel Release Milestones (MRMs) and Completion Criteria specified in each project's Materiel Acquisition Agreement (MAA). The exception is Wedgetail, where the assessment is against the Supplies section of the MAA which lists the equipment to be delivered. This is consistent with prior year MPRs.

2.63 In general, MRMs and Completion Criteria (previously Measures of Operations Effectiveness (MOEs)) are designed to define, at a strategic level, the key elements required to achieve IMR and FMR.[103] They focus on the achievement

101 Defence Instructions (General), DI(G) OPS 45–2, *Capability Acceptance into Operational Service*, November 2012, Annex B, p. B1.

102 Source 1: Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, pp. 2–3.
Source 2: DI(G) OPS 45–2, *Capability Acceptance into Operational Service*, November 2012, paragraph 1.

103 Source 1: IMR and FMR are milestones that mark the completion and release of DMO acquisition project supplies required to support the achievement of IOR and FOC respectively. They are defined in the MAA. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, pp. 121–122.
Source 2: A number of MRMs and Completion Criteria at 30 June 2014 include milestones relating to schedule, which are not strictly capability measures within the DMO framework.

of technical, regulatory or operational requirements. Where key requirements are not achieved, this could be expected to have a significant effect on a system's likely suitability for acceptance into operational service.

2.64 It is important to remember that the DMO's assessment against MRMs is based on a forecast of future events. This involves a high level of uncertainty as it depends on circumstances that have not yet occurred or may not occur, or may be impacted by events that have occurred but have not yet been identified. In the JCPAA's Report 442, the Committee has recommended that the ANAO and the DMO consult to apply a more objective method of assessing capability performance and distinguish capability achieved, capability yet to be achieved, capability unlikely to be achieved and capability exceeded.[104]

2.65 However, while the DMO has advised that there is no system that universally tracks the progress of inputs to capability, the DMO proposed inclusion in the PDSSs for the 2014–15 MPR, information regarding the key elements which constitute IMR and FMR as stipulated in the MAA for each project. These changes have been incorporated into the 2014–15 MPR Guidelines and will assist in providing greater clarity regarding the amount of capability delivered by the DMO. Further consultation between the ANAO and the DMO will occur in 2014–15.

2.66 The ANAO continues to observe that there is considerable diversity across the projects in the number, level of specification, articulation and focus of MRMs and Completion Criteria in project MAAs. For example, AWD Ships (total budget $7.9 billion) has four MRMs and Completion Criteria (IMR—Ship 1, MR 2—Ship 2, MR 3—Ship 3 and FMR), while 155mm Howitzer (total budget $0.3 billion) reports on 23 MRMs and Completion Criteria.

2.67 The MRMs and Completion Criteria are assessed using traffic light indicators by the DMO's project management, and reported monthly within the DMO and the Australian Defence organisation. The June 2014 traffic light assessment is represented in the PDSSs as Measures of Materiel Capability Delivery Performance. Due to national security considerations, only the overall status from each project office's assessment of the likelihood of delivering the required materiel capability is disclosed in the 2013–14 MPR and earlier reports.

104 JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, pp. 37–39.

2.68 Figures 14 and 15 present the DMO's assessment of the percentage of materiel capability delivery that:

- has a high level of confidence will be met (green);
- are under threat but still considered manageable (amber); and
- at this stage are unlikely to be met (red).

2.69 For example, Figure 14, at page 80, shows the assessment for Air to Air Refuel as at 30 June 2014, as having a high level of confidence in delivering 75 per cent of the materiel capability, while 25 per cent of the materiel capability is 'under threat but still considered manageable'. This differs from 2012–13, where 50 per cent of capability was 'under threat but still considered manageable'.

2.70 The DMO's Expected Capability should be interpreted with some caution due to diversity across projects in the basis for assessment (MRMs and Completion Criteria) and the high level of risk and uncertainty in forecasting outcomes. As such, the DMO's current assessment of Expected Capability may differ materially from that stated in the PDSSs and is outside the scope of the ANAO's assurance review.[105] However, the ANAO has been provided with data from the DMO's reporting systems in order to examine the accuracy of the disclosure in the PDSSs.

Project snapshot—Expected Capability and Project Maturity

2.71 The fourth snapshot, Figure 13, at page 77, sets out the DMO's assessment of the likelihood of delivering all of the key capability (Expected Capability) and Project Maturity.[106]

2.72 The DMO expects that all 30 projects in this year's MPR will deliver all of their key capability requirements, recognising that some elements of the capability required for some projects may be under threat but considered manageable (assessed as either green or amber).

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105 See paragraph 1.8 in Part 1, at page 26, of this report, for PDSS items out of scope for the ANAO's assurance review.

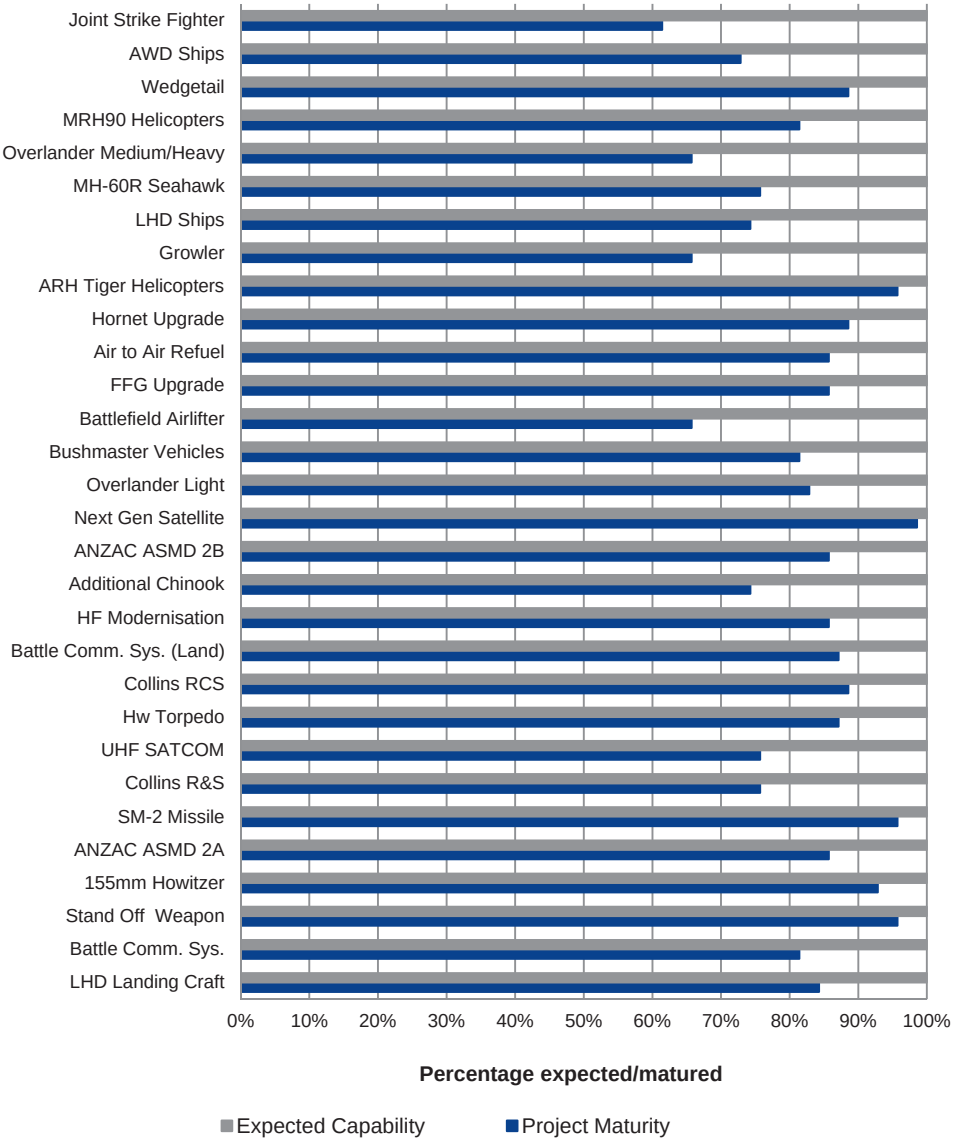
106 The JCPAA has recommended that the DMO maintain the ability to publish project maturity scores until they are no longer required by the JCPAA. JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, pp. 38–39.

2.73 This is consistent with the 2012–13 assessment, and highlights the DMO's expected improvement on the 2011–12 assessment, where both Wedgetail and MRH90 Helicopters were assessed as unlikely to meet all of their capability requirements. For detail of the current Expected Capability for these two projects refer to paragraph 2.77, at page 78.

2.74 The complexity and type of acquisition (MOTS, Australianised MOTS or developmental) are significant factors affecting the Expected Capability; the risk is appreciably higher for more developmental projects. The DMO's increased expectations of delivery of key capabilities is in line with the increase in MOTS or Australianised MOTS projects selected for acquisition in recent years.

2.75 In addition, the stage of project life cycle has an impact on the maturity score provided by the DMO, with all significant (greater than 20 per cent) variances for post 2005 approved projects, i.e. projects whose contractual delivery are at earlier stages, reflecting reduced maturity scores. The DMO's assessment of Expected Capability should become better informed as a project matures along its capability development and acquisition life cycle.

Figure 13: Project snapshot—Expected Capability and Project Maturity



Source: The ANAO's analysis of the 2013–14 PDSSs. Analysis for the 2013–14 MPR continues to highlight inconsistencies within the application of project maturity, reducing the level of reliability of maturity assessments for key decision makers and other stakeholders; however, improved focus and review by project offices was noted by the ANAO during 2013–14 fieldwork. Refer to paragraphs 2.71 to 2.75 in Part 1, at pages 75 to 76, of this report.

Note: ANZAC ASMD 2B's Project Maturity is based on the progress of the lead ship, not on the current eight ship program.

Capability performance

2.76 The subsequent figures illustrate the following for the 30 projects in the 2013–14 MPR:

- the DMO's assessment of the number of Major Projects having challenges in delivering elements of their system's planned capability; and
- the DMO's assessment of Expected Capability to be delivered.

In-year capability performance

2.77 Figure 14, at page 80, highlights the DMO's assessment that there are five projects with challenges in the delivery elements of system's planned capability.[107] This shows the DMO's assessment of an improvement from 2012–13 where six projects had challenges in this area. The five projects currently highlighted as having challenges in delivering elements of their system's planned capability are:

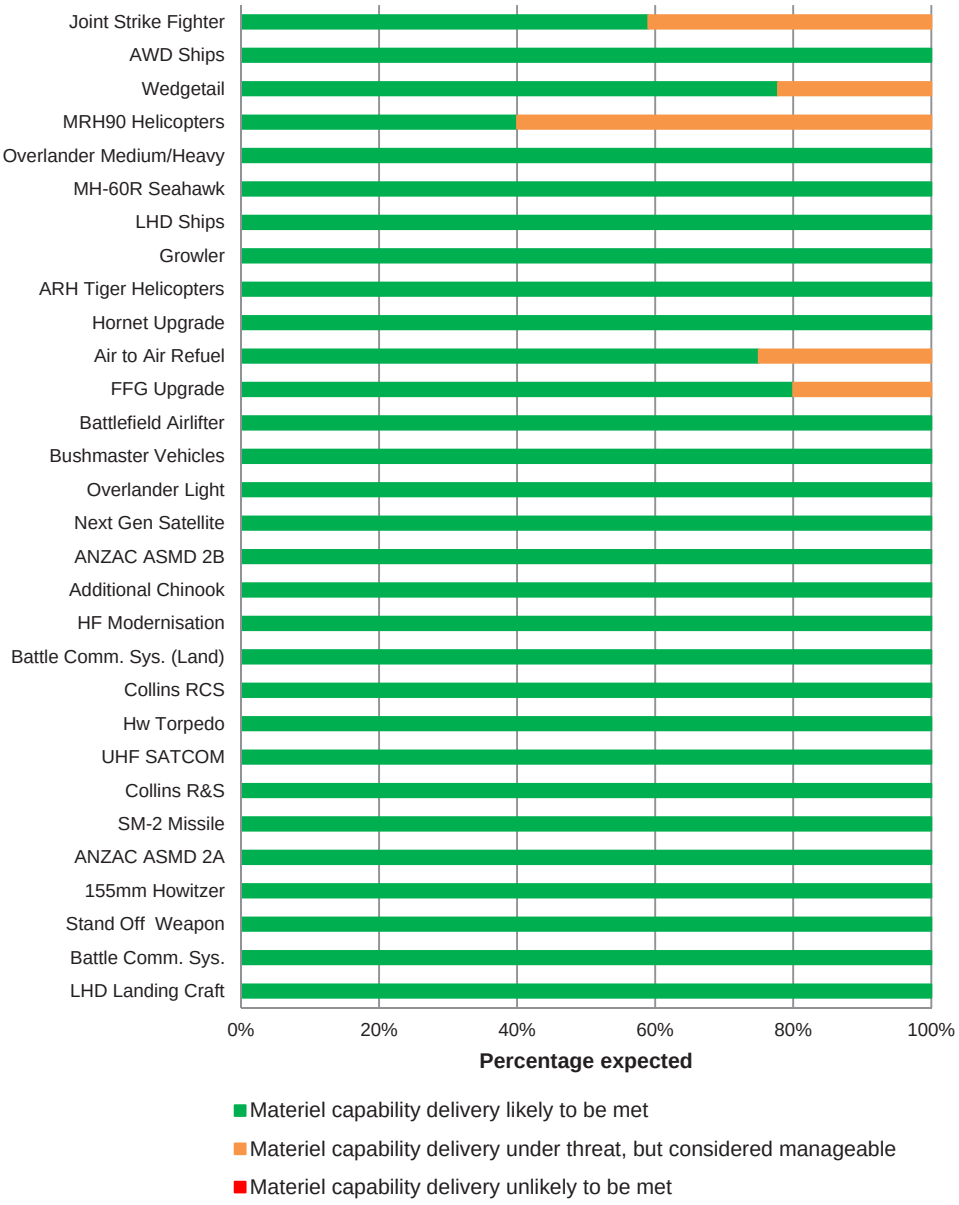
- Joint Strike Fighter—where there are a number of risks to achieving some of the materiel capabilities required for Initial Operational Capability (IOC) and FOC including final aircraft software builds meeting IOC and FOC requirements and establishing the sustainment of the aircraft;
- Wedgetail—performance deficiencies in some elements of the mission system currently pose a risk to the achievement of FMR. All deficiencies are expected to be addressed under remediation programs agreed by Boeing in accordance with the November 2012 commercial settlement;
- MRH90 Helicopters—notwithstanding the signing of a Deed of Variation in May 2013, there remain some materiel capabilities that are undergoing Operational Test and Evaluation activities. There are associated risks and issues in achieving Service Release of these capabilities, however the project office is actively managing them. An example is the Electronic Warfare Protection;

107 Expected Capability assessments concern forecasting future achievements and are outside the scope of the ANAO's review.

- Air to Air Refuel—notwithstanding the signing of a Deed of Settlement, Release and Amendment in June 2014, there is a risk to meeting all materiel capability delivery requirements for FOC due to acceptance of aircraft in an initial configuration and the risk of successful remediation of all non-conformances and improvements to the Aerial Refuelling Boom System; and
- FFG Upgrade—acquisition/installation is yet to progress on the Torpedo Defence System requirements.

2.78 However, these results contrast with other available information and highlight the difficulties in estimating future capability. For example, delays in the delivery of ARH Tiger Helicopters and HF Modernisation have increased the risk of technological obsolescence, and Rate of Effort impacts have contributed to the emergence of the risk that ARH Tiger Helicopters will not reach FOC.

Figure 14: Expected Capability at 30 June 2014



Source: The ANAO's analysis of the 2013–14 PDSSs. Refer to paragraphs 2.77 to 2.78 in Part 1, at pages 78 to 79, of this report.

Note 1: The Expected Capability assessment for Wedgetail has been against the Supplies section of the MAA, which lists the equipment to be delivered.

Note 2: Expected Capability is as per paragraph 2.2 in Part 1, at page 41, of this report.

Longitudinal capability performance

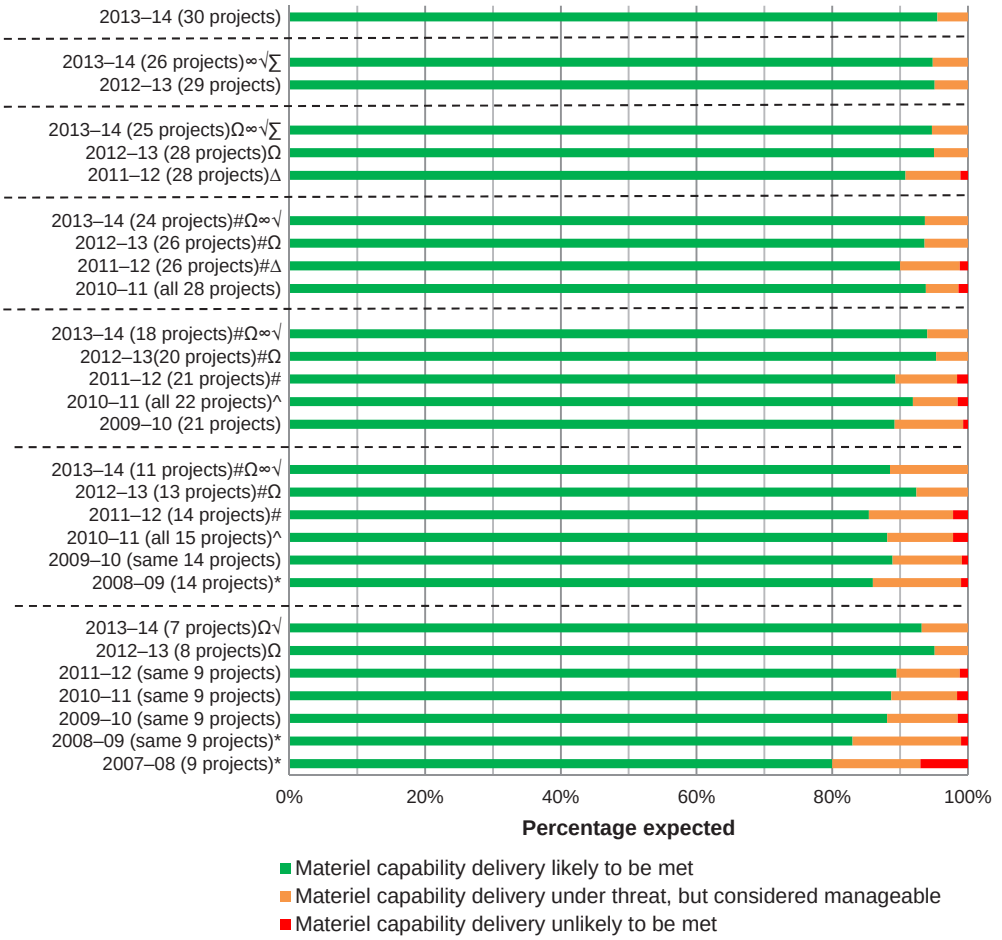
2.79 A multi-year comparison of Expected Capability should be considered with caution as project's Measures of Materiel Capability Delivery (MRMs and Completion Criteria) can change from year to year as MAAs are updated. Therefore, any comparison of an individual or a group of projects' Measures of Materiel Capability Delivery may not involve comparing 'like with like'. Changes in anticipated capability outcomes should be read in conjunction with the information in the PDSSs.

2.80 Figure 15, below, examines the DMO's assessment of Expected Capability for the same projects from 2008 to 2014 as reported in the DMO's PDSSs using traffic light indicators as defined above.[108]

2.81 As reflected in the portfolio of projects in the 2013–14 MPR, the DMO's assessment is consistent with the 2012–13 MPR, that it has a 'high level of confidence' in delivering 96 per cent (2012–13: 95 per cent) of the key capabilities associated with the Major Projects in this report. While the delivery of the remaining four per cent (2012–13: five per cent) of the key capabilities is considered to be 'under threat', the risk is still considered by the DMO to be 'manageable'.

108 Expected Capability assessments concern the forecasting of future achievements and are outside the scope of the ANAO's review.

Figure 15: Expected Capability across the 2007–08 to 2013–14 MPRs



Sources: The ANAO's analysis of the PDSSs in published MPRs. Refer to paragraphs 2.79 to 2.81 in Part 1, at page 81, of this report.

Note 1: * The ANAO did not examine the accuracy of the recording of this data in previous MPRs.

Note 2: ^ Super Hornet did not have MOEs, but does have Measures of Materiel Capability Delivery Performance in the latest MAA.

Note 3: # Hornet Refurb was removed from the PDSSs in 2011–12.

Note 4: Δ Joint Strike Fighter is excluded from this analysis due to a lack of data.

Note 5: Ω C-17 Heavy Airlift was removed from the PDSSs in 2012–13.

Note 6: ∞ Super Hornet was removed from the PDSSs in 2013–14.

Note 7: √ Armidales was removed from the PDSSs in 2013–14.

Note 8: ∑ C-RAM was removed from the PDSSs in 2013–14.

Note 9: The Expected Capability assessment for Wedgetail has been against the Supplies section of the MAA, which lists the equipment to be delivered.

3. Developments in Acquisition Governance

Introduction

3.1 Major Defence equipment acquisition projects (Major Projects) are large, technically complex, high-cost procurement activities, characterised by risk and long timeframes between concept, delivery and acceptance into service. These characteristics pose significant challenges to the effective governance of these projects and highlight the importance of applying a robust governance framework to them. Such a framework has the capacity to support the consistent assessment of their progress and enhance transparency and accountability of Major Projects across the whole portfolio.

3.2 In addition to those key acquisition governance aspects discussed earlier in Chapter 1 of Part 1 (financial assurance, project maturity, enterprise risk management and capability assessments), the Australian National Audit Office's (ANAO's) review included assessing the developments in the governance of projects including: Gate Review Boards; Projects of Concern; Early Indicators and Warnings (EI&W); Joint Project Directives (JPDs); business systems rationalisation; and project management and skills development, to gain a greater understanding of the Defence Materiel Organisation's (DMO's) business and to assist in planning the approach to the review.

Developments in the governance framework for projects

Areas of future review focus

3.3 Part of the ANAO's planning for the Major Projects Report (MPR) each year focuses on reviewing the developments to processes that contribute to the overall governance of Major Projects within the DMO and the broader Australian Defence organisation. These include:

- the Gate Review process[109], which is designed to provide the Chief Executive Officer (CEO) DMO with assurance that all identified risks for

109 ANAO Audit Report No.52 2011–12, *Gate Reviews for Defence Capital Acquisition Projects*, June 2012, paragraph 13, pp. 15–16, found that while generally the DMO has improved the effectiveness of the program, there remain opportunities for further improvement and rigour.

a project are manageable, and that costs and schedule are likely to be under control prior to a project passing various stages of its life cycle;

- the Projects of Concern process, which is designed to address project issues of concern to the DMO and government relating to cost, schedule and capability;
- the EI&W system, which is designed to identify problems with projects in the formative stages of the life cycle, for appropriate action to remediate them;
- the introduction of a requirement for Joint Project Directives in 2009–10, for all projects approved by government from 1 March 2010[110];
- the DMO's business systems[111] rationalisation, which is aimed at consolidating processes and systems in order to provide a more manageable system environment; and
- the project skills professionalisation and development program in the DMO and industry, which is directed at enhancing the skill sets available to manage the DMO's Major Projects.

3.4 This review informed the ANAO's assessment of the governance initiatives supporting the PDSSs for the 2013–14 review period, and highlighted areas in those frameworks that could be the subject of the ANAO's future focus.

Key acquisition governance developments

Gate Review Boards

3.5 Gate Reviews involve a periodic assessment of a project in advance of key 'gates'[112] by an independent Gate Review Board appointed by the DMO.[113]

110 Joint Project Directive: A project-specific directive issued by the Secretary, Department of Defence and the Chief of the Defence Force to the nominated Capability Manager, assigning overall responsibility, authority and accountability for realisation of the capability system to an in-service state. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 124.

111 JCPAA, Report 442, *Review of the 2012–13 Defence Materiel Organisation Major Projects Report*, May 2014, paragraph 3.116, p. 39.

112 The term 'gate' refers to a major project decision point or milestone. ANAO Audit Report No.52 2011–12, *Gate Reviews for Defence Capital Acquisition Projects*, June 2012, paragraph 1.8, p. 29.

Their purpose is to provide the CEO DMO with assurance that project offices will deliver on government approved objectives, while focusing on their preparedness to progress to the next stage in its project life cycle and in delivering on the required capability, and the continued validity, of projects' business cases.[114]

3.6 Gate Reviews are mandatory for Major Projects at four specified gates (First Pass consideration; Second Pass consideration; Contract Solicitation; and Contract Negotiation)[115] and optional at other gates, depending on the outcomes of the project risk assessment.[116] A project is not permitted to proceed to the next stage of its life cycle unless recommended by the Gate Review Board and subsequently approved by the Senior Executive. The DMO also requires a Gate Review to be undertaken where the known risks merit such a review, for example, where new information about a project triggers an 'early warning' of a difficulty arising.[117]

3.7 The DMO held its first two Gate Reviews in August and September of 2008 (during the period of the Mortimer Review, *Going to the Next Level: the report of the Defence Procurement and Sustainment Review*)[118], and then not until September 2009.[119] This initial limited implementation of the Mortimer Review recommendation led to the decision to expand the process so that all Major

113 Each Board includes a Chair (independent to the project under review and with the management level dependent on the complexity of the project, its profile and sensitivity), a number of DMO managers selected for their expertise, and up to two external members with extensive Defence or commercial experience. To help inform the Board, an independent preliminary analysis is conducted prior to the Board meeting to identify key issues to bring to the Board's attention. Department of Defence, DMO, Defence Materiel Instruction (Executive), DMI (EXEC) 00-0-009, *Gate Reviews for DMO Projects*, September 2013, paragraphs 37 to 43, p. 7.

114 Department of Defence, DMO, DMI (EXEC) 00-0-009, *Gate Reviews for DMO Projects*, September 2013, paragraphs 5 to 6, p. 3.

115 In certain circumstances, the Director General Independent Project Performance may approve that a mandatory gate need not be applied.

116 The decision points and their mandatory status have changed over time. These are detailed in DMI (EXEC) 00-0-009, *Gate Reviews for DMO Projects*, September 2013, Annex A, pp. 10–12.

117 The DMO implemented the Early Indicators and Warnings (EI&W) system to identify problems with projects early to allow for remediation of issues before they affect delivery. However, the DMO advised in July 2014 that the EI&W system is being replaced (discussed further at paragraphs 3.24 to 3.26).

118 Mortimer, David, *Going to the Next Level: the report of the Defence Procurement and Sustainment Review*, September 2008, pp. 35–36.

119 ANAO Audit Report No.52 2011–12, *Gate Reviews for Defence Capital Acquisition Projects*, June 2012, paragraph 5, p. 14.

Projects managed by the DMO undergo at least one Gate Review per year.[120] The DMO has since formalised the directive that projects will normally be reviewed annually from First Pass to Final Materiel Release (FMR).

3.8 This expansion was followed by a directive from government to establish an Independent Project Performance Office (IPPO).[121] IPPO's responsibilities also include overseeing the remediation of all Projects of Concern (discussed further at paragraphs 3.15 to 3.23, at pages 87 to 90), and implementing the Early Indicator and Warnings system (discussed further at paragraphs 3.24 to 3.26, at page 90).[122]

3.9 While the Gate Review program has been strengthened and is better regulated as a result of these reforms, the ANAO Audit Report No.52 2011–12, *Gate Reviews for Defence Capital Acquisition Projects*, tabled in June 2012, concluded that opportunities for further improvement and rigour remain.

3.10 Subsequent to the DMO's responses to the ANAO's recommendations in the above report, the DMO advised in July 2014 that periodic updates were provided to the Executive Committee on the status of Gate Reviews, with a new set of metrics focusing on root cause analysis being tested to measure project performance during 2013–14. However, this is still in the formative stages.

3.11 During 2013–14 the ANAO assessed the Gate Reviews, and their outcomes (where available), for 23 Gate Reviews that had been conducted on 22 of the projects in the 2013–14 Major Projects Report[123] (2012–13: 25 MPR projects were subjected to Gate Reviews).

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120 The then Minister for Defence, the Hon. Stephen Smith MP, and the then Minister for Defence Materiel, the Hon. Jason Clare MP, *Strategic Reform Program*, 6 May 2011.

121 The then Minister for Defence, the Hon. Stephen Smith MP, and the then Minister for Defence Materiel, the Hon. Jason Clare MP, *Independent Project Performance Office to oversee major Defence projects established*, 29 June 2011.

122 The then Minister for Defence, the Hon. Stephen Smith MP, and the then Minister for Defence Materiel, the Hon. Jason Clare MP, *Strategic Reform Program*, 6 May 2011.

123 This includes LHD Ships (two Gate Reviews) and the Joint Strike Fighter, MRH90 Helicopters, Overlander Medium/Heavy, MH-60R Seahawk, Growler, Hornet Upgrade, Air to Air Refuel, Bushmaster Vehicles, Overlander Light, ANZAC ASMD 2B, HF Modernisation, Battle Comm. Sys. (Land), Collins RCS, UHF SATCOM, Hw Torpedo, Collins R&S, ANZAC ASMD 2A, 155mm Howitzer, Stand Off Weapon, Battle Comm. Sys. and LHD Landing Craft projects (each with one Gate Review). Twelve projects have Gate Reviews scheduled for later this year. Nine projects (ARH Tiger Helicopters, FFG Upgrade, Next Gen Satellite, ANZAC ASMD 2B, Collins R&S, SM-2 Missile, ANZAC ASMD 2A, 155mm Howitzer and Stand Off Weapon) are not expected to undergo Gate Reviews in 2015.

3.12 During the 2013–14 review, the DMO advised that projects which had undergone a Gate Review in the lead up to FMR did not warrant further Gate Reviews, despite continued residual issues. This includes the FFG Upgrade and SM-2 Missile projects which have experienced a further 12 month and 11 month in-year slip to FMR, respectively. Further, this also includes the ARH Tiger Helicopters project, despite the Capability Manager's key concerns with the capability delivered at FMR.[124] There is a risk that significant issues in these projects will not be remediated without the oversight that the Gate Review process provides.

3.13 Significant recent developments to the Gate Review program include the introduction of Initiation Gate Reviews (pre First Pass), Acquisition Concept Gate Reviews (i.e. the continuation of those between First and Second Pass Approval), and Sustainment Gate Reviews.[125] Further, the DMO proposes that projects deemed 'low risk' as a result of the preliminary independent analysis should not be subjected to a Gate Review. The ANAO was also informed that the introduction of Sustainment Gate Reviews is in line with the future expectation that fewer acquisition projects will be eligible for Gate Reviews (as a result of a reduction in anticipated project approvals) with more projects being transferred into sustainment as they approach FMR.

3.14 The ANAO appreciates that the Gate Review process is evolving and will monitor its progress in 2014–15.

Projects of Concern

3.15 The Projects of Concern list was established in 2008 to focus the attention of the highest levels of government, Defence and industry on remediating problem projects. Projects identified by the DMO with significant issues that are beyond the normal capacity of a project team to manage may be

124 This advice was set out in a minute from the Head Capability Systems, *AIR87PH2 ARH – CDG Endorsement of FMR Approval*, 17 February 2014, with attached Army caveats and requirements in relation to the approval of FMR from Head Modernisation and Strategic Planning - Army.

125 The DMO advised in July 2014 that the pilot program for Sustainment Gate Reviews has commenced with 30 expected to be performed this year, balanced by 30 fewer Acquisition Gate Reviews. Sustainment projects will only be subject to a Sustainment Gate Review once every three to five years in line with a major event (such as a re-contracting).

recommended by the CEO DMO for inclusion on the list. The CEO DMO then makes a recommendation to the Minister for Defence for final determination.[126]

3.16 Projects are removed from the Projects of Concern list once the Minister for Defence is satisfied that remediation activity has been completed successfully or government has decided to cancel the project.[127]

3.17 Project of Concern summits[128] were also implemented in February 2011 by the then Minister for Defence Materiel to further increase focus from government, Defence and industry to remediate Projects of Concern. The DMO advised that although summits are yet to be reinstated by the new government, Project of Concern reports continue to be provided to the Minister for Defence on a monthly basis.

3.18 The IPPO is responsible for overseeing and administering the process for remediation of all Projects of Concern, and has advised the ANAO that policy and procedures for Projects of Concern are currently in a draft stage.[129]

3.19 During 2013–14 two MPR projects were continuing Projects of Concern[130], however in June 2014, the Ministers for Defence and Finance announced[131] that AWD Ships was being placed on the list to better address the increasing commercial, schedule and cost risks identified in ANAO Audit Report No.22 2013–14, *Air Warfare Destroyer Program*, tabled in March 2014, and following the earlier announcement of an independent review.[132] The project was added as a Project of Concern on the basis of the recommendation

126 This advice was set out in a brief from the Deputy CEO DMO to the Minister for Defence, *Defence Materiel Organisation Projects of Concern: Overview of Process and Recommendation for Continued Ministerial Involvement*, 15 November 2013.

127 Department of Defence, Departmental Procurement Policy Instruction No. 14/2011, 23 August 2011, p.1.

128 The then Minister for Defence, the Hon. Stephen Smith MP, and the then Minister for Defence Materiel, the Hon. Jason Clare MP, *Defence Capability Reform*, 16 October 2012.

129 The DMO advised that this status will not change until a Project of Concern summit is held.

130 MRH90 Helicopters and Air to Air Refuel.

131 The Minister for Finance, Senator the Hon. Mathias Cormann, and the Minister for Defence, Senator the Hon. David Johnston, *Putting the Air Warfare Destroyer program back on track*, 4 June 2014.

132 The Minister for Finance, Senator the Hon. Mathias Cormann, and the Minister for Defence, Senator the Hon. David Johnston, *Coalition committed to the efficient delivery of the Air Warfare Destroyer programme,* 18 December 2013.

of the CEO DMO to 'ensure that this important project is delivered successfully'.[133]

3.20 In May 2013, the then Minister for Defence and the then Minister for Defence Materiel announced that the MRH90 Helicopters project would be considered for removal from the Projects of Concern list by the end of 2013, following the signing of a Deed of Variation, termed Deed 2, to the original contract, to address commercial, technical and schedule issues.[134] As at June 2014, MRH90 Helicopters is still listed as a Project of Concern[135] as remediation actions are yet to be completed.[136] In addition, Air to Air Refuel is still considered a Project of Concern by government.

3.21 As noted by the Australian Strategic Policy Institute (ASPI) in August 2013:

> The introduction in 2008 of the 'Projects of Concern' management process has seen some projects that faced serious challenges remediated (and in a couple of instances terminated).[137]

3.22 Since the Projects of Concern process was established, 10 MPR projects have been on the list and seven have been removed due to government decisions that the projects have been remediated.[138] The seven projects considered remediated are:

- Wedgetail;
- Overlander Medium/Heavy;
- ARH Tiger Helicopters;
- FFG Upgrade;
- ANZAC ASMD 2B;

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133 Minister for Defence, Senator the Hon. David Johnston, *Air Warfare Destroyer added to Projects of Concern list*, 4 June 2014.

134 The then Minister for Defence, the Hon. Stephen Smith MP, and the then Minister for Defence Materiel, the Hon. Dr Mike Kelly AM MP, *MRH90 helicopter Project of Concern progress,* 9 May 2013.

135 See Table 1.1 in Part 2, at page 109, of this report.

136 For further information on the MRH90 Helicopter project see ANAO Audit Report No.52 2013–14, *Multi-Role Helicopter Program*, June 2014.

137 Australian Strategic Policy Institute, *Agenda for change - Strategic choices for the next government,* August 2013, p. 24.

138 The then Minister for Defence Materiel, the Hon. Dr Mike Kelly AM MP, *Minister for Defence Materiel chairs Projects of Concern Summit,* 10 May 2013.

- HF Modernisation; and
- Stand Off Weapon.

3.23 While specific concerns may have been addressed for 'remediated' projects, it should be noted that residual or emergent risks and issues, for example for ARH Tiger Helicopters (see paragraph 3.12, at page 87), exist post FMR and may even impact the achievement of Final Operational Capability.

Early Indicators and Warnings

3.24 In May 2011, the then Government announced that it would implement an Early Indicators and Warnings (EI&W) system designed to help identify and correct potential problems in the formative stages of the project life cycle.[139]

3.25 In June 2013, the Defence Capability and Investment Committee (DCIC) reviewed the performance of the EI&W system and considered potential improvements. The DMO has since advised that while the EI&W reporting system has provided benefits across Defence, it is no longer providing the required outcomes in its current form.[140] In response, the CEO DMO proposed a new reporting regime which could improve the consistency of reporting and moderate the shortcomings of disparate data collection and reporting systems.

3.26 As a result, the IPPO advised that the Quarterly Project Performance Report (QPPR) process is expected to replace the EI&W system with the objective of identifying problems across all DMO projects providing a more all-encompassing report, however this is currently pending approval.

Joint Project Directives

3.27 Joint Project Directives (JPDs) were introduced by Defence for all projects approved by government from 1 March 2010 to identify the scope and limits of acquisition projects and the party responsible for the major components of the

139 The then Minister for Defence, the Hon. Stephen Smith MP, and the then Minister for Defence Materiel, the Hon. Jason Clare MP, *Strategic Reform Program*, 6 May 2011.

140 This advice was set out in a brief from the CEO DMO to the Secretary of the Department of Defence and the Chief of the Defence Force, *Brief for Secretary/CDF: Early Indicators and Warnings (EI&W) Report – September 2013*, 20 December 2013.

work.[141] They are also intended to be an authoritative document which enables any other necessary project documentation, including Materiel Acquisition Agreements (MAAs)[142], to be based on a reliable source. Therefore, JPDs and MAAs are intended to aid sound governance and accountability in Defence acquisition projects.[143]

3.28 During the 2013–14 review, the ANAO continued to examine a range of governance documents which define project deliverables. Traditionally, MAAs have defined a range of project attributes with the DMO currently able to provide JPDs for eight MPR projects.[144] Of these, nothing has come to the attention of the ANAO that the JPDs are not consistent with the MAAs and other necessary project documentation.

3.29 However, as a consequence of the slower than anticipated implementation, the ANAO will take JPDs into account in its review program in future years, where these have been prepared. With another two post 2010 projects to be included in the 2014–15 MPR, better alignment with government approved requirements is expected and an initial internal audit would assist in determining that the predefined impacts of JPDs are being met.

Business systems rationalisation

3.30 In previous MPRs, the ANAO has reported that the control environment of each project differed, due to the large range of corporate and project management Information Technology (IT) applications being employed by the different project offices. During the 2013–14 review, the same observations apply across the 30 Major Projects. This has again resulted in an

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141 Source 1: Joint Project Directive: A project-specific directive issued by the Secretary, Department of Defence and the Chief of the Defence Force to the nominated Capability Manager, assigning overall responsibility, authority and accountability for realisation of the capability system to an in-service state. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 124.

Source 2: For further information on Joint Project Directives see ANAO Audit Report No. 6 2013–14, *Capability Development Reform*, October 2013, pp. 219–232.

142 Materiel Acquisition Agreement: An agreement between the Capability Manager, Capability Development Group and DMO that states in concise terms what services and products the DMO (as supplier) will deliver to Defence, for how much and when. Department of Defence, *Defence Capability Development Handbook 2014*, June 2014, p. 124.

143 The key role of these two documents in Defence's current acquisition arrangements has been set out in The Senate Foreign Affairs, Defence and Trade References Committee *Procurement procedures for Defence capital projects*, Final Report, August 2012, pp. 105–108.

144 Overlander Medium/Heavy, MH-60R Seahawk, Growler, Battlefield Airlifter, Bushmaster Vehicles, Overlander Light, Battle Comm. Sys. (Land) and LHD Landing Craft.

inconsistency between the information produced by each of the project's IT systems (i.e. risk management, financial management, and document management systems) and highlights an issue for the DMO in ensuring reliable and consistent information to properly inform project management and decision making. However, the DMO advises it is making progress in this area through the development of an Integrated Project Management System (IPMS) which will interface with current IT systems to provide reports to management. IPMS is expected to improve reporting practices across the DMO and will be tested on selected project offices in 2014–15.

3.31 In its Report 436, *Review of the 2011–12 Defence Materiel Organisation Major Projects Report*, the Joint Committee of Public Accounts and Audit (JCPAA) expressed its ongoing concern with the consistency of information in DMO's business systems, and recommended that 'the DMO develop a business systems improvement plan which prioritises projects, assigns completion dates and allocates senior level ownership for implementation. A progress update on achievements against the plan should be included in the 2012–13 Major Projects Report'.[145] The DMO has since advised of the development of an Information Management (IM) Investment Plan to prioritise investment in business systems and other IT applications and the development of an overarching IM Framework and Strategic Plan, including an IM Governance Model.

3.32 During 2012–13, the DMO advised that there were 540 separate applications in use, and that the DMO was identifying and confirming where duplicate licenses and other inefficiencies existed, as well as researching software and systems, in order to achieve greater visibility over Information and Communications Technology expenditure in the DMO. As a result of this process the total number of applications in use as at June 2014, has been reduced to approximately 300. The process of identifying inefficiencies in software is now being undertaken across the whole of Defence by the Chief Information Officer Group (CIOG), with a total of approximately 3 400 applications identified and 276 recommended for removal.

3.33 There have also been developments in the Standalone Network Remediation Process (SNRP), being undertaken by the CIOG, which aims to

145 JCPAA, Report 436, *Review of the 2011–12 Defence Materiel Organisation Major Projects Report*, May 2013, Recommendation 4, p. 26.

rationalise DMO networks and programs onto the Defence Restricted Network (DRN). There are currently 113 standalone networks identified with approximately 50 expected to remain as local area networks due to compatibility issues (e.g. simulator software is not suitable to be maintained on the DRN) and the remainder to be rationalised as the SNRP continues. The SNRP has also led to the identification of networks that are not compliant with best practice on network security, as well as the remediation of these non-compliances for legitimate standalone networks.

3.34 Separately, in 2010 the DMO informed the ANAO that it was focusing on rationalisation of the finance domain, due to resource constraints on progress in prior reviews of the business systems and implementing recommendations arising from these reviews. This included the transition from the previous program level budget management system (CEPPlan) to the enterprise level system (BORIS), which was implemented across the DMO in February 2014 (see paragraphs 1.24 to 1.25 in Part 2).

3.35 The Chief Finance Officer (CFO) DMO is expected to make strategic decisions on the future of DMO finance. The DMO Financial Information Management Advisory Committee exists to make recommendations to the CFO DMO on financial information management, with a view to having a coordinated approach to implementing business rules, process improvements and system rationalisation in the finance domain. The DMO Future Finance State Initiative has been endorsed by the Committee, and is incorporating the work done by the Finance Information Management Improvement Program to inform future systems developments including those to be delivered via the *Finance Systems Modernisation Project* JP 2080 Phase 3 and 4.

3.36 Finally, as part of a program to rationalise its information and communications technology systems, the DMO also rolled out the Defence endorsed single records management system called Objective in 2013, which has centralised the DMO's electronic document management.[146] While some problems were experienced, the implementation went ahead without significant issues and benefits were expected to flow to project management in the DMO over 2013–14. However, due to issues around access rights,

146 ANAO Report No.12 2013–14, *2012–13 Major Projects Report*, December 2013, Part 2, paragraph 1.34, p. 111.

incompatibility with other applications and lack of buy-in from staff, not all the expected benefits of Objective have eventuated. Guidance and training is being offered to all employees, along with regular Communities of Practice on records management, in order to ensure these expected benefits are realised.

Project management and skills development

3.37 A key challenge for both the DMO and the Australian Defence industry is to improve the project management, scheduling, logistics, procurement and engineering services provided to the Australian Government, within current and future workforce constraints. The DMO's professionalisation initiative is a central strategy in meeting the DMO's challenges now and into the future[147], as well as to attract and retain a skilled workforce.

3.38 To assist with professionalising DMO staff, the DMO's Directorate of Professionalisation Policy, Accommodation and Coordination is responsible for the development of certification programs that focus on developing specific competencies and gaining professional qualifications. This supports the DMO core business of acquisition and sustainment across the Procurement, Financial Management, Project and Sustainment Management, Materiel Engineering and Materiel Logistics streams.

3.39 Prior to the start of the initiative in 2005, the DMO had only 153 staff certified in areas of project management, engineering, and accounting.[148] The Directorate advised that during 2013–14 approximately 1 050 DMO staff have either been certified or are enrolled in a certification program with a professional body compared with 900 staff in 2012–13 and 1 200 staff in 2011–12.[149]

3.40 To assist with the development of participants within the Defence industry, the Skilling Australia's Defence Industry (SADI) program was established by the Australian Government in 2005. The aim of the SADI program is to up-skill existing employees, improve the quality and quantity of skills training, and provide funding support to the Defence industry for

147 Department of Defence, DMO, *Introducing the Defence Materiel Organisation*, June 2014, p. 7.

148 Department of Defence, *Defence Annual Report 2005–2006*, Volume 2, Table 1.1, p. 13.

149 The ANAO notes that average APS full time equivalent staffing numbers for the DMO decreased from 5 989 at 30 June 2012 to 5 389 at 30 June 2013, and to 4 812 at 30 June 2014.
Source 1: Department of Defence, *Defence Annual Report 2012–2013*, Table 6.3, p. 124.
Source 2: Department of Defence, *Defence Annual Report 2013–2014*, Table 8.7, p. 132.

training activities where there is an identified skills shortage in technical, trade and professional skill sets.[150]

3.41 The SADI program provides funding support to companies and industry associations for training and skilling activities where that training is linked to a Defence capability. The DMO advised that since 2005, the program has funded more than 30 000 training places. Also, approximately 200 industry participants have been provided with funding support in trade, technical and other professional skill sets.[151]

3.42 To meet the needs of the Australian Defence Force, SADI aims to invest $215 million[152] within the period 2005–06 to 2015–16, with more than $5 million allocated in 2014–15 under round one of the SADI program to boost the skills of workers in the Defence industry.[153]

3.43 For 2014–15, the SADI Grant Program has been updated in administrative and functional aspects to optimise program outcomes, reduce red tape, and improve the effectiveness of the program. This has been done by allowing greater training flexibility when it comes to scheduling of training by industry participants, and by improving the cash-flow of companies and industry associations.[154] Industry participants will be paid at the commencement of each quarter based on the number of scheduled (or enrolled) training activities to be undertaken in that quarter. At the end of each quarter, training activities will then be acquitted, based on the submission of a Quarterly Statement Report and supporting documents by the industry participants.[155]

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150 Department of Defence, DMO, *Skilling Australia's Defence Industry (SADI) Program*, 2014, available from <http://www.defence.gov.au/dmo/DoingBusiness/Industry/SkillingDefenceIndustry/SkillingAustralianDefenceIndustry/Default.aspx> [accessed 25 August 2014].

151 Department of Defence, DMO, *Skilling Australia's Defence Industry (SADI) Program*, 2014, available from <http://www.defence.gov.au/dmo/DoingBusiness/Industry/SkillingDefenceIndustry/SkillingAustralianDefenceIndustry/Default.aspx> [accessed 25 August 2014].

152 Department of Defence, DMO, *Skilling Australia's Defence Industry (SADI) Program*, 2014, available from <http://www.defence.gov.au/dmo/DoingBusiness/Industry/SkillingDefenceIndustry/SkillingAustralianDefenceIndustry/Default.aspx> [accessed 25 August 2014].

153 Minister for Defence, Senator the Hon. David Johnston, *Funding to skill Australia's defence industry*, 26 May 2014.

154 Department of Defence, DMO, *Skilling Australia's Defence Industry (SADI) Program*, 2014, available from <http://www.defence.gov.au/dmo/DoingBusiness/Industry/SkillingDefenceIndustry/SkillingAustralianDefenceIndustry/Default.aspx> [accessed 25 August 2014].

155 Department of Defence, DMO, *Skilling Australia's Defence Industry Program Guidelines 2014–15 Round One*, pp. 7–8.

3.44 Other government approved programs aimed at up-skilling participants within the Defence industry include the Industry Skilling Program Enhancement (ISPE) package and the Priority Industry Capability Innovation Program (PIC IP). ISPE, which was announced in 2008, provides up to $60.8 million.[156] In 2012–13, the DMO advised that there was no funding programmed past 30 June 2014. Since then, the DMO has advised that some initiatives under this program have been extended until the new Defence Capability Plan, Defence White paper and Defence Industry Policy Statement have been prepared and released, expected in 2015. This program incorporates a number of initiatives aimed at enhancing work and future career pathways in the sector by implementing programs at schools and offering Defence technical and engineering scholarships.

3.45 PIC IP, which was implemented in 2011–12, provides up to $45 million over seven years[157], and is aimed at providing Australian Defence companies direct support in the form of repayable and matched grants (the recipient matches the funds provided by the Australian Government on a dollar for dollar basis).[158] The program particularly focuses on assisting small to medium sized enterprises to pursue innovative Defence industry projects.

3.46 The DMO has since advised that the PIC IP will cease with no further funding rounds to be offered under this program, and the PIC Development Fund (PIC DF) will be instituted in its place. It is currently anticipated that PIC DF will be funded from the Defence Capability Plan and will be administered by the DMO, though oversight will be provided by the Capability Development Group. However, this transition is still in development.

3.47 In addition, on 5 September 2011, the then Minister for Defence Materiel underlined the need for the replacement or upgrade of up to 85 per cent of its military equipment over the next 15 years, and asked Skills Australia to work with Defence and the Defence industry to develop a plan to ensure Australian

156 Department of Defence, DMO, *Industry Skilling Program Enhancement package (ISPE)*, 2014, available from <http://www.defence.gov.au/dmo/DoingBusiness/Industry/SkillingDefenceIndustry/IndustrySkillingProgramEnhancement/> [accessed 25 August 2014].

157 The then Minister for Defence Materiel, the Hon. Jason Clare MP, *More than $12 million investment in priority industry capabilities*, 30 April 2012.

158 Department of Defence, DMO, *Priority Industry Capability Innovation program (PICIP)*, 2014, available from <http://www.defence.gov.au/dmo/DoingBusiness/Industry/IndustrySupportPrograms/PriorityIndustryCapabilityInnovationProgram/> [accessed 25 August 2014].

industry has the skills to meet this challenge.[159] Skills Australia noted the following in their September 2012 report *Building Australia's Defence Supply Capabilities – Main Report for the Defence Industry Workforce Strategy*:

> ...the current skilling programs offered by the DMO suffer from a lack of longitudinal evaluation processes or strategies in place to assess the effectiveness of these programs. The lack of these mechanisms for either SADI or ISPE means that the DMO and Government are not in a position to determine when success is achieved in these programs and whether they have provided value for money.[160]

3.48 Skills Australia made three recommendations regarding this issue aimed at undertaking performance evaluations of SADI and ISPE and developing Key Performance Indicators.[161] In response, the DMO advised that they have considered outcome focused reporting for new and upcoming programs however, they advised that it would be onerous to re-establish reporting requirements for existing programs in the current climate, particularly for programs such as ISPE, which are currently due to cease in 2014–15.

3.49 Finally, in June 2014, the Productivity Commission released the *Trade & Assistance Review 2012–13* which also commented on Defence industry assistance programs, noting that:

> … defence industry assistance programs do not appear to have been reviewed (externally and using an economic framework) to the same extent as many other industry assistance programs… All defence programs with material industry assistance objectives, explicit or not, should be separately reported to Parliament, and from time to time reviewed to ensure relevance to strategic and government priorities.[162]

3.50 The DMO advised that reviews of industry assistance programs will likely be encapsulated in the wider Defence First Principles Review, due to be released in early 2015. The ANAO will continue to monitor the SADI and other industry assistance programs in 2014–15.

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159 The then Minister for Defence Materiel, the Hon. Jason Clare MP, *Defence skills plan to meet the challenges ahead*, 5 September 2011.

160 Skills Australia, *Building Australia's Defence Supply Capabilities – Main Report for the Defence Industry Workforce Strategy*, September 2012, p. 23.

161 Skills Australia, *Building Australia's Defence Supply Capabilities – Main Report for the Defence Industry Workforce Strategy*, September 2012, p. 24.

162 Australian Government, Productivity Commission, *Trade & Assistance Review 2012–13*, June 2014, p. 35.

Part 2. DMO Major Projects Report

CEO DMO Foreword

I am pleased to present the 2013-14 DMO Major Projects Report (MPR). The first DMO MPR, which was tabled in Parliament in November 2008, reported on a sample of nine of Defence's major projects. This year, 30 projects are reported. The differences from last year include the removal of three projects: the Bridging Air Combat Capability; Armidale Class Patrol Boats; and Counter-Rocket Artillery and Mortar. New projects included this year are: Medium Heavy Capability, Field Vehicles, Modules and Trailers; EA-18G Growler Airborne Electronic Attack Capability; Battlefield Airlift – Caribou Replacement; and Amphibious Watercraft Replacement. Together, the 30 projects are worth more than $59 billion.

The DMO MPR plays an important role in providing transparency to Parliament on the management of these projects, and provides quantitative data on DMO's project management performance. Importantly, the MPR consistently demonstrates that the DMO continues to deliver Government approved materiel capability within budget. This is a point worth repeating for emphasis - DMO projects, on average, continue to deliver the materiel capability sought at Government approval within the approved budget.

The delivery of complex new military capabilities on schedule remains challenging. Factors affecting schedule performance (in this year's sample) include: platform availability; industry delays in resolving technical design issues; unforseen technical problems; and other contractual issues. The DMO continues to work with Capability Development Group, Capability Managers and industry to reduce risks within major project schedules in order to ensure more executable schedules are presented to Government when projects are approved at Second Pass.

This said, I am pleased to note that the MPR projects which were initiated post the 2003 Kinnaird review continue to demonstrate improvement in schedule performance, confirming the value of the reforms implemented in the DMO since that time, and in particular following the DMO becoming a prescribed agency on 1 July 2005. It is interesting to observe that the pre-Kinnaird projects within the MPR sample continue to have a disproportionate influence on the reported schedule performance.

The format of this year's report remains the same as that of last year. Chapter One provides an overview of the DMO's performance and discusses key issues, such as financial, schedule and risk management. Chapter Two

provides a detailed analysis of schedule, cost and delivery of the materiel elements of capability.

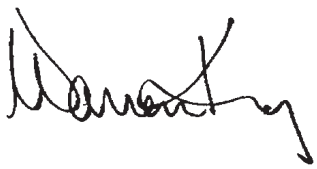
The capacity to engage a flexible, professional workforce to maintain project performance remains a challenge for the DMO. In 2014-15 the DMO will continue to implement reform across all elements of its business operations, striving always to improve its support to Government and Defence outcomes while fostering a positive strategic relationship with Defence industry. I welcome the First Principles Review of Defence, including the DMO, and anticipate further opportunities for improvement.

I am pleased to report that in April 2014 the Electronic Support Measures Upgrade Project for the AP-3C Orion aircraft was removed from the Projects of Concern list. This is a credit to the DMO and industry teams who have worked hard to remediate the project. The Air Warfare Destroyer project was added to the list in June 2014 and implementation of reform is underway, including a program to improve productivity involving the integration of a specialist management team.

The Chiefs of Army, Air Force and Navy and the major contractors for each project have reviewed the relevant project data published in this MPR. Their views have been considered in finalising this report.

The DMO and the Australian National Audit Office MPR teams continue to have a strong professional working relationship, and the teams have further improved the MPR consistent with guidance provided by Parliament's Joint Committee of Public Accounts and Audit.

I thank the Auditor-General, Mr Ian McPhee, and his staff for their contribution to the overall report. I also commend the various DMO project office staff, the DMO MPR Directorate, and other DMO business areas involved in bringing together this DMO MPR.



Warren King
Chief Executive Officer
8 December 2014

Executive Summary

In 2013-14, the Defence Materiel Organisation (DMO) managed over $9.4 billion[163] in expenditure for the Department of Defence across the acquisition and sustainment program and other management services (including about $30 million in industry support programs). As at 30 June 2014, the DMO managed 180 major acquisition projects with an average value of $527.1 million. The acquisition budget for FY 2013-14 was $3.968 billion.

The 2013-14 Major Projects Report (MPR) examines 30 of the largest and most technically challenging of these. The key aspects of this MPR are:

- the removal of three projects reported in the 2012-13 MPR (Bridging Air Combat Capability; Armidale Class Patrol Boats; and Counter-Rocket Artillery and Mortar);
- the inclusion of four projects (Medium Heavy Capability, Field Vehicles Modules and Trailers; EA-18G Growler Airborne Electronic Attack Capability; Battlefield Airlift – Caribou Replacement; and Amphibious Watercraft Replacement) bringing the total number of reported projects to 30;
- all projects are currently delivering capability within the approved budget, although the final budget for Air Warfare Destroyer under the Reform Program is yet to be established; and
- 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 11 per cent for the 30 projects in this year's sample compared with 8 per cent for the 29 projects in last year's sample (noting that 26 projects are common to both years).

The DMO's budget performance betters that of large commercial projects, and compares favourably with DMO's counterpart agencies in other countries. To put the DMO's cost performance in perspective:

163 Defence Annual Report 2013-14.

- the DMO major projects tend to be software intensive, the average cost overrun for large commercial software projects is 66 per cent[164]; and
- the United Kingdom Ministry of Defence's 2013 Major Projects Report found an overall cost increase of 12.3 per cent since approval across its 11 projects.

Similar to project delivery organisations around the world, schedule performance remains an ongoing challenge. As noted above, the current average slip to FMR is 11 per cent. The average slip to Final Operational Capability ((FOC) - where the Capability Manager declares that the whole capability has been realised) is 35.8 per cent. Most of the in-year FMR schedule slip experienced by the MPR projects was caused by factors such as technical problems, platform availability and contractual issues (further detail is in Chapter 2). The DMO is continuing to implement reforms that will deliver improvements in schedule estimation and management (further detail is in Chapter 1). However, the benchmarks below are useful in setting current major project schedule performance in context:

- McKinsey's 2012 study found that commercial software projects average schedule overruns of 33 per cent[165]; and
- the United Kingdom Ministry of Defence's *2013 Major Projects Report* found overall slippage of 21 per cent across its 11 current projects and 35 per cent for projects approved since 2000.

For 2013-14, the 30 projects included in the MPR reported that 253 of the 264 (or 96 per cent) capability elements had a high level of confidence in being deliverable. While risks exist, the remaining four per cent of capability elements are still considered achievable. For the second year in a row, no capability elements have been identified as being unlikely to be met.

Reforms stemming from the 2003 Kinnaird review have driven measurable improvements in project delivery performance: such as the two pass Government approval process; and the financial separation of the DMO from Defence to create a formal customer-supplier relationship. This is reflected in the superior schedule performance of post-Kinnaird projects in the MPR.

164 *Delivering large-scale IT Projects on time, on budget, and on value*, Mckinsey and Company, 2012.

165 *Delivering large-scale IT Projects on time, on budget, and on value*, Mckinsey and Company, 2012.

Average schedule slip for these projects is 15 per cent[166], compared with 71 per cent for projects approved prior to the Kinnaird reforms.

The Projects of Concern (POC) regime continues to be of benefit to the DMO in addressing project risks. Since its introduction in 2008, 22 projects have been placed on the POC list. Of these, 13 have been remediated; two cancelled; one scope reduced; and six remain the subject of intensive remediation.

166 Noting that these projects have not had time to slip yet.

1. DMO Strategic Performance in 2013-14

DMO Overview

1.1 During 2013-14 the DMO managed 180 major acquisition projects in support of the Australian Defence Force with an average value of $527.1 million. In capability acquisition, the DMO is primarily responsible for managing the acquisition of the materiel systems (the mission and support systems) component of capability. Although these are often the most complex and expensive elements of a capability solution, they are typically dependent on support from other areas across Defence. The materiel elements are just one element alongside all of the fundamental inputs to a full capability solution including the personnel, training, supplies, facilities, training areas, logistics, support, command and management.

1.2 The DMO role extends 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. The DMO also sets in place the in-service sustainment arrangements. Separate benchmarking studies conducted by the Helmsman Institute have concluded that the DMO delivery environment and projects are more complex than the average industrial project. Complexity factors include: the level of innovation required; the level of technical development; the number of stakeholders; ambiguity in requirements; and organisational complexity. Helmsman also noted that complexity will continue to increase across future projects.

1.3 During 2013-14, 19 projects were closed having met the required capability with an average of seven per cent under the approved budget. This continues the trend of under budget performance with project closures across the previous three financial years having recorded an average of five per cent under budget.

DMO Achievements

1.4 An overview of cost and schedule performance is shown in Chapter 2. Examples of significant achievements in 2013-14 are:

- Joint Strike Fighter: The Government has approved the acquisition of an additional 58 F-35 Joint Strike Fighter aircraft[167].
- Air Warfare Destroyer: The first major combat system element (Mark 41 Vertical Launch System) has been loaded into the first Air Warfare Destroyer being built at Port Adelaide[168].
- MRH90 Helicopters: The 29th of 46[169] MRH90 Multi Role Helicopters was accepted in June 2014.
- MH-60R Seahawk: Navy commenced Seahawk Romeo dipping sonar operations[170] in May 2014, a capability that Navy has not had since the 1980s.
- LHD Ships: The hull of Australia's second and final Landing Helicopter Dock Ship arrived in Port Phillip Bay in February 2014, completing its voyage from Ferrol, Spain[171].
- ARH Tiger Helicopters: The project achieved Final Materiel Release (FMR) in March 2014. All 22 Tiger helicopters, simulators, ground support systems and contracted training devices have been accepted and introduced into service.
- Next Gen Satellite: The project achieved FMR in June 2014.
- 155mm Howitzer: The project achieved FMR in September 2013.
- Stand Off Weapon: The project achieved FMR in September 2013.

Projects of Concern

1.5 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, 22 projects,

167 Defence Media Release, 23 April 2014
168 Adelaide Advertiser, Adelaide, 22 April 2014
169 A 47th MRH 90 was negotiated as part of Deed 2
170 South Coast Register, Nowra NSW, 21 May 2014.
171 Defence Media Release, 7 February 2014

with a total value of $30.4 billion, have been managed as PoC. There are six active PoC (listed in Table 1.1) with a total value of $14.6 billion as at 30 June 2014. In 2013-14, the Electronic Support Measures Upgrade Project for the AP-3C Orion Aircraft was removed, and the Air Warfare Destroyer was added as a PoC.

Table 1.1 – List of Projects of Concern at 30 June 2014

Project Name	Project Number	Date Added
Collins Class Submarine Sustainment	CN10[172]	November 2008
Air to Air Refuelling	AIR 5402	October 2010
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

DMO Challenges

1.6 The DMO delivers the materiel elements of capability as described in the Materiel Acquisition Agreements (MAAs) set between the DMO, the Capability Development Group and the relevant Capability Manager at project approval. The average schedule slip to Final Materiel Release (FMR) is 11 per cent for the 30 projects included in this MPR versus eight per cent for the 29 projects included in the 2012-13 MPR. Note that three projects have been removed from and four new projects added to this MPR. The main factors driving the schedule slip against the FMR milestone are: platform availability; industry delays in resolving technical design issues; unforseen technical problems and other contractual issues.

1.7 For the 30 projects in this MPR, the average schedule variance at Final Operational Capability (FOC) is 35.8 per cent. In a number of cases, such as the FFG Upgrade, core capabilities have been successfully delivered and have been in use for some time, but final capability elements remain outstanding. The first of the upgraded frigates, HMA Ship *Melbourne*, commenced security operations in the Middle East in 2010 and all upgraded frigates received Operational Release in June 2012.

172 This is a sustainment product but is managed as part of the Projects of Concern list.

DMO Major Acquisition Program – Financial Management

1.8 The DMO Chief Finance Officer provides financial assurance statements in relation to individual projects included in the MPR delivering the remaining intended scope within approved project budgets. This arises from concerns raised by the Joint Committee of Public Accounts and Audit regarding adequacy of project budgets following the move to out-turned budgets in 2010.

1.9 When considering and approving budgets, the Government takes account of the estimated impact of inflation over the life of a project. This forecasting of future inflation is known as 'out-turning'. From 1 July 2010, all DMO major capital projects have been managed using out-turned budgets. At the time of project approval, project managers estimate the impact of indices tendered (or estimated) for the life of the project. These estimates are built into the project budget as part of the out-turning process.

1.10 Financial assurance statements have been validated by an external independent company for ten of the projects reported in this MPR.

Table 1.2 – List of 2013-14 MPR Projects by Total Approved Budget[173]

Project Number	Project Name	Project Name Abbreviation	2013-14 In-Year Budget $m	Total Approved Project Budget $m
AIR 6000 Phase 2A/2B	New Air Combat Capability	Joint Strike Fighter	218.6	13455.5
SEA 4000 Phase 3	Air Warfare Destroyer Program	AWD Ships	662.7	7847.9
AIR 5077 Phase 3	Airborne Early Warning & Control Aircraft	Wedgetail	60.2	3873.1
AIR 9000 Phase 2/4/6	Multi Role Helicopter	MRH90 Helicopters	250.8	3785.1
LAND 121 Phase 3B	Medium Heavy Capability, Field Vehicles, Modules and Trailers[174]	Overlander Medium/Heavy	33.3	3469.0
AIR 9000 Phase 8	Future Naval Aviation Combat System	MH-60R Seahawk	460.0	3196.9
JP 2048 Phase 4A/4B	Amphibious Ships	LHD Ships	247.3	3089.4
AIR 5349 Phase 3	EA-18G Growler Airborne Electronic Attack Capability[175]	Growler	376.2	3036.6
AIR 87 Phase 2	Armed Reconnaissance Helicopter	ARH Tiger Helicopters	6.6	2033.0
AIR 5376 Phase 2	F/A-18 Hornet Upgrade	Hornet Upgrade	10.9	1881.3
AIR 5402	Air to Air Refuelling	Air to Air Refuel	29.8	1821.4
SEA 1390 Phase 2.1	Guided Missile Frigate Upgrade	FFG Upgrade	18.4	1452.6
AIR 8000 Phase 2	Battlefield Airlift – Caribou Replacement[176]	Battlefield Airlifter	146.1	1289.5
LAND 116 Phase 3	Bushmaster Protected Mobility Vehicle	Bushmaster Vehicles	59.4	1250.4
LAND 121 Phase 3A	Field Vehicles and Trailers	Overlander Light	220.2	1020.5
JP 2008 Phase 4	Next Generation SATCOM Capability	Next Gen Satellite	39.5	869.3
SEA 1448 Phase 2B	Anzac Ship Anti Ship Missile Defence	Anzac ASMD 2B	71.6	678.4
AIR 9000 Phase 5C	Additional Chinook Helicopter	Additional Chinook	147.9	617.2
JP 2043 Phase 3A	High Frequency Modernisation	HF Modernisation	6.0	580.1
JP 2072 Phase 2A	Battlespace Communications Systems (Land)	Battle Comm. Sys. (Land)	119.0	460.1
SEA 1439 Phase 4A	Collins Replacement Combat System	Collins RCS	2.4	450.2
SEA 1429 Phase 2	Replacement Heavyweight Torpedo	Hw Torpedo	3.6	426.6
JP 2008 Phase 5A	Indian Ocean UHF SATCOM Capability	UHF SATCOM	8.5	419.1
SEA 1439 Phase 3	Collins Reliability and Sustainability	Collins R&S	10.8	411.7
SEA 1390 Phase 4B	SM-1 Missile Replacement	SM-2 Missile	6.7	407.3
SEA 1448 Phase 2A	Anzac Ship Anti Ship Missile Defence	Anzac ASMD 2A	22.9	386.9
LAND 17 Phase 1A	Artillery Replacement	155mm Howitzer	22.4	336.1
AIR 5418 Phase 1	Follow-on Stand Off Weapon	Stand Off Weapon	0.1	317.4
LAND 75 Phase 3.4	Battlefield Command Support System	Battle Comm. Sys.	29.1	314.8
JP 2048 Phase 3	Amphibious Watercraft Replacement[177]	LHD Landing Craft	46.7	239.9
Total			3,337.7	59,417.3

173 The convention used in this report is to list projects in order of their total approved budget to deliver the project, from highest to lowest. Where the analysis requires a different order, an explanation is provided.

174 New project for 2013-14 MPR.

175 New project for 2013-14 MPR.

176 New project for 2013-14 MPR.

177 New project for 2013-14 MPR.

DMO Project Performance

1.11 Based on internal and external analysis, the DMO has steadily improved its effectiveness in delivering materiel capability since being established in 2000. In the last four financial years, 80 major projects have completed their MAA, after successfully introducing the required capabilities. The materiel capability for these 80 projects was delivered on average five per cent *under* budget, allowing over half a billion dollars in savings to be returned to Defence.

1.12 The cost performance mentioned above compares favourably to the private sector, as well as the DMO's counterpart agencies in other countries. To put the DMO's cost performance in perspective:

(a) noting that the DMO's major projects tend to be software intensive, large commercial software projects average cost overruns of 66 per cent[178]; and

(b) the United Kingdom Ministry of Defence's 2013 Major Projects Report found an overall cost increase of 12.3 per cent since approval across its 11 projects.

1.13 The current average schedule slip of post-Kinnaird (that is approved via the two pass Government Approval process implemented following the 2003 Kinnaird Review) projects of approximately 15 per cent compared with 71 per cent for pre Kinnaird projects (approved prior to the Two Pass process) indicates the project performance improvements realised since the 2003 Kinnaird review and, in particular, following the DMO becoming a prescribed agency on 1 July 2005. Even so, as is the case for project delivery organisations around the world, schedule performance remains a challenge. The benchmarks below put current major project schedule performance in perspective:

(a) a McKinsey's 2012 study found large commercial software projects experience average schedule overruns of 33 per cent[179]; and

(b) the United Kingdom Ministry of Defence's *2013 Major Projects Report* found overall slip of 21 per cent across its 11 current projects and 35 per cent for projects approved since 2000.

178 *Delivering large-scale IT Projects on time, on budget, and on value*, Mckinsey and Company, 2012.

179 *Delivering large-scale IT Projects on time, on budget, and on value*, Mckinsey and Company, 2012.

Continuous Improvement

1.14 During 2013-14, the DMO continued to deliver reform across all elements of its business operations. Current reform priorities focus on:

(a) defining the core set of DMO roles required to deliver assigned outcomes while minimising overheads and costs through:

  (1) prioritising the DMO's activities and resources to meet the ADF's urgent operational demands, deliver government-approved projects, and sustain the force-in-being;

  (2) optimising the efficiency of core specialised DMO functions; and

  (3) revising contract and performance arrangements to better use industry innovation, capability and capacity.

(b) embedding stronger controls to heighten personal accountability and provide lead indicators for management intervention.

(c) improving schedule performance through enhanced schedule estimation and risk assessment methodologies.

(d) contributing to ongoing tailoring of the two pass process for major project approvals, as recommended in the Mortimer Review, to better balance the preparatory work for project approvals, commensurate with their respective scope and complexity. Opportunities exist to lessen costs to industry by reducing unnecessary 'red tape' by clarifying accountabilities, constraining the level of detail sought in tender responses, and speeding up project approvals.

(e) providing specialist commercial, technical/engineering and through-life support advice earlier in the capability development process to ensure that technical and safety risks, costs and appropriate acquisition and sustainment strategies are considered in the development of capability options (thereby limiting rework in the later phases of capability delivery).

(f) enhancing the DMO's advice to Government on industry's capacity to deliver the required capabilities and the accuracy of industry cost and schedule estimates.

(g) improving the delivery of assistance programs to further the skills, productivity, innovation and competitiveness of Australian defence industry, with a focus on those areas deemed critical to retaining indigenous industry capacity to deliver approved Defence projects and through-life support.

Negotiation Cell

1.15 In 2013-14, the DMO Negotiation Cell established a standing offer panel for negotiation services with around 20 nominated highly-performing individuals. These individuals are supporting various project and sustainment teams to develop their commercial expertise and to achieve the best outcomes from their dealings with industry.

Acquisition and Sustainment Planning Framework

1.16 The 2008 Mortimer Review recommended improvements to the DMO's acquisition strategy development process during the requirements phase of the capability systems life cycle. To support this improvement, the DMO has developed new Acquisition and Support Implementation Strategy (ASIS) policy and guidance that places greater emphasis on implementation of the support system to ensure whole of life issues are better addressed early in the project life cycle. The ASIS policy and guidance was released as an Exposure Draft in September 2013. Following stakeholder consultation and feedback from projects that are developing ASIS documents, the ASIS policy is being updated prior to formal release. Pilot ASIS training was undertaken for around 250 DMO staff in March 2014 and the DMO is working to transition the ASIS pilot training to provide an ongoing program of training.

Schedule Management

1.17 Accurate schedule estimation is essential for predictable schedule performance. To this end, the DMO is undertaking various initiatives to improve schedule estimation across Defence major capital acquisition projects, including:

(a) developing a Tier 1 Defence Cost and Schedule Estimation Manual in conjunction with Capability Development Group;

(b) integrating the Schedule Compliance and Risk Assessment Method (SCRAM) with the Integrated Baseline Review Process to improve early

identification of schedule risks. This new integrated process will be piloted on selected high risk projects over the next 12 months to refine and prove the process;

(c) analysing current reporting systems to determine if a more integrated approach to quantitative and qualitative performance information can be instituted to improve project performance management;

(d) developing a Project Controls Manual to consolidate, update and improve Work Breakdown Structure, scheduling and earned value management processes.

DMO Schedule Compliance Risk Assessment Method

1.18 In 2013-14 there were a number of independent SCRAM reviews performed on DMO projects to identify risk, issues and recommendations for schedule achievement. Notably, further SCRAM assessments were conducted on the Joint Strike Fighter Program using scientific Software Parametric Analysis techniques to model and forecast Mission System software development duration. Furthermore, the DMO SCRAM team members participated in the United States Congressional mandated review of software development for the F-35 Joint Strike Fighter aircraft.

1.19 The DMO is extending SCRAM methodology to better integrate with the DMO-mandated Integrated Baseline Review Process. This includes the feasibility of a practical method to identify potential schedule pressures prior to contract signature. Work is also underway to develop a standard Technical Implementation Risk Assessment (TIRA) methodology. The intention is for TIRAs to provide a framework and guidance for the conduct of early DMO technical risk assessments prior to the formation of the Contract Project Management Baseline. Hence, TIRAs would also be an input for Materiel Implementation Risk Assessments which are developed by the DMO's Project Managers as part of the Project Approvals process

DMO Project Risk Management Framework

1.20 A consolidation of risk policy is being undertaken to provide a more consistent approach to effective risk management within the DMO. A single DMO Risk Management Manual will be created and will ensure compliance with the new Commonwealth Risk Management Policy under the *Public Governance, Performance and Accountability Act 2013*.

Information and Communications Technology (ICT) Services

1.21 Under various formal Agreements, the Chief Information Officer Group (CIOG) delivers the ICT infrastructure and services to the DMO that are necessary to enable materiel capability to the war fighter as well as the corporate and other functions of the DMO. The DMO and CIOG acquire and sustain a range of ICT applications to meet capability and other business requirements. During 2014-15, the DMO will review its Information Management Strategy to ensure alignment with Defence.

1.22 The DMO Information Management Investment Plan 2013-18 (The Plan) encompasses all significant Information Management investment across the DMO, excluding Defence Capability Plan projects and initiatives as well as programs and projects being undertaken by CIOG or other groups for which the DMO is a stakeholder rather than the lead. The Plan has a specific focus on business information and complements the Defence Information Management Strategy and Plan.

1.23 The DMO applies a range of ICT applications to support its management of projects, including applications for: project scheduling and management; risk management; project performance reporting; and electronic records management. There is ongoing work to ensure that these applications meet current DMO business requirements, including planning and implementation of new versions as well as improvements in the integration of systems to reduce duplication and improve the accuracy of information. Among other changes, during 2013-14, the DMO implemented a new version of its project scheduling and management tool along with a significant upgrade of the architecture which supports that system.

1.24 The limitations in the enterprise systems for managing project financial information have been highlighted in previous editions of the MPR. Improvements are being pursued through a range of strategies as in previous years. The DMO is continuing to pursue its Acquisition Budget Management Improvement Program. The DMO has successfully transitioned the functions from its current program-level budget management system to the enterprise budget management system (Budget and Output Reporting Information System).

1.25 In addition to improvements to program-level budget management and reporting, the DMO proposes to standardise project financial management tools across its projects to support data integration between the project and

program levels. It is anticipated that the first phase of work for an Integrated Project Management System will commence in 2014-15.

Document Management systems

1.26 Objective is the mandated records management tool in Defence and all DMO System Program Offices have been using Objective since 30 June 2013. It enables the DMO to meet its recordkeeping obligations while at the same time facilitating information management and workplace collaboration.

Professionalisation

1.27 In 2013-14, the DMO continued to refine education and skilling pathways for its staff. Professional certification for project managers remained on the agenda. During the year, the DMO facilitated 34 courses in the project management discipline; 15 in the logistics domain; six in the commercial and business domain; 32 in the procurement and contracting domain; and two engineering courses.

Projects Exited the MPR

1.28 Table 1.3 lists the projects that have exited the MPR. The Expenditure to date is as at 30 June 2014.

Table 1.3 – List of Projects Exited from MPR

Project Number	Project	First Reported in MPR	Last Reported in MPR	Level of Development	Government Approved Budget $m	Expenditure to Date $m	Remaining Budget $m	FMR Achieved	FOC Achieved/ Forecast
AIR 5376 Phase 3.2	F/A 18 Hornet Upgrade Structural Refurbishment (Hornet Refurb)	2008-09	2010-11	Australianised MOTS	951.3	319.1	632.2	N/A	N/A
AIR 8000 Phase 3	C-17 Heavy Airlift	2008-09	2011-12	MOTS	1696.9	1367.8	329.1	Dec-11	Dec-11
AIR 5349 Phase 1/2	Bridging Air Combat Capability	2008-09	2012-13	MOTS	3594.8	2881.6	713.2	Dec-12	Dec-12
SEA 1444 Phase 1	Armidale Class Patrol Boat	2007-08	2012-13	Australianised MOTS	537.2	488.5	48.7	Nov-07	Oct-12
LAND 19 Phase 7A	Counter-Rocket Artillery and Mortar	2011-12	2012-13	MOTS	260.3	176.0	78.4	Jan-13	Jan-13

2. Summary of Major Project Performance in 2013-14

Introduction

2.1 This chapter presents a performance overview of the 30 projects included in the 2013-14 MPR. It includes detailed analysis of the three key variables of cost, schedule and materiel systems delivery against the Government's approved budget, schedule and scope. The analysis commences at an aggregate level, discussing performance of all 30 MPR projects collectively, before addressing some project specifics.

2.2 Given that the MPR only covers 30 of the current 180 major projects, or 17 per cent of the total major acquisition portfolio, caution must be applied when extrapolating any analysis to the entirety of the DMO's acquisition effort. This is because the projects in the MPR are not necessarily representative of all projects: the 30 projects are the largest by budget, at the time of inclusion, and, in general, involve a much higher level of complexity than average or lower budget projects.

Project Performance

2.3 Table 2.1 provides a summary of the total cost performance and Table 2.2 gives an overview of the in-year budget movements and cost performance. Table 2.3 shows schedule performance for the 30 projects in this year's MPR and Table 2.4 provides a summary of the key characteristics of each project in terms of maturity and level of development required. The DMO's analysis shows that, while projects have been managed within approved budgets, schedule performance, as identified in previous MPRs, continues to be the key issue for both the DMO and Defence.

Table 2.1 – Project Total Budget Status

Project Number	Project	Government Approved Budget ($m)	Price Indexation (to July 2010) ($m)	Foreign Exchange Variations ($m)	Scope Changes ($m)	Transfers ($m)	Budgetary Adjustments ($m)	Budget Cost Savings ($m)	Net Variation (%)	Current Total Budget ($m)
AIR 6000 Phase 2A/2B	Joint Strike Fighter	2,751.6	351.0	-159.6	10,515.4	0.0	-2.9	0.0	-0.1%	13,455.5
SEA 4000 Phase 3	AWD Ships	7,207.4	1,173.2	-422.8	0.0	-109.9	0.0	0.0	0.0%	7,847.9
AIR 5077 Phase 3	Wedgetail	2,170.4	1,111.1	-79.4	225.6	618.6	-173.2	0.0	-8.0%	3,873.1
AIR 9000 Phase 2/4/6	MRH90 Helicopters	957.2	679.8	-210.0	2,597.1	-239.0	0.0	0.0	0.0%	3,785.1
LAND 121 Phase 3B	Overlander Medium/Heavy	3,284.7	0.0	184.3	0.0	0.0	0.0	0.0	0.0%	3,469.0
AIR 9000 Phase 8	MH-60R Seahawk	3,029.6	0.1	206.3	0.0	0.0	-39.2	0.0	-1.3%	3,196.9
JP 2048 Phase 4A/4B	LHD Ships	2,958.3	428.4	-306.7	0.0	9.3	0.0	0.0	0.0%	3,089.4
AIR 5349 Phase 3	Growler	1,155.3	0.0	395.2	1,486.1	0.0	0.0	0.0	0.0%	3,036.6
AIR 87 Phase 2	ARH Tiger Helicopters	1,584.0	418.2	121.8	0.0	-84.3	-6.7	0.0	-0.4%	2,033.0
AIR 5376 Phase 2	Hornet Upgrade	1,300.0	323.5	4.7	221.5	35.0	-3.4	0.0	-0.3%	1,881.3
AIR 5402	Air to Air Refuel	2,076.6	484.1	-450.2	0.0	-135.5	-153.6	0.0	-7.4%	1,821.4
SEA 1390 Phase 2.1	FFG Upgrade	1,392.5	215.6	74.6	-66.7	-152.6	-0.8	-10.1	-0.8%	1,452.6
AIR 8000 Phase 2	Battlefield Airlifter	1,156.5	0.0	133.0	0.0	0.0	0.0	0.0	0.0%	1,289.5
LAND 116 Phase 3	Bushmaster Vehicles	295.0	124.6	-1.4	832.2	0.0	0.0	0.0	0.0%	1,250.4
LAND 121 Phase 3A	Overlander Light	3,171.2	0.0	35.8	-2,186.5	0.0	0.0	0.0	0.0%	1,020.5
JP 2008 Phase 4	Next Gen Satellite	884.9	132.4	-148.0	0.0	0.0	0.0	0.0	0.0%	869.3
SEA 1448 Phase 2B	Anzac ASMD 2B	248.8	76.1	-9.9	214.7	148.7	0.0	0.0	0.0%	678.4
AIR 9000 Phase 5C	Additional Chinook	637.6	46.9	-67.3	0.0	0.0	0.0	0.0	0.0%	617.2
JP 2043 Phase 3A	HF Modernisation	505.0	148.1	12.8	-80.1	-4.8	-0.9	0.0	-0.2%	580.1
JP 2072 Phase 2A	Battle Comm. Sys. (Land)	436.4	0.0	23.8	0.0	0.0	0.0	0.0	0.0%	460.1
SEA 1439 Phase 4A	Collins RCS	455.3	56.5	-59.9	0.0	-0.9	-0.8	0.0	-0.2%	450.2
SEA 1429 Phase 2	Hw Torpedo	238.1	99.4	-125.0	213.3	1.0	-0.2	0.0	-0.1%	426.6
JP 2008 Phase 5A	UHF SATCOM	460.9	18.0	-41.8	0.0	0.0	0.0	-18.0	-3.9%	419.1
SEA 1439 Phase 3	Collins R&S	72.0	74.4	-5.9	310.3	-38.3	-0.8	0.0	-1.1%	411.7
SEA 1390 Phase 4B	SM-2 Missile	552.6	127.9	-64.6	0.0	-86.5	-2.1	-120.0	-22.1%	407.3
SEA 1448 Phase 2A	Anzac ASMD 2A	449.0	101.3	-3.5	0.0	-159.8	-0.1	0.0	0.0%	386.9
LAND 17 Phase 1A	155mm Howitzer	348.2	17.1	-29.3	0.0	0.0	0.0	0.0	0.0%	336.1
AIR 5418 Phase 1	Stand Off Weapon	370.2	62.6	-38.9	-75.0	-1.5	0.0	0.0	0.0%	317.4
LAND 75 Phase 3.4	Battle Comm. Sys.	332.9	15.6	-26.7	-7.0	0.0	0.0	0.0	0.0%	314.8
JP 2048 Phase 3	LHD Landing Craft	236.4	0.1	11.8	-0.7	-7.7	0.0	0.0	0.0%	239.9
	Total	40,718.6	6,286.0	-1,046.8	14,200.2	-208.2	-384.7	-148.1	-1.3%	59,417.3

Table 2.2 – Project In–Year Budget Status

Project Number	Project	Portfolio Budget Statements ($m)	Portfolio Additional Estimate Statements ($m)	Final Plan ($m) A	Actual ($m) B	Variation ($m) B-A	Variation (%)
AIR 6000 Phase 2A/2B	Joint Strike Fighter	231.5	213.8	218.6	223.3	4.7	2.2%
SEA 4000 Phase 3	AWD Ships	625.1	622.9	662.7	659.3	-3.4	-0.5%
AIR 5077 Phase 3	Wedgetail	87.3	59.1	60.2	61.3	1.1	1.8%
AIR 9000 Phase 2/4/6	MRH90 Helicopters	204.2	244.4	250.8	250.5	-0.3	-0.1%
LAND 121 Phase 3B	Overlander Medium/Heavy	44.9	45.4	33.3	33.4	0.1	0.3%
AIR 9000 Phase 8	MH-60R Seahawk	411.8	425.3	460.0	454.9	-5.1	-1.1%
JP 2048 Phase 4A/4B	LHD Ships	202.9	227.3	247.3	247.5	0.2	0.1%
AIR 5349 Phase 3	Growler	89.7	290.8	376.2	370.3	-5.9	-1.6%
AIR 87 Phase 2	ARH Tiger Helicopters	4.4	6.5	6.6	6.6	0.0	0.0%
AIR 5376 Phase 2	Hornet Upgrade	16.7	10.7	10.9	10.4	-0.5	-4.6%
AIR 5402	Air to Air Refuel	61.2	29.4	29.8	31.3	1.5	5.0%
SEA 1390 Phase 2.1	FFG Upgrade	6.5	18.0	18.4	13.5	-4.9	-26.6%
AIR 8000 Phase 2	Battlefield Airlifter	162.3	164.0	146.1	146.6	0.5	0.3%
LAND 116 Phase 3	Bushmaster Vehicles	62.2	59.5	59.4	59.4	0.0	0.0%
LAND 121 Phase 3A	Overlander Light	234.6	204.2	220.2	222.4	2.2	1.0%
JP 2008 Phase 4	Next Gen Satellite	37.7	38.6	39.5	22.6	-16.9	-42.8%
SEA 1448 Phase 2B	Anzac ASMD 2B	72.7	62.5	71.6	70.8	-0.8	-1.1%
AIR 9000 Phase 5C	Additional Chinook	12.8	144.4	147.9	145.6	-2.3	-1.6%
JP 2043 Phase 3A	HF Modernisation	21.7	11.1	6.0	6.6	0.6	10.0%
JP 2072 Phase 2A	Battle Comm. Sys. (Land)	151.9	114.5	119.0	122.1	3.1	2.6%
SEA 1439 Phase 4A	Collins RCS	2.7	2.6	2.4	2.0	-0.4	-16.7%
SEA 1429 Phase 2	Hw Torpedo	6.8	3.5	3.6	2.6	-1.0	-27.8%
JP 2008 Phase 5A	UHF SATCOM	18.1	8.4	8.5	8.2	-0.3	-3.5%
SEA 1439 Phase 3	Collins R&S	13.9	11.8	10.8	9.1	-1.7	-15.7%
SEA 1390 Phase 4B	SM-2 Missile	23.6	6.6	6.7	5.2	-1.5	-22.4%
SEA 1448 Phase 2A	Anzac ASMD 2A	23.4	16.6	22.9	22.8	-0.1	-0.4%
LAND 17 Phase 1A	155mm Howitzer	28.4	22.0	22.4	23.3	0.9	4.0%
AIR 5418 Phase 1	Stand Off Weapon	9.8	0.2	0.1	0.1	0.0	0.0%
LAND 75 Phase 3.4	Battle Comm. Sys.	30.1	28.7	29.1	18.9	-10.2	-35.1%
JP 2048 Phase 3	LHD Landing Craft	36.7	39.2	46.7	44.5	-2.2	-4.7%
	Total	2935.6	3131.8	3337.7	3,295.1	-42.6	-1.3%

Table 2.3 – Project Schedule Status

Project Number	Project	Originally estimated FMR[180]	Forecast FMR at 30 June 2013	Forecast FMR at 30 June 2014	Variance Factor[181]	Originally estimated FOC	Forecast FOC at 30 June 2013	Forecast FOC at 30 June 2014	Variance Factor
AIR 6000 Phase 2A/2B	Joint Strike Fighter	Dec-23	-	Aug-23	0.98	Dec-23	-	Oct-23	0.99
SEA 4000 Phase 3	AWD Ships	Dec-17	Sep-19	Sep-19	1.17	May-18	Mar-20	Mar-20	1.17
AIR 5077 Phase 3	Wedgetail	Nov-12	Dec-14	Dec-14	1.17	Dec-08	Jun-15	Jun-15	1.81
AIR 9000 Phase 2/4/6	MRH90 Helicopters	Oct-14	Oct-14	Dec-17	1.31	Jul-14	Jul-14	Jul-19	1.50
LAND 121 Phase 3B	Overlander Medium/Heavy	Dec-22	-	Jul-22	0.96	Dec-23	-	Jan-23	0.91
AIR 9000 Phase 8	MH-60R Seahawk	Dec-23	Dec-23	Dec-23	1.00	Dec-23	Dec-23	Dec-23	1.00
JP 2048 Phase 4A/4B	LHD Ships	Aug-15	Aug-15	Aug-15	1.00	Nov-16	Nov-16	Nov-16	1.00
AIR 5349 Phase 3	Growler	Jul-22	-	Jul-22	1.00	Jul-22	-	Jul-22	1.00
AIR 87 Phase 2	ARH Tiger Helicopters	Jul-12	Jun-13	Mar-14	1.12	Jun-09	Jan-16	Jan-16	1.64
AIR 5376 Phase 2	Hornet Upgrade	Jun-11	Sep-12	Sep-12	1.10	Aug-11	Jul-13	Nov-14	1.25
AIR 5402	Air to Air Refuel	Feb-13	Nov-14	Dec-15	1.29	Mar-11	Dec-14	Dec-15	1.61
SEA 1390 Phase 2.1	FFG Upgrade	Dec-11	Dec-14	Dec-15	1.32	Dec-05	Dec-14	Dec-15	2.54
AIR 8000 Phase 2	Battlefield Airlifter	Oct-17	-	Oct-17	1.00	Dec-17	-	Dec-17	1.00
LAND 116 Phase 3	Bushmaster Vehicles	Sep-16	Sep-16	Sep-16	1.00	Dec-16	Dec-16	Dec-16	1.00
LAND 121 Phase 3A	Overlander Light	Jul-16	Jul-16	Mar-17	1.15	Jun-16	Jul-16	Mar-17	1.17
JP 2008 Phase 4	Next Gen Satellite	Sep-13	Sep-13	Jun-14	1.12	Dec-14	Dec-14	Dec-14	1.00
SEA 1448 Phase 2B	Anzac ASMD 2B	Jul-17	Sep-17	Sep-17	1.01	Mar-13	Oct-17	Oct-17	1.61
AIR 9000 Phase 5C	Additional Chinook	Jan-17	Jan-17	Jan-17	1.00	Jan-17	Jan-17	Jan-17	1.00
JP 2043 Phase 3A	HF Modernisation	Feb-16	Apr-16	Apr-16	1.01	May-05	Sep-16	Sep-16	2.30
JP 2072 Phase 2A	Battle Comm. Sys. (Land)	Aug-16	Jun-16	Aug-16	1.00	Jun-16	Oct-16	Oct-16	1.07
SEA 1439 Phase 4A	Collins RCS	Jan-16	Feb-19	Oct-18	1.21	Dec-10	Nov-19	Feb-19	1.99
SEA 1429 Phase 2	Hw Torpedo	Nov-13	Aug-18	Aug-18	1.38	Nov-13	Nov-13	Sep-18	1.38
JP 2008 Phase 5A	UHF SATCOM	Mar-14	Mar-14	May-15	1.23	Jun-18	Jun-18	Jun-18	1.00
SEA 1439 Phase 3	Collins R&S	Oct-22	Oct-22	Oct-22	1.00	Jun-14	Sep-22	Sep-22	1.60
SEA 1390 Phase 4B	SM-2 Missile	Sep-12	Jan-14	Dec-14	1.28	Dec-12	Mar-14	Feb-15	1.26
SEA 1448 Phase 2A	Anzac ASMD 2A	Jul-17	Sep-17	Sep-17	1.01	Dec-11	Oct-17	Oct-17	1.72
LAND 17 Phase 1A	155mm Howitzer	Sep-13	Sep-13	Sep-13	1.00	Dec-13	Dec-13	Jul-14	1.13
AIR 5418 Phase 1	Stand Off Weapon	Dec-12	Sep-13	Sep-13	1.11	Dec-10	Sep-13	Jan-14	1.62
LAND 75 Phase 3.4	Battle Comm. Sys.	Apr-13	Dec-13	Feb-15	1.54	Apr-13	Dec-13	Mar-15	1.56
JP 2048 Phase 3	LHD Landing Craft	Feb-16	-	Sep-15	0.91	Feb-16	-	Sep-15	0.91
				Average Variation	1.11			Average Variation	1.36

180 Where FMR was not included in the original project approval documentation, Original FMR is taken from the latest version of the project's Materiel Acquisition Agreement.

181 A schedule variance factor of 1 = on time; >1 = late; and <1 = early.

Table 2.4 – Project Characteristics

Project Number	Project	First reported in MPR of	Customer	Purpose of Capability[182]	Level of Development	Acquisition Category[183]	Pre-/Post-Kinnaird[184]	Project Stage	Prime Systems Integrator
AIR 6000 Phase 2A/2B	Joint Strike Fighter	2010-11	Air Force	Replacement	Developmental	I	Post	Contract Signature	US Government
SEA 4000 Phase 3	AWD Ships	2008-09	Navy	New	AMOTS	I	Post	Detailed Design Review	AWD Alliance
AIR 5077 Phase 3	Wedgetail	2007-08	Air Force	New	Developmental	III	Pre	Final Materiel Release	Boeing Company
AIR 9000 Phase 2/4/6	MRH90 Helicopters	2008-09	Army/Navy	Replacement	AMOTS	I	Post	Initial Materiel Release	Australian Aerospace
LAND 121 Phase 3B	Overlander Medium/Heavy	2013-14	Army	Replacement	AMOTS	I	Post	Preliminary Design Review	DMO
AIR 9000 Phase 8	MH-60R Seahawk	2011-12	Navy	Replacement	MOTS	II	Post	Detailed Design Review	US Government
JP 2048 Phase 4A/4B	LHD Ships	2008-09	Joint	New	AMOTS	I	Post	Detailed Design Review	BAE Systems Australia
AIR 5349 Phase 3	Growler	2013-14	Air Force	New	AMOTS	II	Post	Enter Contract	US Government
AIR 87 Phase 2	ARH Tiger Helicopters	2007-08	Army	New	AMOTS	II	Pre	Acceptance Into Service	Australian Aerospace
AIR 5376 Phase 2	Hornet Upgrade	2007-08	Air Force	Upgrade	AMOTS	III	Pre	Acceptance Into Service	DMO
AIR 5402	Air to Air Refuel	2008-09	Air Force	New	Developmental	II	Pre	Complete Acceptance Testing	Airbus Defence and Space
SEA 1390 Phase 2.1	FFG Upgrade	2007-08	Navy	Upgrade	Developmental	IV	Pre	Final Contract Acceptance	Thales
AIR 8000 Phase 2	Battlefield Airlifter	2013-14	Air Force	Replacement	MOTS	II	Post	Contract Signature	US Government
LAND 116 Phase 3	Bushmaster Vehicles	2007-08	Army/Air Force	Replacement	AMOTS	III	Pre	Complete Acceptance Testing	Thales
LAND 121 Phase 3A	Overlander Light	2009-10	Army	Replacement	AMOTS	II	Post	Initial Materiel Release	DMO
JP 2008 Phase 4	Next Gen Satellite	2009-10	Joint	New	MOTS	II	Post	Final Materiel Release	US Government
SEA 1448 Phase 2B	Anzac ASMD 2B	2009-10	Navy	Upgrade	Developmental	I	Post	Initial Materiel Release	Anzac Alliance
AIR 9000 Phase 5C	Additional Chinook	2010-11	Army	Replacement	MOTS	III	Post	Detailed Design Review	US Government
JP 2043 Phase 3A	HF Modernisation	2007-08	Joint	Upgrade	Developmental	III	Pre	Complete Acceptance Testing	Boeing Defence Australia
JP 2072 Phase 2A	Battle Comm. Sys. (Land)	2012-13	Joint	Replacement	MOTS	III	Post	Acceptance Into Service	DMO
SEA 1439 Phase 4A	Collins RCS	2007-08	Navy	Upgrade	AMOTS	IV	Pre	Initial Materiel Release	DMO
SEA 1429 Phase 2	Hw Torpedo	2009-10	Navy	Replacement	MOTS	III	Pre	Initial Materiel Release	US Government
JP 2008 Phase 5A	UHF SATCOM	2010-11	Joint	Upgrade	MOTS	II	Post	System Integration & Test	Intelsat
SEA 1439 Phase 3	Collins R&S	2009-10	Navy	Upgrade	AMOTS	III	Pre	Detailed Design Review	ASC
SEA 1390 Phase 4B	SM-2 Missile	2010-11	Navy	Replacement	AMOTS	III	Pre	Acceptance Into Service	DMO
SEA 1448 Phase 2A	Anzac ASMD 2A	2009-10	Navy	Upgrade	AMOTS	II	Pre	Initial Materiel Release	Anzac Alliance
LAND 17 Phase 1A	155mm Howitzer	2010-11	Army	Replacement	MOTS	II	Post	Final Contract Acceptance	US Government
AIR 5418 Phase 1	Stand Off Weapon	2009-10	Air Force	New	AMOTS	II	Post	Acceptance Into Service	US Government
LAND 75 Phase 3.4	Battle Comm. Sys.	2010-11	Army	New	AMOTS	II	Post	Complete System Integration & Test	DMO
JP 2048 Phase 3	LHD Landing Craft	2013-14	Navy	Replacement	AMOTS	III	Post	Complete Acceptance Testing	Navantia

182 'New' - a capability that has not previously existed in the ADF; 'Replacement' – a current capability that is being replaced by more up to date technology or to respond to a changing threat; 'Upgrade' – an upgrade to existing capabilities.

183 The DMO's categorisation of projects that represent the complexity of the project on a sliding scale of I to IV with ACAT I representing the most complex projects.

184 Provides an indication of whether the projects were initially developed under pre-or post Kinnaird reforms.

Budget performance

2.4 Project budgets, against which cost performance is measured, are subject to variations arising from exchange rate variations, Government approval of changes in scope and transfers to Defence Groups. Following the move to out-turned project budgets in July 2010, there are no further variations to project budgets as a result of inflationary effects.

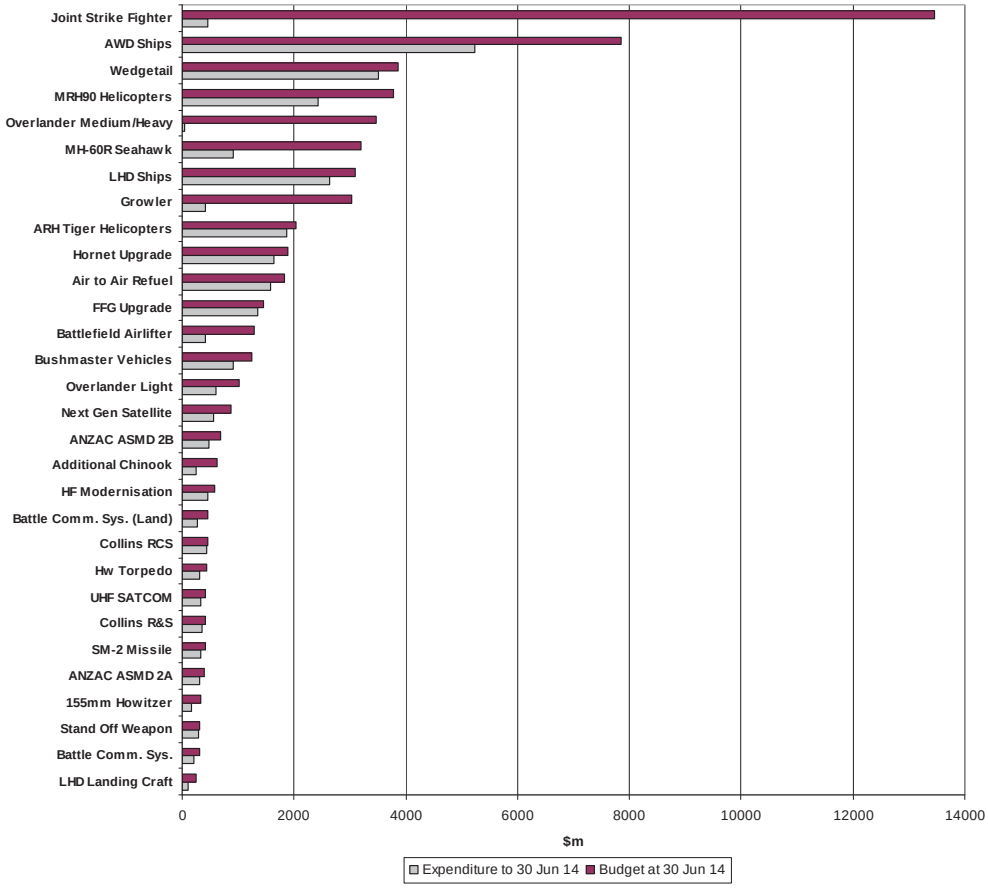
2.5 Table 2.1 includes a summary of the project budget variations from date of Government approval to 30 June 2014. Only one significant real variation occurred during 2013-14:

– **Joint Strike Fighter:** budget increase of $10.5b due to Government approval to acquire an additional 58 F-35 Joint Strike Fighter aircraft.

2.6 Figure 2.1 provides a comparison of expenditure as at 30 June 2014 compared to the total approved budget at that date. While this provides an indicator of project progress, the percentage of budget spent is dependent on the nature of the project and the level of early investment that may be required for project start-up and non-recurring engineering effort.

2.7 Importantly, no project has exceeded its total approved budget and the net variation to the original Government approvals is negative 1.3 per cent, reflecting accumulated real savings to date of $533 million.

Figure 2.1: Comparison of Overall Project Budget and Expenditure to 30 June 2014 (in $m)



2.8 The relationship between project expenditure and project progress is not necessarily linear. The profile of expenditure against total approved budget is determined by several factors including the level of development required for the acquisition. For example, a project with a low level of development acquiring a Commercial or Military Off-The-Shelf (COTS or MOTS) product will generally have an expenditure pattern closely matched to the production of the materiel elements. In comparison, a highly developmental project usually requires a degree of initial 'seed capital' on commencement with expenditure declining during the development phase and increasing as the project shifts into the build/integration phase.

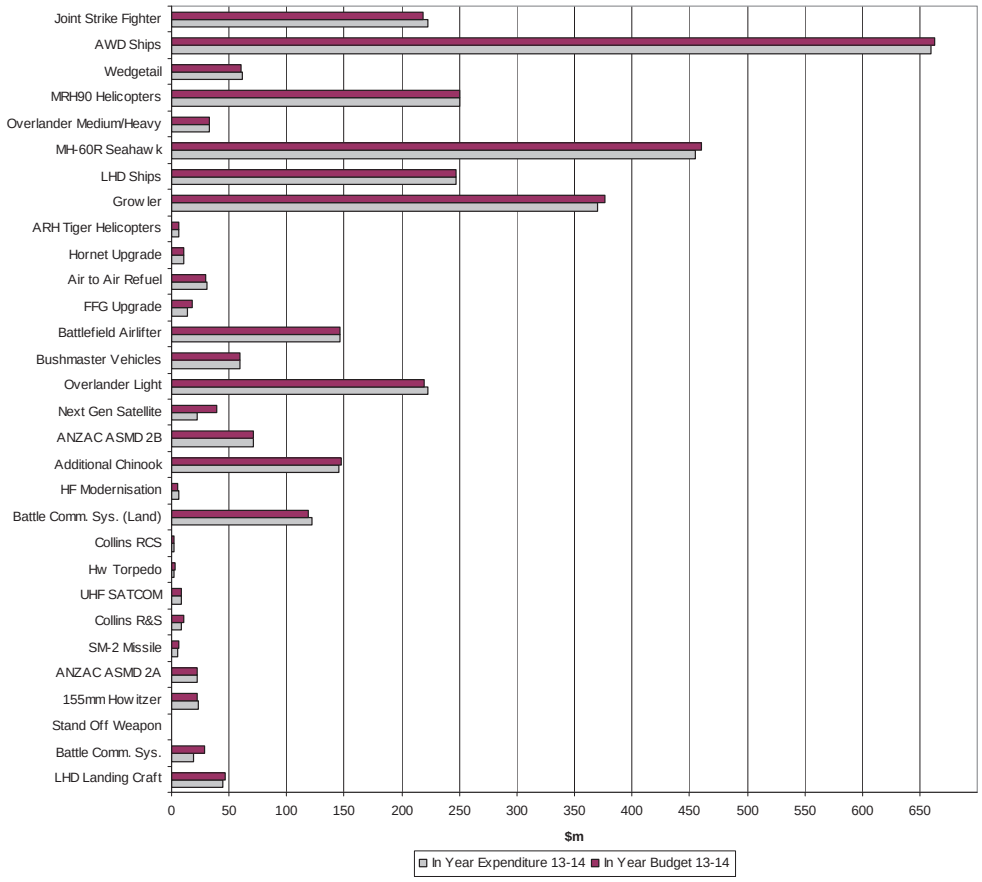
2.9 Another factor is the evolution of the project and its performance to date. A project may be well advanced in years but show a low level of

expenditure against the total budget. This may result from poor contractual performance culminating in withholding of payments against specific milestones. This is, in effect, a deferral of payments that will be re-instated upon contractor achievement of milestones.

2.10 Table 2.2 provides a summary of the in-year spend against budget for 2013-14. Figure 2.2 compares in-year expenditure at 30 June 2014 with budget for 2013-14. Most projects have expended close to their given budget with minor variations attributed primarily to exchange rates or rounding issues.

- One project had a significant overachievement of 10.3 percent:
  - HF Modernisation – The overachievement was as a result of being able to bring forward an IT Refresh milestone.
- Five projects had significant underspends:
  - FFG Upgrade – The underspend is due to systems costing less than originally budgeted for, delay in invoicing due to technical difficulties and spares being paid for from sustainment budget.
  - Next Gen Satellite – The underspend is due to a delay in billing by the USA and realisation of cost savings in production under the Wideband Global Satellite Program. The DMO process underspend relates to activities that have been moved to 2014-15.
  - Hw Torpedo – The underspend is primarily due to the postponement of Pre-Full Cycle Docking work on HMA Ship Collins.
  - SM-2 Missile – The underspend is primarily attributed to delayed contracted scope with Australian and Foreign Industry and subsequent savings as well as deferred Foreign Military Sales (FMS) payments. Establishment of In-Service arrangements has not proceeded as quickly as planned.
  - Battle Comm. Sys. – The underspend is primarily due to a number of supplies and quotes that are: no longer required; have been transferred to sustainment; or have taken longer than anticipated to approve.

Figure 2.2: Comparison of In-year Project Budget and Expenditure at 30 June 2014 (in $m)



Contingency Management

2.11 In keeping with standard commercial practice, budgets for major Defence capital investment programs are approved by Government with a contingency provision that varies between projects depending on the complexity and risk of the acquisition. This allows Project Managers to proactively manage risk, and, when necessary, treat risk events that have materialised into issues. Contingency funding provides a limited financial margin for Project Managers against inherent uncertainties, risks and unexpected events that may arise during the course of a project. It is especially important in Defence projects that typically have greater inherent risk, longer timeframes and are generally more complex than commercial projects.

2.12 Previous reports have included the aggregate amount of contingency that has been spent over the life of the relevant MPR projects. This year each PDSS includes advice on whether contingency has been applied to the project during the financial year. The application of contingency is assured by the ANAO. Consistent with this, the aggregate amount of contingency reported over the life of the relevant MPR projects in paragraph 2.13 is the aggregate amount of applied contingency rather than contingency actually spent. The term 'applied contingency' is the amount of contingency that the project has been authorised to expend to either manage, treat or retire project risks. It is a combination of both the amount of contingency that has already been spent and the amount that is expected to be spent.

2.13 Across the life of the 30 projects in this year's MPR (that is, from August 1996 to June 2014), the aggregate amount of applied contingency is approximately $1.9b (or 3 per cent of the total of approved project budgets of $59.4b). The areas where risk has been retired using contingency include:

- Systems development;
- Systems integration;
- Logistics and Support;
- Schedule constraints; and
- Project resourcing.

2.14 The DMO has established a framework which provides full accountability and traceability of all management decisions related to the use of the project contingency budget.

Schedule Performance

2.15 In 2010, Defence introduced Initial Materiel Release (IMR) and Final Materiel Release (FMR) as more appropriate milestones for measuring the DMO's acquisition performance in contributing to the Capability Managers' coordination of all capability elements to achieve Initial and Final Operational Capability (IOC and FOC) milestones. Schedule analysis presented in previous MPRs was based on achievement, or expected achievement, of FOC.

2.16 Figure 2.3 represents the schedule performance for each of the projects covered in this year's MPR. The chart shows the original project approval date, the originally approved FMR estimate and the forecast FMR as at 30 June 2014.

2.17 The chart also highlights the time it takes to deliver complex Defence acquisition projects. Five projects commenced prior to 2000: ARH Tiger Helicopters; Hornet Upgrade; FFG Upgrade; Bushmaster Vehicles; and HF Modernisation. A further seven projects have commenced just over a decade ago.

2.18 There are four projects: ARH Tiger–Helicopters, Next Gen Satellite, Stand Off Weapon, and 155mm Howitzer, that achieved FMR during the 2013-14 financial year. Another four are scheduled to achieve FMR during 2014-15: Wedgetail, Battle Comm. Sys., UHF SATCOM, and SM-2 Missile.

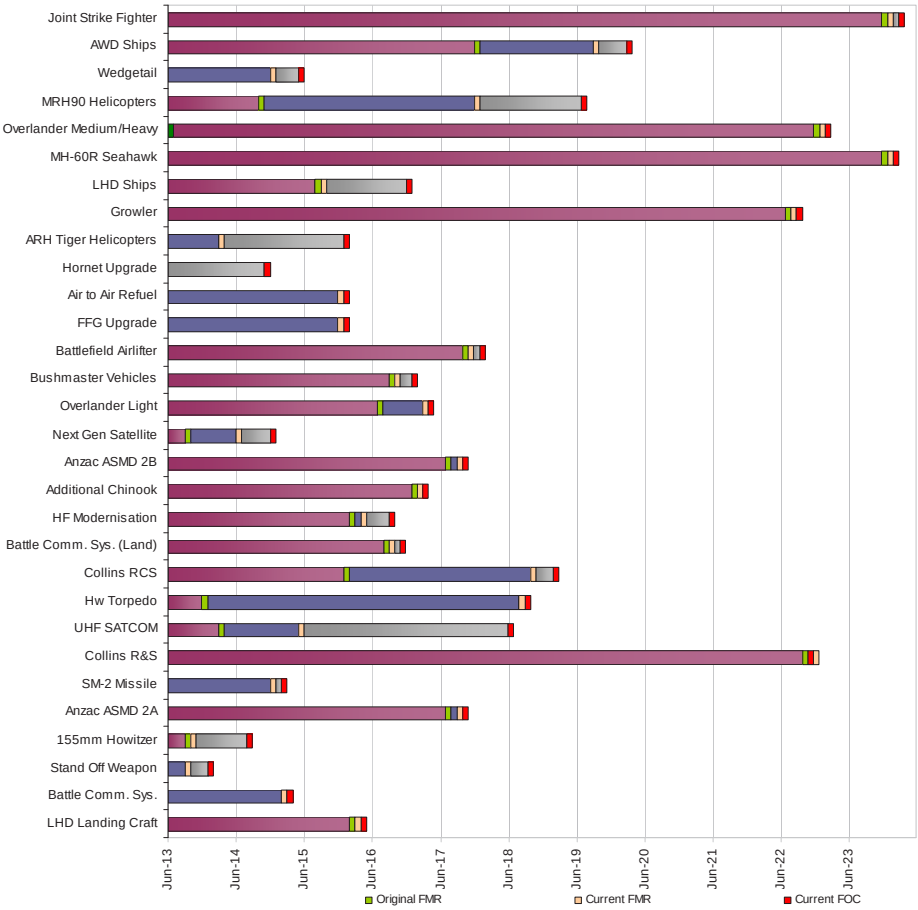
Figure 2.3: Schedule from Approval to Current FMR Estimate

2.19 The period between FMR and FOC dates indicates the time required by Capability Managers to bring together all the other Fundamental Inputs to Capability. This usually occurs after the DMO has delivered the final materiel elements of capability[185]. Figure 2.4 provides an indication of the estimated time required to complete this work.

2.20 One project in the MPR - Stand Off Weapon - achieved FOC during 2013-14; another six are scheduled to achieve FOC during 2014-15. Those six projects are: Wedgetail, Hornet Upgrade, Next Gen Satellite, SM-2 Missile, 155mm Howitzer, and Battle Comm. Sys. The declaration of FOC marks the formal transition of capability from the acquisition to the sustainment phase of the capability life cycle at that time.

185 While FMR is generally expected to occur ahead of FOC, there will be instances where FMR is due to occur after FOC. For example the Collins R&S project anticipates the Capability Manager declaring FOC ahead of DMO realising FMR at the completion of a docking cycle one month later. It is likely that this may happen for other new platforms or multi-platform upgrade projects where finalisation of some aspects of materiel acquisitions (e.g. spares or future warrantee resolution) may extend beyond FOC.

Figure 2.4: Current FMR and FOC Estimates



In-year Final Materiel Release Schedule Variance

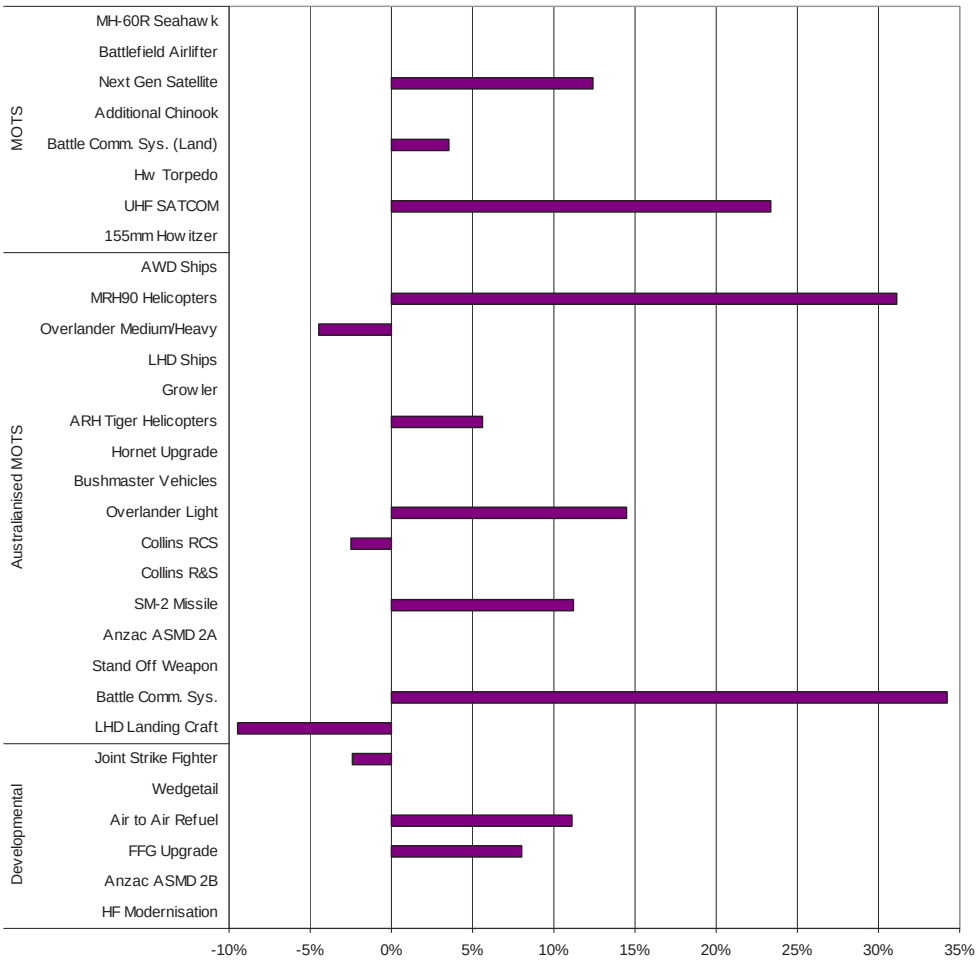
2.21 Figure 2.5 illustrates the in-year schedule variance for FMR as a percentage of the total time expected to reach the FMR milestone. In the 2013-14 MPR, 14 projects re-assessed their estimated FMR date.

2.22 The largest individual in-year variance to forecast FMR dates is 34 per cent for Battle Comm. Sys., reflecting an anticipated delay of 22 months to align installation of equipment with Capability Manager priorities. The MRH90 Helicopters has the second largest in-year FMR variance of 31 per cent. This is attributed to a number of technical and reliability issues.

2.23 Three projects are forecasting to be ahead of their original FMR estimates: Joint Strike Fighter - two percent, the Overlander Medium/Heavy -

four percent and the LHD Landing Craft - nine percent. Collins RCS also improved its FMR forecast by three percent (more details are available in the Project Data Summary Sheets for each project).

Figure 2.5: In-year FMR Schedule Variance, by Project Type



Total Final Materiel Release Schedule Variance

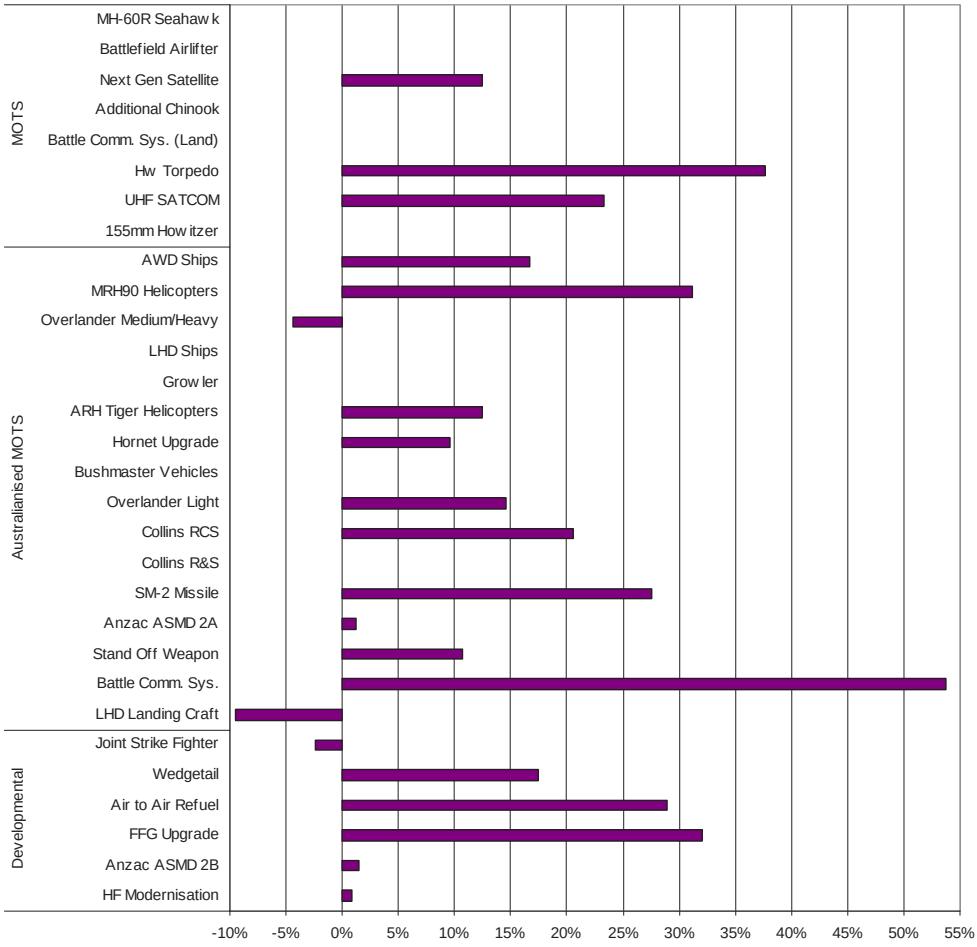
2.24 Figure 2.6 shows the variance to forecast FMR dates, as a percentage of originally estimated duration, for each of the 30 projects in the MPR. At 30 June 2014, the average FMR variance for all of the MPR projects was 11 per cent.

2.25 Three projects are forecasting early achievement of FMR – Joint Strike Fighter, Overlander Medium/Heavy, and LHD Landing Craft.

2.26 Eight projects reported an FMR schedule variation of 20 per cent or greater across the life of the project. The largest individual variance to forecast FMR dates for the life of the project is 54 per cent for Battle Comm. Sys. reflecting a delay of 22 months due to the need to align installation of equipment with Capability Manager priorities. Hw Torpedo has a variance of 38 per cent due to FMR date being set before the Full Cycle Docking program had reached maturity in terms of the length of dockings and impact of emergent work. As a result, the installation schedule has been delayed.

2.27 FFG Upgrade has a variance of 32 per cent, across the life of the project, due to the extended implementation period required for the Torpedo Decoy System. The majority of the upgraded FFG capability has been delivered and employed by FFGs on operations for several years.

Figure 2.6: Total Schedule Variance for FMR, by Project Type



In-year Final Operational Capability Schedule Variance

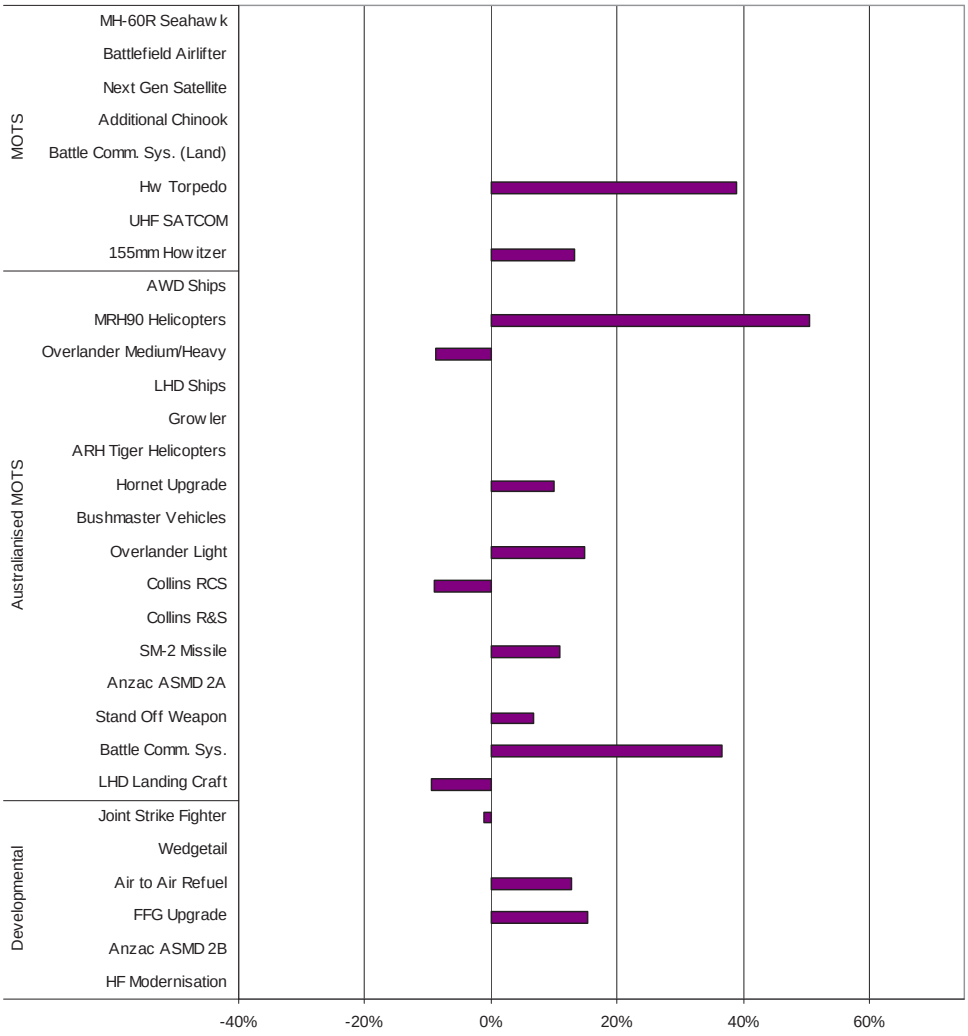
2.28 Figure 2.7 shows in-year schedule variance to forecast FOC dates, as a percentage of the 2012-13 MPR project duration estimate. In the 2013-14 MPR, 14 projects re-assessed their forecast FOC date. Key points to note are as follows:

- The largest in-year FOC schedule variances were recorded by Hw Torpedo, MRH90 Helicopters and Battle Comm. Sys. projects which

had in-year schedule variances exceeding 20 per cent. The Hw Torpedo variance is attributed to restricted platform availability resulting from the Full Cycle Docking Program and the installation completion dates vary according to boat availability. MRH90 Helicopters and Battle Comm. Sys. variances are discussed in paragraph 2.31.

- Joint Strike Fighter, Overlander Medium/Heavy and LHD Landing Craft projects gained some schedule and are about two, eleven and five months ahead of their original FOC estimates, respectively.

Figure 2.7: In-year FOC Schedule Variance, by Project Type



Note: Joint Strike Fighter is currently developmental in nature but should ultimately become MOTS when it enters production line delivery.

Total Final Operational Capability Schedule Variance

2.29 The average variance to forecast FOC dates, as a percentage of originally estimated duration, for the 30 projects in MPR 2013-14 was 35.8 per cent at 30 June 2014.

2.30 Figure 2.8 charts the schedule variance as a percentage of the originally estimated project duration from Government approval to FOC. The projects are grouped in the categories of MOTS, Australianised MOTS (AMOTS) and Developmental. The chart shows that, generally, MOTS projects are more likely to be delivered on time while AMOTS and Developmental acquisitions are more prone to underestimating technical complexity and systems integration effort.

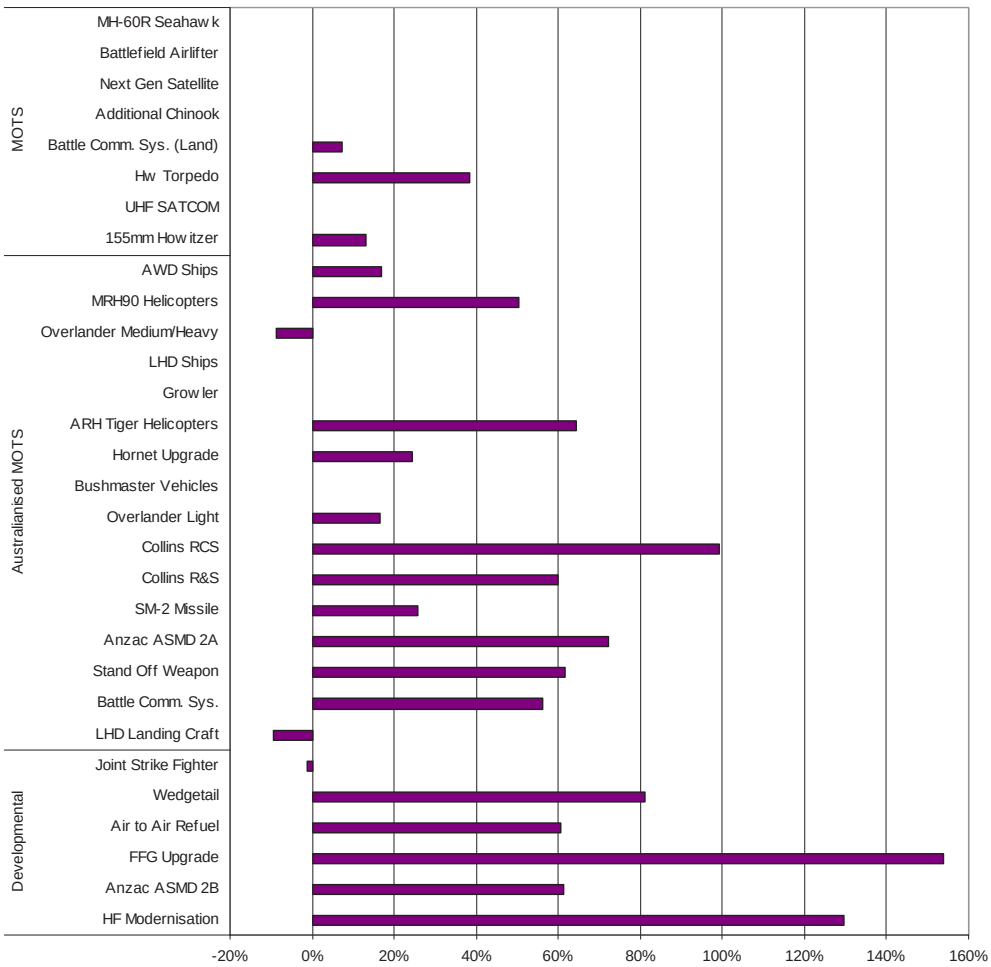
2.31 The number of projects reporting an FOC schedule variation of 50 per cent or greater has increased from 10 to 12. Delays to FOC over the life of these projects reported are as follows:

- MRH90 Helicopters delays are due to a number of technical and reliability issues.
- ARH Tiger Helicopter project delays are a result of the reduction in the flying Rate of Effort experienced by ARH fleet.
- The two Collins projects – RCS and R&S – have been negatively impacted by limited platform availability due to operational requirements arising from the implementation of the Coles Review and unscheduled maintenance requirements having a detrimental impact on the Full Cycle Docking program.
- Deferral of FOC for the Anzac Anti-Ship Missile Defence program (Phases 2A and 2B) resulted from a Government approved change of project delivery strategy and scope, including the decision to substitute the Very Short Range Air Defence System option with a phased array radar capability. This is a significant capability advantage over the originally approved scope and allowed leading edge Australian technology to be proven in one ship before committing to the upgrade of the remaining seven ships.
- The Stand Off Weapon project incurred delivery delays caused by a fuze reliability issue.
- Battle Comm. Sys. delayed the FOC date to align installation of equipment with Capability Manager priorities.
- Wedgetail, FFG Upgrade and HF Modernisation project delays are fundamentally due to an initial underestimation of project complexity. More specifically, the FFG Upgrade issues concerned the complexity of large scale platform integration efforts; HF Modernisation

underestimated the level of effort required to deliver the system; and Wedgetail has faced difficulties integrating the phased array radar and other mission critical elements into an operational system. Most of the capability required of HF Modernisation has been delivered and has been in operation for ten years.

- Air to Air Refuel delays are mainly due to development and improvements to the avionics and the air refuelling boom systems required to meet full capability.

Figure 2.8: Schedule Variance for FOC since Government Approval, by Project Type



Note: Joint Strike Fighter is currently developmental in nature but should ultimately become MOTS when it enters production line delivery

Effect of Kinnaird Reforms on Schedule

2.32 Implementation of the 2003 Kinnaird reforms has delivered a marked improvement in schedule performance for Defence capability acquisition projects. As shown in Table 2.5, average schedule variance to FOC for pre-Kinnaird MPR projects is 71 per cent, while the average variance for post-

Kinnaird projects is 15 per cent. This is indicative of a general shift to more MOTS rather than developmental projects, as well as the age and stage of the post-Kinnaird projects.

Table 2.5 – Pre and Post Kinnaird Schedule Variance

	Project	*FOC Variance as at 30 Jun 14*	*In-year FOC variance*	*Variance Factor*	*FOC Variance as at 30 Jun 14*	*In-year FOC variance*
Pre-Kinnaird	Wedgetail	81%	0%	1.81	71%	6%
	ARH Tiger Helicopters	64%	0%	1.64		
	Hornet Upgrade	25%	10%	1.25		
	Air to Air Refuel	61%	13%	1.61		
	FFG Upgrade	154%	15%	2.54		
	Bushmaster Vehicles	0%	0%	1.00		
	HF Modernisation	130%	0%	2.30		
	Collins RCS	99%	-9%	1.99		
	Hw Torpedo	38%	39%	1.38		
	Collins R&S	60%	0%	1.60		
	Anzac ASMD 2A	72%	0%	1.72		
Post-Kinnaird	Joint Strike Fighter	-1%	-1%	0.99	15%	6%
	AWD Ships	17%	0%	1.17		
	MRH90 Helicopters	50%	50%	1.50		
	Overlander Medium/Heavy	-9%	-9%	0.91		
	MH-60R Seahawk	0%	0%	1.00		
	LHD Ships	0%	0%	1.00		
	Growler	0%	0%	1.00		
	Battlefield Airlifter	0%	0%	1.00		
	Overlander Light	17%	15%	1.17		
	Next Gen Satellite	0%	0%	1.00		
	Anzac ASMD 2B	61%	0%	1.61		
	Additional Chinook	0%	0%	1.00		
	Battle Comm. Sys. (Land)	7%	0%	1.07		
	UHF SATCOM	0%	0%	1.00		
	SM-2 Missile	26%	11%	1.26		
	155mm Howitzer	13%	13%	1.13		
	Stand Off Weapon	62%	7%	1.62		
	Battle Comm. Sys.	56%	36%	1.56		
	LHD Landing Craft	-9%	-9%	0.91		

Schedule Variance Attribution

2.33 Schedule slippage for developmental and Australianised MOTS projects is attributable to the higher levels of technical complexity and system integration risk. The higher the technical challenge, the higher the inherent risk

to the schedule. Developmental projects are new and often at the leading edge of available technology. As such, it is not uncommon for projects, as they progress, to encounter unforeseen technical difficulties requiring significant modification that results in delay. Similarly, Australianisation can also encounter unforeseen technical difficulties and have an unanticipated impact on existing features of the baseline MOTS product. Rectifications of such issues often require extensive, time consuming remediation work.

2.34 Further analysis of 2013-14 MPR data has revealed additional drivers of schedule delays as shown in Table 2.6. Of the 10 projects that underestimated technical complexity, five could also identify some overestimation of industry capability and performance, and another two were also affected by approved changes to scope (Anzac ASMD Phases 2A/2B attained Government approval to acquire the more capable phased array radar based solution over the original very short range air defence system solution, though without an increase to schedule). In September 2012, Government announced a re-baselining of the AWD construction schedule[186], and limited platform availability was the primary driver for delays of Collins class submarine projects.

2.35 Some projects also have a greater schedule delay to FOC as a result of Capability Manager decisions tying the project equipment to expected capability outcomes or operational imperatives.

186 Minister for Defence, Minister for Defence Materiel and Minister for Finance and Deregulation - Joint Media Release – Air Warfare Destroyer update, 6 September 2012.

Table 2.6 – Attribution of Schedule Variance Factors

Driver of Schedule Variance	Project
Platform availability	Collins RCS
	Collins R&S
Industry Capability/Budget Adjustments	AWD
Technical complexity – underestimation by industry and/or Defence of the complexity of developmental and/or large scale integration projects.	HF Modernisation
	FFG Upgrade
	Wedgetail
	Stand Off Weapon
	Air to Air Refuel
	ARH Tiger Helicopters
	Hornet Upgrade
	MRH90 Helicopter
Technical complexity and Scope Change	Anzac ASMD 2A
	Anzac ASMD 2B
FMS contracting Issues	SM-2 Missile
Capability Manager Decisions	Battle Comm. Sys.

Materiel Scope Performance

2.36 Materiel Scope Performance measures represent the key materiel capability performance attributes of a project delivered by the DMO and industry, which if not satisfied could have a significant detrimental effect on the eventual suitability of equipment for operational service. The Materiel Scope Performance measures for each project, as defined in the Materiel Acquisition Agreement, are identified from the project approval documentation, including the Operational Concept Document and the Function and Performance Specification, that detail the capital equipment assets to be delivered.

2.37 For security classification reasons the MPR does not identify the individual measures for each of the projects. However, each PDSS has a percentage breakdown on how the project is tracking against its particular suite of capability elements.

2.38 The subjective 'traffic light' assessment of each element is indicative of:

- **Green:** a high level of confidence that the capability outcome sought will be met;
- **Amber:** the capability outcome being under threat but still considered manageable and able to be met; and
- **Red:** at this stage, the capability outcome is unlikely to be fully met.

2.39 Materiel Capability Performance measures indicate the status of the materiel element of capability against the FMR milestones definition as at 30 June 2014 and are not necessarily indicative of each project's ultimate ability to deliver the final intended scope. For the 2013-14 DMO MPR, there are 264 individual Materiel Capability elements across the 30 projects with 253 green, 11 amber and no red.

Figure 2.9: Materiel Capability Performance measures for the 2013-14 Report

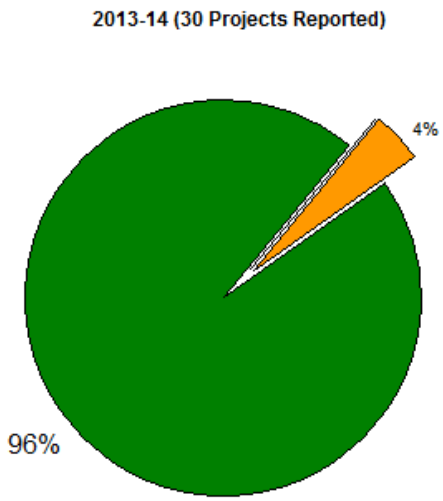
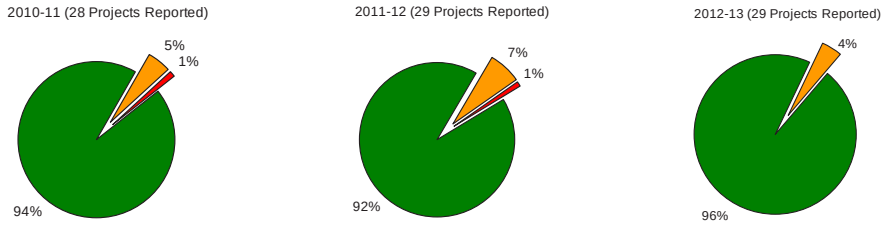


Figure 2.10: Trends for Materiel Capability Performance measures



2.40 Figure 2.9 indicates that a high percentage (96 per cent) of Materiel Capability Performance measures are currently reported as green.

2.41 For the four per cent reported as amber, the reasons are:

– Joint Strike Fighter – The project assesses that Phase 2A & 2B (Combined Stage 1 and 2) will deliver its materiel requirements, noting there are a number of risks to achieving some of the materiel capabilities required to deliver IOC and FOC. These risks include: integration of JSF into the ADF system; final software builds meeting required functionality by IOC and FOC; and establishing the sustainment capability;

– Wedgetail – Performance deficiencies in some elements of the mission system currently pose risk to full achievement of capability. All deficiencies are expected to be addressed under remediation programs agreed by Boeing in accordance with the November 2012 commercial settlement;

– MRH90 Helicopters – There are some materiel capabilities that are undergoing Operational Test and Evaluation (OT&E) activities and working towards Service Release. There are associated risks and issues in achieving Service Release of these capabilities, however the project is actively managing these risks;

– Air to Air Refuel – There is a risk to meeting all materiel capability requirements for FOC due to acceptance of aircraft in an initial configuration and the risk of successful remediation of all non-conformances and improvements to the Air Refuelling Boom System;

– FFG Upgrade – Maritime Interception and Anti Ship Missile Defence operational releases have been achieved, however Underwater Warfare Systems remain an area of risk. Navy has assessed a Defence Science

and Technology Organisation developed passive sonar system in operation with the Albatross Towed Array as meeting Towed Decoy System requirements; however, production/acquisition is yet to progress. A contract with Thales Underwater Systems will be signed in July 2014 for acquisition and installation. The Capability Manager reached a decision on 10 June 2014 to support Mine and Obstacle Avoidance System on FFGs as an obstacle avoidance sonar.

2.42 Figure 2.10 shows previous MPRs' Capability Performance Measures, as at 30 June for the respective years. Whilst the number of performance measures has increased from 138 in 2009-10 to 264 in 2013-14, analysis of these measures indicates that the DMO's performance has improved over the last five years, with the majority of current performance measures likely to be achieved.

3. Appendices

Appendix 1: Categorising Acquisitions

The DMO categorises its acquisition projects to enable it to differentiate between the complexities of business undertakings, focus management attention, provide a basis for professionalising its workforce and facilitate strategic workforce planning. Projects are graded into one of four Acquisition Categories (ACATs) which are as follows:

- ACAT I – These are major capital equipment acquisitions that are normally the ADF's most strategically significant. They are characterised by extensive project and schedule management complexity and very high levels of technical difficulty, operating, support and commercial arrangements;
- ACAT II – These are major capital equipment acquisitions that are strategically significant. They are characterised by significant project and schedule management and high levels of technical difficulty, operating, support arrangements and commercial arrangements;
- ACAT III – These are major or minor capital equipment acquisitions that have a moderate strategic significance to the ADF. They are characterised by the application of traditional project and schedule management techniques and moderate levels of technical difficulty operating, support arrangements and commercial arrangements; and
- ACAT IV – These are major or minor capital equipment acquisitions that have a lower level of strategic significance to the ADF. They are characterised by traditional project and schedule management requirements and lower levels of technical difficulty, operating, support and commercial arrangements.

As the complexity of a project will vary over its life cycle, Defence reviews project acquisition categories at defined milestones between entry into the Defence Capability Plan and project completion.

The ACAT framework provides a recognised, consistent and repeatable methodology for categorising projects and aligning Project Managers' certified experience and competencies to the complexity and scale of projects under management. Project Managers are assigned to acquisition projects on the

basis that their Certified Professional Project Manager status is consistent with the project's ACAT level.

The ACAT level of a project is assessed against six project attributes:

a) acquisition cost: the approved budget for the project;

b) project management complexity: the complexity of project management necessary for its execution;

c) schedule complexity: the inherent complexity brought about by delivery pressures on the project;

d) technical difficulty: the complexities associated with technical undertakings such as design and development, assembly, integration, test and acceptance;

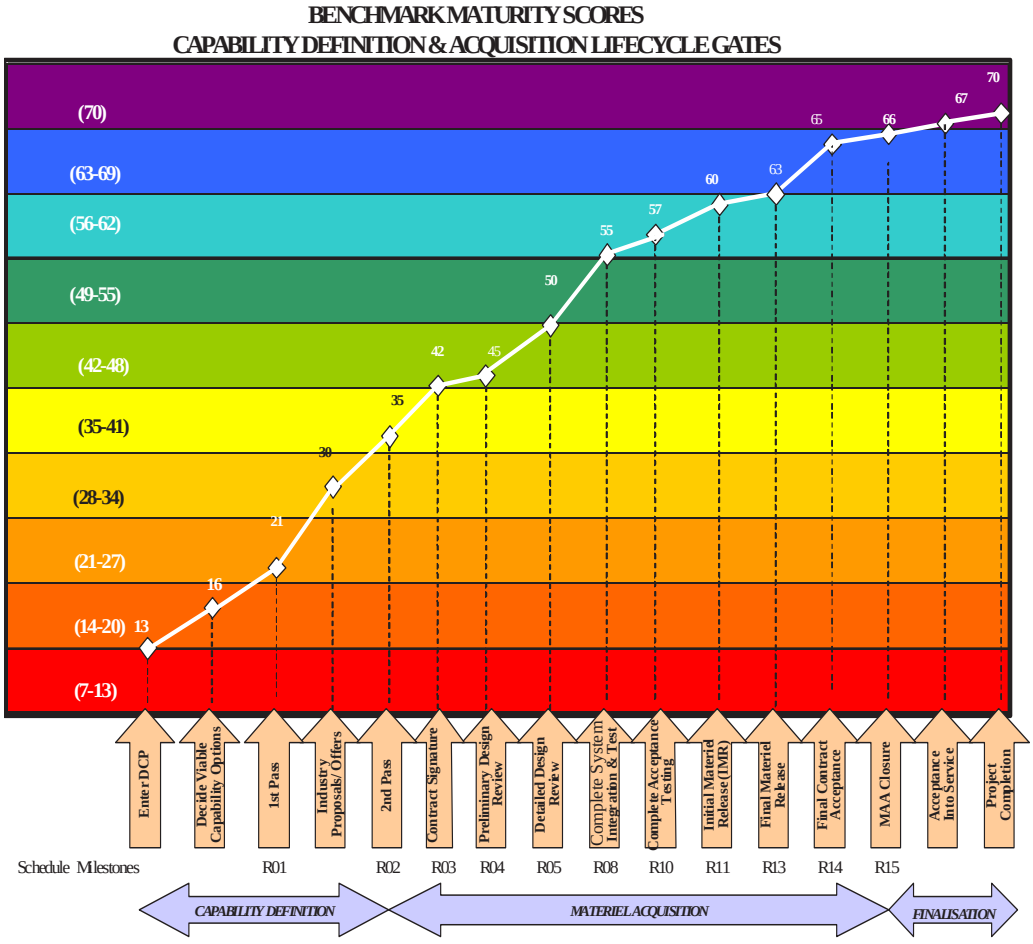
e) operation and support: the complexity associated with readying the organisation and environment in which the system will be operated, supported and sustained; and

f) commercial: the readiness and capability of industry to develop, produce and support the required capability, and the complexity of the commercial arrangements being managed.

Appendix 2: Project Maturity Scores – Monitoring Progress

The DMO's Project Maturity Score quantifies the maturity of a project by way of a score based on the Project Managers' judgement at defined milestones in its capability development and acquisition phases. This score is then compared against an ideal or benchmark score for that milestone. A project's maturity is assessed on 16 milestones across its lifecycle and for each of these milestones the ideal or benchmark condition is represented by a benchmark score as shown in Figure 1.

Figure 1 - Benchmark Maturity Scores



The Project Maturity Score comprises a matrix of seven attributes:

- Schedule;
- Cost;
- Requirement;
- Technical Understanding;
- Technical Difficulty;
- Commercial; and
- Operations and Support.

The Project Manager assesses the level of maturity that a project reaches at a particular milestone for each of these attributes on a scale of 1 to 10. Score assessment is made by selecting the most appropriate description that fits the question under the attributes columns. Project Maturity Scores provide a means of communicating in a simple fashion an indicative 'as is' versus a 'should be' condition to inform decision making for each project. The scores are not precise and are not intended to enable exact comparisons across projects. Following is a description of the Project Maturity Score Attributes.

Project Maturity Score Attributes

ATTRIBUTE DESCRIPTORS VS MATURITY SCORE							
	Schedule	**Cost**	**Requirements**	**Technical Understanding**	**Technical Difficulty**	**Commercial**	**Operation and Support**
DELIVERING THE DMO ACQUISTION PROJECT (Delivery Performance)							
Maturity Score	How are the IMR & FMR milestones tracking against project approval?	How well is the cost tracking against project approval?	How well are the requirements defined in the MAA being realised?	Defence's understanding of the technical solution and arrangements to operate and support the capability.	How well are the design and its validation coming along?	How well is industry performing?	How well prepared is the project to transition from Acquisition to Sustainment?
10	Achieved	Proven	Demonstrated	Fully Understood	Proven	All Delivered	Operational
9	Confident	Contingency Remains	Tested	Transferred	Tested	Delivered	Transitioning
8	Acceptable	Confident	Designed	Arranged	Integrated	Delivering	Integrated
7	In Tolerance	Within Contingency	Acceptable	Needs Understood	Designed	Manages Risk	Being Procured
6	Manageable	Negotiated	Contracted	Provided for	Planned	As Contracted	Defined
DEFINING THE DEFENCE PROJECT (Process Maturity)							
Maturity score	How realistic is the schedule?	What is the quality of the project estimate?	How well are the requirements defined and understood?	How well are the solutions understood?	How difficult is to integrate the component parts?	Can industry deliver the solution?	Is the impact on the existing operating and support environment understood?
5	Confirmed	Pre- Endorsed capability	Endorsed	Understood	Manageable	Offered	Planned
4	Understood	Industry Tested	Documented	Feasible	Feasible	Industry Proposals	Known
3	Feasible	Reasonable	Solution Classes	Coalescing	Building Blocks	Strategy Developed	Issues Understood
2	Drivers known	Plausible	Scenarios identified	Minimal	Conceptual	Possible	Conceivable
1	Speculative	Speculative	Deficiency	Not at all	Not Defined	Not Yet	Not Identified

Project Life Cycle Gates: CDG Responsibility DMO Responsibility	Represents	Benchmark Maturity Score
Enter Defence Capability Plan	The stage at which a project is recommended to Government for inclusion in the Defence Capability Plan	13
Decide Viable Capability Options	The stage in the capability definition/ development process when 1st Pass options that will be put to Government are decided by Chief CDG	16
1st Pass Approval	The stage at which 1st Pass options to be put to Cabinet are endorsed by the Defence Capability Committee	21
Industry Proposals/ Offers	The stage at which formal responses from industry to an Request For Price or Request For Tender have been received and evaluated	30
2nd Pass Approval	The stage in the capability definition/development process when 2nd Pass Approval is sought from Cabinet	35
Contract Signature	On completion of contract negotiations and on concluding contract signature of a contract that has maximum influence on the project.	42
Preliminary Design Review(s)	On completion of System Requirements Reviews and when Preliminary Design Reviews are completed	45
Detailed Design Review(s)	On completion of Detailed Design Reviews	50
Complete System Integration and Test	On completion of Verification and Validation activities at the system and subsystem levels	55
Complete Acceptance Testing	On completion of all contractual acceptance testing and associated testing activities nominated in the Test and Evaluation Master Plan	57
Initial Materiel Release (IMR)	Occurs when the materiel components that represents the DMO contribution to Initial Operational Release (IOR) are ready for transition to the Capability Manager	60
Final Materiel Release (FMR)	Occurs when all the products and services within the MAA have been transitioned to the Capability Manager.	63
Final Contract Acceptance	On Final Acceptance as defined in the contract.	65
MAA Closure	Occurs when all of the actions necessary to finalise the MAA have been completed, including completion of all financial transactions and records, completion of contracts and transfer of remaining fund.	66
Acceptance Into Service	The point at which the Capability Manager accepts the Materiel System, supplies and services for employment in operational service[187]	67
Project Completion	Project closure is achieved when the project is financially closed, support arrangements have been transitioned and all MAA requirements have been demonstrated and transitioned.	70

187 Where multiple elements of a mission system are involved (e.g. 3 surface combatants) this date represents Initial Operational Capability (IOC) of the initial Subset, including its associated operational support, i.e. when the Initial Operational Capability is achieved. (DI(G) OPS 45-2 refers).

Appendix 3: Lessons Learned

The Joint Committee of Public Accounts and Audit recommended in *Report 422: Review of the 2009-10 Defence Materiel Organisation Major Projects Report*, that the DMO include a Lessons Learned section in the MPR for projects that have met the exit criteria to report on their lessons learned at both the project level and the whole of organisation level.

Table 1 lists their lessons at the project level, against a whole of organisation level category.

Table 1: Lessons Learned – Project Level

Categories of Systemic Lessons	Project Lesson	Project Learned from
Resourcing	A reasonable presence of Australian Super Hornet Project Staff in the US is required to enable the Commonwealth adequate insight, influence and progress reporting of the USN and Boeing activities.	AIR 5349 Phase 1 – Bridging Air Combat Capability
Resourcing	Personnel resourcing, especially continuity in Business and Finance staff, requires careful management in project wind-down leading to FOC as project reporting and accurate financial accounting remains obligatory and at the same magnitude. Australian Super Hornet Project Office suffered when the business and finance responsibilities were reassigned from the Project Office in Canberra to Tactical Fighter Systems Program Office 12 months before FOC without an associated transfer of personnel. Furthermore, the level of work to account for assets and inventory procured by the project and the finance resource that would be required following FMR was underestimated causing the processing of Assets Under Construction to be adversely affected. This was further exacerbated by increased governance required through the utilisation of Quality Assurance Rollout Assist. To overcome these deficiencies, finance and logistics resources are	AIR 5349 Phase 1 – Bridging Air Combat Capability

	being shared within Tactical Fighter Systems Program Office.	
Resourcing	The level of experience gained as a result of the JSOW C operational test and evaluation program has provided the DMO with the ability to streamline raise train sustain weapons test programs.	AIR 5349 Phase 2 – Bridging Air Combat Capability
Requirements Management	The accelerated procurement of major materiel is possible with off-the-shelf items currently in production, but the establishment of a sustainment solution is a challenge and requires early management oversight.	AIR 5349 Phase 1 – Bridging Air Combat Capability
Requirements Management	Failure at project inception to articulate, tailor and agree naval standards to be applied to a ship designed and built to commercial 'Classification Society' standards has resulted in considerable debate and potential cost increase.	SEA 1444 Phase 1 – Armidale Class Patrol Boat
Requirements Management	The data generated by Defence Science and Technology Organisation as part of the centre barrel test-to-destruction programme will result in a considerable cost saving to the project (due to a reduction in the number of aircraft requiring SRP2) and an increased flexibility in aircraft modification induction dates.	AIR 5376 Phase 3.2 – F/A-18 Hornet Upgrade Structural Refurbishment
Requirements Management	Modifying an ageing weapon system such as the Hornet aircraft can present emergent work such as corrosion and cracking in the aircraft structure which must be rectified while the aircraft is disassembled. Adequate project contingency budget and schedule must be programmed to accommodate such uncertainties.	AIR 5376 Phase 3.2 – F/A-18 Hornet Upgrade Structural Refurbishment
First of Type Equipment; and Off-The-Shelf Equipment	Weapons acquired under the scope of the Project proved to be cost effective for the Commonwealth as the weapons were USN common and this also assisted in providing common integration and technical input from the USN.	AIR 5349 Phase 2 – Bridging Air Combat Capability
First of Type Equipment; and	FMS is a good procurement vehicle when a US Program is truly MOTS. However, FMS provides little ability for DMO to manage capability and associated risk when the US program is less	AIR 5349 Phase 2 – Bridging Air Combat

Off-The-Shelf Equipment	mature.	Capability
First of Type Equipment	For a new or significantly modified design there will be a number of design changes emanating from initial sea trials. The aggressive delivery schedule for the Armidale Class Patrol Boat (ACPB) did not allow time for changes from initial sea trials to be built into the follow-on build boats prior to their construction. This resulted in an evolving design baseline throughout the production phase that was not stabilised until after delivery of the last boat. Consequently the redesign, build, test and acceptance aspects of boats built after the first of class became unnecessarily complicated, expensive and inefficient. Time should be allowed after the first (or second depending on the size of the class) boat build to conduct sea trials and modify and stabilise the design as appropriate prior to the main production run.	SEA 1444 Phase 1 – Armidale Class Patrol Boat
Contract Management	An acquisition strategy combining the acquisition and support of the fleet in one single contract rather than the traditional acquisition model followed by a separate support contract can lead to significant disputation and complications in closing out latent defects where the prime contractor is not also the builder. Invariably, once the capability is delivered and being operated and the contract is into the sustainment phase, there is a greater reluctance on the part of the prime contractor to progress rectification of build-related defects that may result in a cost to the contractor and disputation with the builder.	SEA 1444 Phase 1 – Armidale Class Patrol Boat
Contract Management	The ACPB In Service Support (ISS) contract is principally a 15 year fixed price contract with the option for a five year extension. Existing contract provisions provide no incentive to the contractor to improve or implement changes in the delivery of support activities that would deliver benefits/savings to both the contractor and the Commonwealth. In particular, there is no	SEA 1444 Phase 1 – Armidale Class Patrol Boat

	incentive to make savings over the life of the contract that would generate a reduction in the ISS Fee. Incentives need to be built into contracts beyond the acquisition phase.	
Contract Management Schedule Management	Foreign Military Sales (FMS) Schedule planning: When factoring FMS related schedules, there is an inclination to schedule the acceptance of the case without allowing sufficient schedule float to accommodate potential delays. Often, there will be a delay post case acceptance whilst the US Government supporting office seeks to contract their suppliers - this delay could be some six to nine months in some instances. When negotiating lead times, it is essential to gain an understanding of the contracting and procurement processes of the source country.	LAND 19 Phase 7A – Counter-Rocket Artillery & Mortar
Contract Management	Proactive Contract Management: Due to the incremental contracting nature of the project, joint and proactive contract management was essential. Regular commercial integrated product teams provided an effective vehicle to manage the prime integration contract with Boeing and FMS cases with the US Government.	AIR 5376 Phase 2 – F/A-18 Hornet Upgrade
Off-the-Shelf Equipment Requirements Management	Sole source relationships: In a sole source relationship, projects might consider the Commonwealth of Australia would lack leverage over suppliers when negotiating contractual outcomes due to the absence of supplier competition. In this case, early and strong face-to-face engagement between the project office and FMS staff in the US and Saab staff in Sweden assured professional and outcome focused relationships. Using other Defence establishments for training, using partner nations to leverage open source commercial information to gain a sense of value for money in Australia's circumstance, and holding the supplier's reputation for further business opportunities at risk from poor performance in the current project are options available to the	LAND 19 Phase 7A – Counter-Rocket Artillery & Mortar

	Commonwealth when negotiating sole source contracts.	
Off-the-Shelf Equipment Requirements Management Resourcing	Support arrangements: Accelerated Acquisitions. Whilst they deliver equipment quickly, Integrated Logistics Support considerations (e.g. NPOC) can take considerable time when implemented retrospectively. Limitations to resources and costs need to be considered at the early stages of the project to enable robust planning.	LAND 19 Phase 7A – Counter-Rocket Artillery & Mortar
Military Off-The-Shelf Equipment	Considerable acceleration of the standard acquisition cycle is possible when the major supplies being procured are off-the-shelf production items. However, acceleration of establishment of support systems may be more difficult and should attract early management focus.	AIR 8000 Phase 3 – C17 Globemaster III Heavy Airlifter
Schedule Management	Closely monitor the return of repairable parts for the production installation phase to ensure no delays are experienced during the rebuild of each aircraft being modified. The more severe action that could be taken is to direct that repairable parts are not removed during the aircraft modification. Close monitoring of modification kit holdings and subsequent timely procurement is required to ensure kit deficiencies do not arise impacting on production schedule.	AIR 5376 Phase 3.2 – F/A-18 Hornet Upgrade Structural Refurbishment

Lessons Learned – Whole of Organisation Level

The 2013-14 MPR builds on the lessons learned (at the organisational level) reported in last year's report. Set out below is a summary of progress against the categories of lessons learned.

Military Off-The-Shelf Equipment

The lessons learned in relation to Military Off-The-Shelf equipment are incorporated in DMO policies.

Schedule Management

The lessons learned in relation to Schedule Management are incorporated in Chapter 1, Schedule Management, 1.17, pages 114-115.

Requirements Management

To address issues associated with understanding the level of maturity of requirements and progression through the various systems engineering reviews, the standard procedure covering Function and Performance Specification (FPS) development was amended to provide further guidance on the maturity levels for the FPS when it is progressing through the capability development process. Additionally, policy, guidance handbook and a standard procedure was promulgated to assist with assessing the suitability and risks for system reviews conducted in acquisition.

To improve the quality of objective evidence, or data, relating to acquiring and sustaining materiel systems, emphasis has been applied in the areas of configuration management and Verification & Validation (V&V). Improvements in the V&V policy, handbook and a standard procedure were issued to provide a more robust approach in utilising risk-based methodology to ensure that the necessary objective evidence is obtained. To reinforce the data quality of materiel systems an overarching configuration management policy has been promulgated to ensure reliable materiel system status throughout acquisition and sustainment.

Appendix 4: Glossary

Acquisition Category	See Appendix 1.
Additional estimates	Where amounts appropriated at Budget time are required to change, the Parliament may make adjustments to portfolios through the Additional Estimates process.
ASDEFCON	AUStralian DEFence CONtracting suite of contracting templates.
Capability	The power to achieve a desired operational effect in a nominated environment within a specified time and to sustain that effect for a designated period. Capability is generated by the Fundamental Inputs to Capability.
Capability Manager	A Capability Manager (CM) has the responsibility to raise, train and sustain capabilities. In relation to the delivery of new capability or enhancements to extant capabilities through the Defence Capability Plan, CMs are responsible for delivering the agreed capability to the Government, through the coordination of the Fundamental Inputs to Capability. Principal CMs are Chief of Navy (CN), Chief of Army (CA), Chief of Air Force (CAF), Deputy Secretary Intelligence and Security (DEPSEC I&S) and Chief Information Officer (CIO).
Capital Equipment	Substantial end items of equipment such as ships, aircraft, armoured vehicles, weapons, communications systems, electronics systems or other armaments that are additional to, or replacements for, items in the Defence inventory.

Contract Change Proposal	This is a formal written proposal by the Commonwealth or the contractor, prepared in accordance with the terms and conditions of the contract, to change the contract after the effective date. After agreement by the parties, the contract is amended in accordance with the processes established in the contract
Corporate Governance	The process by which agencies are directed and controlled, and encompasses; authority, accountability, stewardship, leadership, direction and control.
Defence Procurement Review 2003 (Kinnaird Review)	In August 2003 the Defence Procurement Review 2003 published its findings on the problems associated with major Defence acquisition projects with the review being chaired by Mr Malcolm Kinnaird. This became known as the Kinnaird Review.
DEFPUR 101	DEFence PURchasing (101) contracting template used prior to the formation of the DMO.
Financial Management and Accountability Act 1997	The FMA Act establishes the regulatory framework for financial management within public sector agencies, including the DMO. This was superceded by the Public Governance, Performance and Accountability Act 2013 that came into effect on 1 July 2014.
Firm Price Contract	A firm price contract is unalterable in all respects for the duration of the contract, except where the parties agree to a contract amendment which alters that contract price.

Foreign Military Sales	The US Department of Defense's Foreign Military Sales program facilitates sales of US arms, Defense services, and military training to foreign governments.
Forward Estimates	The level of proposed expenditure for future years (based on relevant demographic, economic and other future forecasting assumptions). The Government requires forward estimates for the following three financial years to be published in each annual Federal Budget paper.
Function and Performance Specification	A specification that expresses an operational requirement in function and performance terms. This document forms part of the Capability Definition Document.
Materiel Acquisition Agreement	An agreement between Defence and the DMO which states in concise terms what services and products the DMO (as a supplier) will deliver, for how much and when.
Materiel Capability Performance Measures	The traffic lights, based on a subjective assessment, indicate: • **Green:** There is a high level of confidence that they will be met; • **Amber:** Are under threat but still considered as manageable and able to be met; and • **Red:** At this stage are unlikely to be met.
Memorandum of Understanding (MOU)	A memorandum of understanding is a document setting out an agreement, usually between two government agencies.
Minor Capital Acquisition Project	A Defence project in which the proposed equipment falls within the definition of capital equipment but does not meet the criteria in the definition of a major project.

Off-The-Shelf	A product that is available for purchase, which has been delivered to another military or government body or commercial enterprise.
Operational Concept Document	The primary reference for determining fitness-for-purpose of the desired capability to be developed. This document forms part of the Capability Definition Document.
Operational Test and Evaluation (OT&E)	Test and evaluation conducted under realistic operational conditions with representative users of the system, in the expected operational context, for the purpose of determining its operational effectiveness and suitability to carry out the role and fulfil the requirement that it was intended to satisfy.
Platforms	Refers to air, land, or surface or sub-surface assets that are discrete and taskable elements within the ADF.
Portfolio Budget Statement	A document presented by the Minister to the Parliament to inform Senators and Members of the basis for Defence/DMO budget appropriations in support of the provisions in Appropriation Bills 1 and 2. The statements summarise the Defence/DMO budget and provides detail of outcome performance forecasts and resources in order to justify agency expenditure.
Prime System Integrator	The entity that has prime responsibility for delivering the mission and support systems for the project.

Project Management Stakeholder Group	A group representing the key stakeholders in a project that meets periodically to review the status of the project, advise senior executives of issues and provide guidance to the Project Manager.
Public Governance, Performance and Accountability Act 2013	The *Public Governance, Performance and Accountability (PGPA) Act 2013* came into effect on 1 July 2014 and superseded the FMA Act 1997. The PGPA is a Commonwealth Act about the governance, performance and accountability of, and the use and management of public resources by, the Commonwealth, Commonwealth entities and Commonwealth companies, and for related purposes
Schedule Compliance and Risk Assessment Method	The DMO developed a Schedule Compliance Risk Assessment Methodology (SCRAM), which provides a framework for identifying and communicating the root causes of schedule slip and the recommendations for going forward to Program and Executive-level management. It is based on a repeatable process that uses a root cause analysis of a schedule slip model to locate factors that impact program schedule along with a "health check" of the documented schedule, assessing its preparation and probability distribution of completion dates.
System Program Office	One of the core business units in the DMO. They provide a crucial link between the DMO and its customers. They provide acquisition and sustainment services to the ADF.

Test Concept Document	The basis for the DMO's development of the Test and Evaluation Master Plan for a project, and is the highest level document that considers test and evaluation requirements within the capability systems' life-cycle. This document forms part of the Capability Definition Document.
Variable Price Contracts	Variable price contracts provide for the contractor to be paid a fixed fee for performance of the contract, subject to certain variations detailed in the contract. Variable price contracts may allow for variations in exchange rates, labour and/or material costs.

Part 3. Auditor-General's Independent Review Report, Statement by the CEO DMO and Project Data Summary Sheets

Independent Review Report by the Auditor-General on the Defence Materiel Organisation's Project Data Summary Sheets

To the President of the Senate
To the Speaker of the House of Representatives

Scope

The review of the accompanying 30 Project Data Summary Sheets (PDSSs) as at 30 June 2014, including the 'Statement by the CEO DMO', was undertaken as a ***priority assurance review*** under section 19A(5) of the *Auditor-General Act 1997*.

My review is designed to provide assurance that the information contained in each PDSS has been prepared in accordance with the *2013–14 Major Projects Report Guidelines* (the Guidelines), as endorsed by the Joint Committee of Public Accounts and Audit. The 30 projects are listed in Attachment A.

My review encompassed the information in each PDSS, including the cost, schedule performance, and capability to be delivered against approved requirements, but did not include an assessment of the following information, which is outside the scope of the review, as set out in the Terms of the Priority Assurance Review Engagement, agreed with the Chief Executive Officer (CEO) of the Defence Materiel Organisation (DMO):

(a) the adequacy of the current approved budget to deliver the required capability—Section 1.2 Current Status—Cost Performance (project financial assurance statement);

(b) Section 1.3 Project Context—Major Risks and Issues, Section 6.1 Major Project Risks, and Section 6.2 Major Project Issues;

(c) Section 5.1 Measures of Materiel Capability Delivery Performance; and

(d) 'forecasts' of future dates regarding a project's expected achievement of delivery schedules and capability where included in Sections 1 and 3 of each PDSS.

The information in clauses (a) to (d) above, has not been included in the scope of the review because by its nature, it relates to events and depends on circumstances that have not yet occurred, may not occur, or have occurred but

have not yet been identified. Accordingly, the conclusion of this review does not provide any assurance in relation to this information.

Chief Executive's Responsibility for the Project Data Summary Sheets

The CEO DMO is responsible for the preparation and presentation of the unclassified PDSSs for the 30 projects outlined in the scope, in accordance with the Guidelines. This responsibility includes ensuring the completeness and accuracy of each project's cost and schedule performance, and capability to be delivered against approved requirements, in each PDSS.

Auditor's Responsibility

My responsibility is to express an independent conclusion based on my review. My review has been conducted in accordance with the Australian Standard on Assurance Engagements, ASAE 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* issued by the Australian Auditing and Assurance Standards Board, which forms part of the Australian National Audit Office Auditing Standards.

My review is designed to enable me to obtain sufficient appropriate evidence to form a conclusion on whether anything has come to my attention to indicate that the information and data in the PDSSs, within the scope of my review, has not been prepared, in all material respects, in accordance with the Guidelines.

Independence

In conducting the review, I have followed the independence requirements of the Australian National Audit Office, which incorporate the requirements of the Australian accounting profession.

Review criteria and methodology

The criteria that have been used to conduct my review are based on the Guidelines and include whether the DMO has procedures in place designed to ensure that project information and data was recorded in a complete and accurate manner for each project.

I have conducted the review of the PDSSs, as explained in the above ***Scope*** section, for the 30 projects by making such enquiries and performing such procedures as I, in my professional judgement, considered reasonable in the circumstances including:

- examination of each PDSS and the documents and information relevant to them;

- a review of relevant processes and procedures used by the DMO in the preparation of the PDSSs;
- an assessment of the systems and controls that support project financial management, risk management, and project status reporting, within the Australian Defence organisation;
- interviews with persons responsible for the preparation of the PDSSs and those responsible for the management of the 30 projects;
- taking account of industry contractor comments provided to the ANAO and the DMO on draft PDSS information;
- assessing the assurance by the DMO managers attesting to the accuracy and completeness of the PDSSs;
- examination of the representations by the Chief Finance Officer of the DMO supporting the project financial assurance and contingency statements, and the independent third-party review of the project financial assurance statements;
- examination of confirmations, provided by the Secretary of the Department of Defence and Chief of the Defence Force, from the Capability Managers, relating to each project's progress toward Initial and Final Materiel Release, and Initial and Final Operational Capability; and
- examination of the 'Statement by the CEO DMO', including significant events occurring post 30 June, and management representations by the CEO DMO.

A review of this nature provides less assurance than an audit.

Conclusion

Based on my review described in this report, nothing has come to my attention that causes me to believe that the information and data in the PDSSs, within the scope of my review, has not been prepared, in all material respects, in accordance with the Guidelines.

Ian McPhee
Auditor-General

Canberra ACT
8 December 2014

List of Projects

- AIR 6000 Phase 2A/2B — New Air Combat Capability
- SEA 4000 Phase 3 — Air Warfare Destroyer Build
- AIR 5077 Phase 3 — Airborne Early Warning and Control Aircraft
- AIR 9000 Phase 2/4/6 — Multi-Role Helicopter
- LAND 121 Phase 3B — Medium Heavy Capability, Field Vehicles, Modules and Trailers
- AIR 9000 Phase 8 — Future Naval Aviation Combat System
- JP 2048 Phase 4A/4B — Amphibious Ships (LHD)
- AIR 5349 Phase 3 — EA-18G Growler Airborne Electronic Attack Capability
- AIR 87 Phase 2 — Armed Reconnaissance Helicopter
- AIR 5376 Phase 2 — F/A-18 Hornet Upgrade
- AIR 5402 — Air to Air Refuelling Capability
- SEA 1390 Phase 2.1 — Guided Missile Frigate Upgrade Implementation
- AIR 8000 Phase 2 — Battlefield Airlift – Caribou Replacement
- LAND 116 Phase 3 — Bushmaster Protected Mobility Vehicle
- LAND 121 Phase 3A — Field Vehicles and Trailers
- JP 2008 Phase 4 — Next Generation SATCOM Capability
- SEA 1448 Phase 2B — ANZAC Anti-Ship Missile Defence
- AIR 9000 Phase 5C — Additional Medium Lift Helicopters
- JP 2043 Phase 3A — High Frequency Modernisation
- JP 2072 Phase 2A — Battlespace Communications System
- SEA 1439 Phase 4A — Collins Replacement Combat System
- JP 2008 Phase 5A — Indian Ocean Region UHF SATCOM
- SEA 1429 Phase 2 — Replacement Heavyweight Torpedo
- SEA1439 Phase 3 — Collins Class Submarine Reliability and Sustainability
- SEA 1390 Phase 4B — SM-1 Missile Replacement
- SEA 1448 Phase 2A — ANZAC Anti-Ship Missile Defence
- LAND 17 Phase 1A — Artillery Replacement
- AIR 5418 Phase 1 — Follow On Stand Off Weapon
- LAND 75 Phase 3.4 — Battlefield Command Support System
- JP 2048 Phase 3 — Amphibious Watercraft Replacement

Statement by the CEO DMO

The attached Project Data Summary Sheets (PDSSs) for the 30 major projects included in this report have been prepared in accordance with the Guidelines developed by the Defence Materiel Organisation (DMO) in consultation with the Australian National Audit Office (ANAO) and endorsed by the JCPAA.

Project Status as at 30 June 2014

In my opinion, the Project Data Summary Sheets comply in all material respects with the Guidelines and reflect the status of the projects as at 30 June 2014. In stating this opinion, and in agreement with the ANAO, I acknowledge that the following sections of each PDSS are not covered in the scope of the Auditor-General's assessment:

- Section 1.2 Current Status–Cost Performance, Section 1.3 Project Context–Major Risks and Issues, Section 5.1 Measures of Materiel Capability Delivery Performance, Section 6.1 Major Project Risks, Section 6.2 Major Project Issues; and
- Future dates that are 'forecasts' regarding a project's expected achievement of delivery schedules and capability where included in Sections 1 and 3 of each PDSS.

Significant Events Occurring Post 30 June 2014

In stating this opinion, I acknowledge the following material events have occurred post 30 June 2014:

AIR 6000 Phase 2A/2B New Air Combat Capability

The official rollout of Australia's first two F-35 Lightning II (JSF) aircraft occurred on 24 July 2014 in Fort Worth, Texas and the JSF made its inaugural flight in October 2014. In September, the Republic of Korea signed the letter of acceptance to procure the F-35A JSF through US Foreign Military Sales agreements.

SEA 4000 Phase 3 Air Warfare Destroyer Build

The AWD Program continues to address cost and schedule pressures and a Reform Program has commenced as the result of the Government's Independent Review. The Reform Program is intended to improve shipbuilding productivity at the AWD shipbuilder ASC and its subcontractors

BAE Systems, Forgacs and Navantia by inserting an experienced shipbuilding management team into ASC; and, pursue the reallocation of blocks between shipyards to make the AWD program more sustainable. Depending on the results of the AWD Reform Program, it is possible that the project may have insufficient approved funds to complete the program.

AIR 9000 Phase 2/4/6 Multi Role Helicopter

Declaration of Initial Operational Capability (IOC) was scheduled for September 2014 but has been deferred pending technical investigation and a review of MRH90 Airworthiness maturity. IOC is now forecast for December 2014.

LAND 121 Phase 3B Medium Heavy Capability, Field Vehicles, Modules and Trailers

Rheinmetall MAN Military Vehicles Australia (RMMVA), the Prime Contractor for Land 121 Phase 3B, have exited the Integrated Baseline Review, Detailed Design Review (Flatracks) and completed Preliminary Design Review #1. RMMVA have also signed two major outstanding contracts and contracted with Holmwood Highgate and Thales Australia.

AIR 9000 Phase 8 Future Naval Aviation Combat System

The Commonwealth accepted the Seahawk Simulation and Warfare Centre at HMAS Albatross on 30 September 2014 and the first MH-60R aircraft arrived at HMAS Albatross on 14 October 2014.

JP 2048 Phase 4A/4B Amphibious Ships (LHD)

Australia's first Landing Helicopter Dock (LHD) ship, NUSHIP *Canberra* was accepted by the DMO in early October 2014 and was farewelled from Melbourne and departed for Sydney on 29 October 2014. Initial Materiel Release (IMR) was declared on 31 October 2014. HMA Ship *Canberra* was commissioned on 28 November 2014.

AIR 5376 Phase 2 F/A-18 Hornet Upgrade

The project achieved Final Operational Capability (FOC) for Phase 2.3 on 31 October 2014.

AIR 5402 Air to Air Refuelling Capability

The Qualification flight test program for the Advanced Refuelling Boom System (ARBS) on the KC-30A was successfully completed in Madrid on 25 July 2014. The completion of this activity significantly reduced the technical risk on the program in an area relevant to the Project of Concern status.

AIR 8000 Phase 2 Battlefield Airlift – Caribou Replacement

A rollout ceremony was held in July 2014 for the first Air 8000 Phase 2 Battlefield Airlifter C-27J aircraft. The rollout is a significant achievement and indicates progress towards acceptance of the first aircraft.

SEA 1448 Phase 2B and 2A ANZAC Anti-Ship Missile Defence

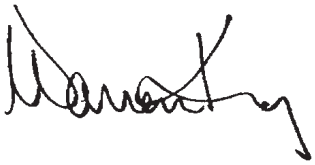
IOC was scheduled for September 2014 but has been delayed due to protracted Regulatory review. IOC is now expected to be achieved in December 2014.

LAND 17 Phase 1A Artillery Replacement

In August 2014, Combined Pass Approval was provided for LAND 17 Phase 1C.1 which approved the scope transfer of the Course Correcting Fuse from LAND 17 Phase 1A. Achievement of FOC for LAND 17 Phase 1A was reported in October 2014.

JP 2048 Phase 3 Amphibious Watercraft Replacement

The Project achieved IMR in October 2014 and IOC is now forecast for February 2015.



Mr Warren King

Chief Executive Officer

8 December 2014

Project Data Summary Sheets

Part 3. Project Data Summary Sheets

Project Data Summary Sheet[188]

Project Name	**NEW AIR COMBAT CAPABILITY**
Project Number	**AIR 6000 Phase 2A/2B**
First Year Reported in the MPR	2010-11
Capability Type	Replacement
Acquisition Type	**Developmental**
Service	Royal Australian Air Force
Government 1st Pass Approval	Nov 06
Government 2nd Pass Approval	Nov 09 (Stage1) **Apr 14 (Stage 2)**
Total Approved Budget (Current)	**$13,455.5m**
2013-14 Budget	**$218.6m**
Project Stage	**Contract Signature**
Complexity	ACAT I

Section 1 – Project Summary

1.1 Project Description

The AIR 6000 New Air Combat Capability (NACC) Project aims to introduce the **F-35A Joint Strike Fighter (JSF)** capability that will meet Australia's air combat needs out to 2030 and beyond. AIR 6000 Phase 2A/2B **of the project is approved to** acquire 72 Conventional Take Off and Landing (CTOL) **F-35A** JSF aircraft to establish three operational squadrons, a training squadron and necessary supporting/enabling elements to replace the F/A-18A/B Hornet capability.

The expansion of scope from the 14 aircraft and associated support reported last year was approved by Government in April 2014.

Lockheed Martin is contracted to the United States (US) Government for the development and production of the F-35A JSF. The aircraft and associated support systems are being procured through a government to government co-operative agreement with the US and JSF partner nations, including the United Kingdom, Canada, Italy, Denmark, Norway, Netherlands and Turkey. Japan, Israel **and the Republic of Korea (pending formal signing of a letter of acceptance) are** also procuring the F-35A JSF through US Foreign Military Sales (FMS) agreements.

1.2 Current Status

Cost Performance

In-year

In-year expenditure **was** approximately **three** per cent **more** than budgeted **(an overspend of $4.7m). The major contributions to the end of year variance were the ongoing maturing of the F-35 Joint Program Office (JPO) invoicing and Australian based project activity has been slower than anticipated.**

188 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Project Financial Assurance Statement

As at 30 June 2014, overall Project AIR 6000 Phase 2A/2B cost performance remains within the approved budget. Noting the budget remaining for completion of the project, together with the estimated future expenditure and current known risks, the DMO considers that there is sufficient budget remaining for this project.

Contingency Statement

The project has applied contingency in the financial year for the treatment of increased cost to JSF aircraft to be delivered under Stage 1, as identified in the Selected Acquisition Report 12.

Schedule Performance

Australia's first two aircraft are in production and are scheduled to be delivered in 2014, **as part of Materiel Release 1 (MR1).**

Whilst there is a delay of several months in the aircraft production schedule and a forecast of some minor acceptance delays, these delays will not have any direct impact on the commencement of Pilot training in the US and the subsequent declaration of MR1.

The remaining 12 Stage 1 Aircraft were originally scheduled for delivery by 2018. Government initiated a two year deferral in production and IOC, with Aircraft (14) planned to be accepted in July 2019 to achieve IOC in November 2020.

Second Pass Approval for Stage 2 (additional 58 CTOL F-35A JSF aircraft) was successfully achieved in April 2014.

Aircraft 15-72 are scheduled to be delivered by end of 2023, as part of FOC.

Materiel Capability Delivery Performance

The capability of the **F-35A** JSF Air System is now reaching a level of maturity where the project is confident it will be able to meet the agreed threshold level of capability required for IOC in 2020. However, there remain risks to achieving IOC and Final Operational Capability (FOC) of the JSF capability associated with establishment of enabling systems and capabilities, and risk to achieving FOC software capability on schedule. The enabling systems and capabilities include: sustainment establishment, facilities, information systems, reprogramming, weapons integration and training systems.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Project AIR 6000 was established in 1999 to replace the air combat capabilities provided by the F/A-18A/B and F-111 fleets. In 2002 Government identified the Lockheed Martin F-35A JSF as the preferred option and joined the System Development and Demonstration (SDD) phase of the JSF Program as the eighth (and last) Partner. At this time the project discontinued the competitive evaluation under AIR 6000 and was retitled the New Air Combat Capability (NACC) Project. The subsequent decision by Government to acquire the F-35A JSF has been taken progressively including:

- Providing First Pass Approval in November 2006, which included agreement to join the next phase of the JSF Program and funded project AIR 6000 Phase 1B detailed definition and analysis activities to support Government Second Pass Approval for AIR 6000 Phase 2A/2B.
- Signing the multilateral Production, Sustainment and Follow-on Development (PSFD) Memorandum of Understanding (MoU) in December 2006 to allow entry into the next stage of the JSF Program.
- AIR 6000 Phase 2A/2B Stage 1 Approval in November 2009 to acquire 14 CTOL **F-35A** JSF aircraft and associated support and enabling elements necessary to establish the initial training capability in the US, commencing in 2014, and to allow commencement of Operational Test in the US and Australia.
- AIR 6000 Phase 2A/2B Stage 2 **was approved by Government in April 2014 to** acquire **an additional** 58 CTOL **F-35A** JSF aircraft and enabling elements. **The combined acquisition of 72 aircraft will provide an FOC in 2023 comprising** three operational squadrons **of fifth generation F-35 JSF** to replace the F/A-18A/B Hornet aircraft.

Uniqueness

The JSF Program was established by the US Government as the first international collaborative development program for a US military aircraft. The program includes initial design, production, follow-on development and through life support of the JSF global fleet.

The JSF Program is expected to deliver over 3000 aircraft to the **nine** MoU Partners (with the US to acquire approx 75 per cent of the total) with the potential for significant additional aircraft procurements by FMS customers.

The JSF is characterised by a low observable (stealth) design, internal weapons and fuel carriage, advanced electro-optical and infrared sensors, long range, the ability to employ a wide range of air-to-surface and air-to-air weapons, advanced communications suite to enable network centric operations, state of the art prognostics and health management, a single interchangeable engine and radically reduced support requirements.

Due to strict US export restrictions imposed on the JSF Air System, direct commercial sale is not permitted. JSF aircraft and associated supporting systems will be acquired by Australia under the PSFD MoU arrangements. Key factors are:

- The US Government will contract with Lockheed Martin and **Pratt & Whitney** on Australia's behalf in accordance with US contracting laws, regulations and procedures.
- The **F-35** JPO's acquisition strategy is **to commence with eleven** annual **Low Rate Initial Production** (LRIP) contracts, transitioning from a Fixed Price Incentive Fee to a Firm-Fixed Price at the appropriate time.
- Each contract will require a separate Partner Procurement Request (PPR) from each partner nation defining their requirements for that buy. PPRs are submitted two years ahead of contract and four years ahead of delivery.
- **F-35A JSF** Aircraft to be delivered under Phase 2A/2B will **initially** be acquired under separate annual contracts **until 2019 deliveries (LRIP 11)**. **Subsequent procurements are planned to transition from single lot buys to a multi-year procurement.**
- The Australian **F-35A** JSF capability is to be supported under a global support arrangement (referred to as 'Autonomic Logistics Global Sustainment') through performance-based contracts.

As well as providing capability and programmatic benefits, a key aim of Australia's participation in the JSF Program is to embed Australian industry in the JSF global supply and support chain for the life of the JSF Program. The Commonwealth continues to work with the Prime Contractor Lockheed, its JSF industry partners and their sub contractors to achieve long term industry outcomes for Australia.

Major Risks and Issues

The JSF is a large and complex program and many challenges remain. While as a MoU Partner Australia does have a role, overcoming technical challenges is primarily a US responsibility.

The major **risks and issues** facing the NACC Project are:

- **Possibility of US and JSF Partner Governments altering commitments to the broader JSF Program that impacts Australian acquisition and life-cycle costs.**
- **Integration of the JSF into the ADF systems.**
- **Establishing the required facilities and Information, Communications and Technology (ICT) infrastructure to support stand up of the JSF capability.**
- **Lack of timely data and releaseability of JSF program information that impacts the timely, efficient and effective integration of the F-35 aircraft system into the Australian Defence Force.**
- **The maturity of the JSF System and ability to meet IOC and FOC.**
- **Transition of the JSF into service at the same time RAAF ramps up Australian Super Hornet and Growler capabilities.**
- **Establishing and ramping up the JSF sustainment system.**
- **Ensuring required industry outcomes during JSF production and transition into service.**
- **Noise associated with the introduction of the JSF at RAAF Base Williamtown.**

Other Current Sub-Projects

AIR JSF SDD – Participation in the JSF System Development and Demonstration (SDD) Program: The contribution to the SDD Program is in two parts, a cash component of SDD funding of US$144m, and a non-financial component of US$6m with the Defence Science and Technology Organisation (DSTO) conducting a Pacific Rim Command, Control, Communication, Computing, Intelligence, Surveillance, and Reconnaissance study. All AIR JSF SDD financial milestones have been completed. The US SDD Phase is due to be closed in 2017 following the completion of Development and Test of the Block 3 software.

AIR 6000 Phase 1B – Detailed Analysis and Acquisition Planning (AUS$100m): AIR 6000 Phase 1B focused on the analysis and risk mitigation activities necessary to support Government's procurement decision on the JSF and to support Australian defence industry participation in the JSF Program. The primary financial activity was provision of Australia's shared cost contribution to the US JSF Program in accordance with our obligations as a Program partner in the PSFD Phase. Apart from ongoing funding to support some outstanding contracts, Phase 1B is complete and the NACC Project is now in the acquisition phase.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
AIR 5402 Air to Air Refuelling Capability	Provision of five new generation Airbus A330 Multi-Role Tanker Transport aircraft.	Air to Air refuelling support for extended range/duration **air combat** missions.
AIR 5077 Airborne Early Warning and Control Aircraft	Provision of six Airborne Early Warning and Control aircraft.	**Provision of Airborne Early Warning and Control to support JSF Air Combat operations**.
R8000 NACC Facilities project	**Defence Capability Plan (DCP) funded project to meet the NACC facilities requirements.**	**Delivery of JSF operational, maintenance, logistics and training facilities.**
AIR 5349 Phase 3 Growler Enabling Capability	**Provision of 12 E/A-18G Growler aircraft, associated support and training systems.**	**Additional Airborne Electronic Attack Capability.**

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Nov 09	Original Approved		2,751.6	
May 12	Real Cost Decrease	(204.4)		1
Sep 12	Real Cost Increase	201.5		1
Jun 14	**Government Second Pass Approval – Stage 2**	**10,515.4**		**2**
			10,512.5	
Jul 10	Price Indexation		351.0	**3**
Jun 14	Exchange Variation		**(159.6)**	
Jun 14	**Total Budget**		**13,455.5**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – US Government (PSFD MoU)	**(162.9)**		
	Contract Expenditure – US Government – LRIP 6 **Production**	**(19.4)**		
	Contract Expenditure – US Government – LRIP 6 **Propulsion**	**(1.0)**		
	Other Contract Payments / Internal Expenses	**(44.5)**		**4**
			(227.8)	
FY to Jun 14	Contract Expenditure – US Government – LRIP 6 **Production**	**(142.3)**		
	Contract Expenditure – US Government – LRIP 6 Propulsion	**(37.0)**		
	Contract Expenditure – US Government (PSFD MoU)	**(18.1)**		
	Other Contract Payments / Internal Expenses	**(25.9)**		**5**
			(223.3)	
Jun 14	**Total Expenditure**		**(451.1)**	
Jun 14	**Remaining Budget**		**13,004.4**	

Notes	
1	A **May 2012** budget adjustment **($204.4m)** was applied to AIR 6000 Phase 2A/2B based on an incorrect interpretation of the Government's decision to vary the NACC Program. **In September 2012, a budget adjustment correction** was applied **$201.5m,** using an updated exchange rate. As a result, the project's total approved budget has remained the same as intended by Government.
2	**Government approved AIR 6000 Phase 2A/2B Stage 2 in April 2014 for an additional 58 CTOL F-35A JSF aircraft.**
3	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $70.3m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $280.8m having been applied to the remaining life of the project.
4	Other expenditure for this period is primarily associated with activity to integrate NACC specific information systems into the Defence Information Environment (DIE) (**$24.3m**), the NACC Industry Support Program (**$4.6m**), F-35A **base planning and** facility design and Environmental Impact

	Statement development (**$2.5m**), Enterprise Architecture Modelling activity ($1.6m), **and Diminishing Manufacturing Supplies ($1.0m). The remainder is comprised of expenditure associated with project** travel, minor office expenses and contractors.
5	Other expenditure for this period is primarily associated with: **activity to integrate NACC specific information systems into the Defence Information Environment (DIE) $15.0m), Reprogramming Laboratory ($1.4m)**, NACC Industry Support Program (Grants) **($1.1m), Co-operative Program Personnel (US based) expenses ($0.8m)**, F-35 facility design and Environmental Impact Statement development **($0.9m)**, Enterprise Architecture Modelling activity **($0.7m)**, **LRIP 7 ($0.3m), and Safety Case ($0.1m)**. The remainder **($5.6m)** is comprised of expenditure associated with contractors, project travel and minor office expenses.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**US contracting and invoicing is not yet mature and has led to variations in expenditure and Australian based project activity was slower than anticipated.**
		5.8	Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
		(1.1)	Commonwealth Delays	
218.6	**223.3**	**4.7**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government (PSFD MoU)	Dec 06	**167.1**	**182.6**	Various	MoU	1,**4**
US Government (LRIP 6 **Production**)	May 11	22.0	**268.7**	Fixed Price Incentive	USG Contract	2,**4**
US Government (LRIP 6 Propulsion)	**Aug 11**	**5.8**	**50.3**	**Fixed Price Incentive**	**USG Contract**	**3,4**

Notes	
1	Contribution to PSFD MoU shared costs based on proportionality principle: i.e. number of aircraft purchased as a percentage of entire partner fleet. Commitment via MoU signature in December 2006 **with** price **re-baselined from** 2002 to **2012 per US Government update.** Covers period from 2010 to 2014 as approved by Government in November 2009. The PSFD MoU 'contract' is a 'variable' priced 'contract' in that it is updated annually to reflect both estimated shared costs and escalation.
2	**Production contract for** Australia's first **two F-35A** aircraft **including** initial Long Lead items**, support equipment and other hardware** and services. **This** contract **is** progressively modified with approved work scope and **forms** the basis of the Air System contract for the complete system – per Section 1.3 'Uniqueness'.
3	**Production contract for two engines for installation on Australia's first two F-35A aircraft. Also includes one spare engine and initial Long Lead items. This contract is progressively modified with approved work scope and forms the basis of the propulsion contract for the complete system – per Section 1.3 'Uniqueness'.**
4	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government (PSFD MoU)	N/A	N/A	Australia's contribution to shared costs from 2010 to 2014 based on the purchase of 100 aircraft. Includes contribution to production tooling, US overhead cost of running program, follow on development and shared sustainment activities.	1
US Government (LRIP 6 **Production**)	2	2	**Procurement of the first two Australian F-35A aircraft including** Advanced Acquisition items and services and progressive associated work scope.	
US Government (LRIP 6 Propulsion)	**3**	**3**	**Provision of engines for installation on Australia's first two F-35A aircraft plus one spare engine.**	
Major equipment received and quantities to 30 June 14				
No major equipment deliverables planned until **late** 2014.				
Notes				
1	No equipment delivered as part of this contract.			

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Preliminary Design	JSF Air System (CTOL Variant)	Mar 03	N/A	July 03	4	1
Critical Design	JSF Air System (CTOL Variant)	Apr 04	Feb 06	Feb 06	22	2
Notes						
1	Aircraft weight was the major issue that delayed the closure of the Preliminary Design Review (PDR) by approximately three months.					
2	Design refinements following PDR failed to achieve the weight savings initially expected and considerable additional design effort was required. The original planned CTOL Critical Design Review (CDR), planned for April 2004, was re-scheduled to February 2006 after the redesign effort was completed, **which** included the 'roll up' of many lower-tiered reviews.					

3.2 Test and Evaluation Progress

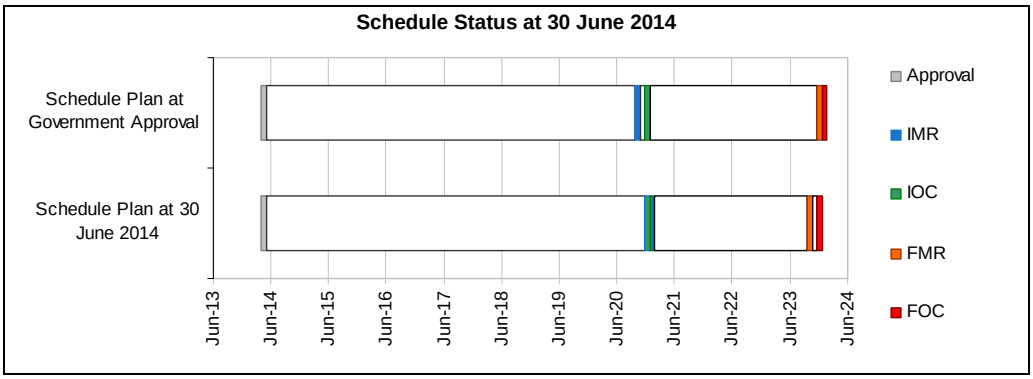
Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	**Block 2B Fleet Release (against IMS7 Baseline)**	**Jun 15**	**Jun 15**	**Jun 15**	**0**	
	Block 3i Initial Release to support LRIP 6 (against IMS7 Baseline)	**Mar 14**	**Nov 14**	**Nov 14**	**8**	**1**
	Block 3F Fleet Release (against IMS7 Baseline)	**Aug 17**	**Sep 17**	**Sep 17**	**1**	**2**
Acceptance	Accept and deliver two (LRIP 6) aircraft to US **Pilot Training Centre**	Mar 14	**Nov 14**	**Dec 14**	**9**	**3**
	Accept and deliver aircraft 3-14	Dec 16	**Jul 19**	**Jul 19**	**31**	**4**
	Accept and deliver aircraft 15-72	**Dec 23**	**Dec 23**	**Oct 23**	**(2)**	**5**

Notes	
1	**Block 3i Initial Release software provides initial pilot training capability for the Low Rate Initial Production (LRIP) 6 aircraft configuration. The eight month variance in Block 3i Initial Release software development is due to delays in earlier software deliveries and compounded by integration into the updated computer architecture delivered in LRIP 6 aircraft.**
2	**Block 3F Fleet Release is final capability software state under the SDD Program. One month variance does not impact IOC.**
3	**The March 2014 original delivery date was planned on IOC in 2018. The December 2014 delivery date reflects a two year deferral in production to align with the US re-baselining of JSF production, and verification of new software load for LRIP 6 aircraft to assure an appropriate training capability.**
4	**The remaining 12 Stage 1 Aircraft were originally scheduled for delivery by 2017 leading to IOC in 2018. In March 2010, the JSF Program experienced a Nunn-McCurdy breach of the critical cost growth statutory threshold. Based on subsequent delays to SDD completion and the US aircraft buy profile, the Australian Government initiated a two year deferral in production and IOC, with Aircraft (14) planned to be accepted in July 2019 to achieve IOC in December 2020.**
5	**Two month variance is due to the expected completion of Aircraft 72 production in August 2023, resulting in Aircraft 72 early acceptance and ferry to Australia in October 2023.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

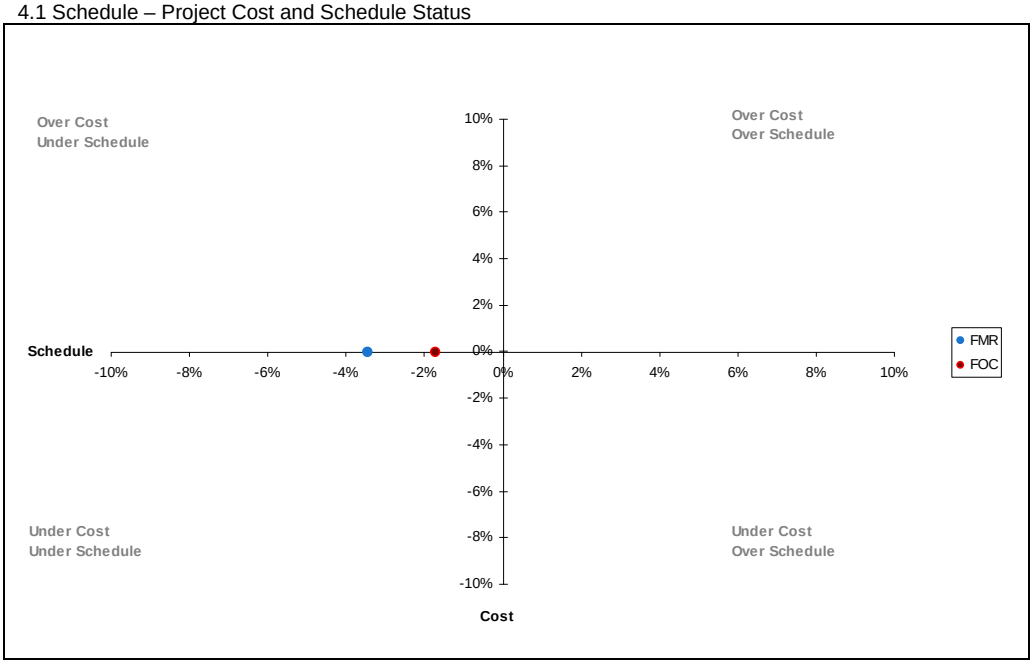
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	**Oct - Dec 20**	**Dec 20**	**0**	
Initial Operational Capability (IOC)	**Dec 20**	**Nov 20**	**(1)**	**1**
Final Materiel Release (FMR)	**Oct - Dec 23**	**Aug 23**	**(4)**	**2**
Final Operational Capability (FOC)	**Dec 23**	**Oct 23**	**(2)**	**3**

Variance Explanation / Implications	
1	**Variance due to the expected LRIP 10 aircraft deliveries being brought forward from December 2020 to November 2020 to support IOC declaration.**
2	**Variance due to the expected Aircraft 72 planned delivery brought forward from December 2023 to August 2023 to support FOC declaration.**
3	**Variance due to the expected Aircraft 72 ferry to Australia in October 2023.**



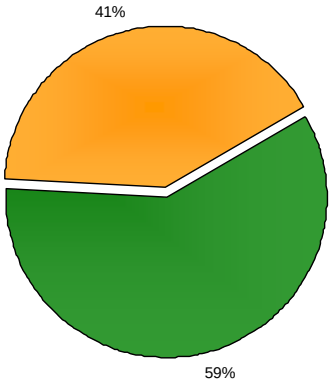
Section 4 – Project Cost and Schedule Status

4.1 Schedule – Project Cost and Schedule Status



Section 5 – Materiel Capability Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Delivery Capability Performance	
	**Green:** The project has assessed that the JSF Training, Support Equipment, Alternate Mission Equipment and Spares provision **expects to** meet the materiel capability **delivery** performance required for Stage**s** 1 **and 2**. Other satisfactory indicators are not directly related to capability but are related to progress against Australia's obligations under the PSFD MoU and the Australian Industry Support Initiatives Program. **Amber:** The project assesses **that Phase 2A/2B (Combined** Stage 1 **and 2)** will deliver its materiel requirements, **noting** there are a number of risks to achieving **some of** the materiel capabili**ties** required to deliver IOC and FOC. **These risks include:** **1. Integration of JSF into the ADF system.** **2. Final software builds meeting required functionality by IOC and FOC.** **3. Establishing the sustainment capability.** **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
US and JSF Partner Governments Approvals. Possibility of US and JSF Partner Governments altering commitments to the broader JSF Program that impacts Australian JSF acquisition and life-cycle costs.	**The overall objective of the JSF PSFD MoU is the cooperative production, sustainment, and follow-on development of the JSF Air System to meet the requirements of the Participants. The NACC Project Office's engagement with the US JPO identifies specific** Information and data release deficiencies, uncertainties and/or issues **that must** be addressed though the engagement of senior US Government officials and the establishment of agreed predictable and documented processes **to meet the PSFD MoU objectives.**

Integration of the JSF into the ADF systems of systems	Ongoing analysis of interfaces with other ADF platforms to ensure optimal interoperability. Participation in the US test activities will enable Australia to obtain greater understanding of the systems integration risks and issues and thereby develop appropriate treatment strategies. This may include the incorporation of Australian platforms and systems into the test program.
Establishing the required facilities and ICT infrastructure to support stand up of the JSF capability	The delivery strategy and scope of facilities program has been significantly revised such that cost pressures are no longer considered a major threat to project success. Schedule pressures are still a significant concern, and underpin the need for the project to progress to **Public Works Committee in 2014. The Managing Contractor for the design and delivery of the facilities has identified measures to fast track construction if required. Ongoing engagement with the JPO and key stakeholders to ensure ICT systems development and integration are synchronised with the broader JSF facilities program.**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
Lack of timely data and releaseability of JSF program information that impacts the timely, efficient and effective integration of the F35 aircraft system into the Australian Defence Force (ADF).	**Ongoing engagement with the JPO and JSF stakeholders to coordinate and obtain the necessary data and information to enable the JSF system integration into the ADF.**
Maturing of the JSF System to meet IOC and FOC.	**Pro-active coordination between all organisations with responsibilities for acquiring, integrating and supporting the JSF in-service.**
Transition of the JSF into service at the same time as ramping up Australian Super Hornet and Growler capabilities.	**Ongoing engagement with Air Combat stakeholders to optimise the delivery of capabilities that perform the air power roles of Control of the Air and Strike.**
Establishing and ramping up the JSF sustainment system. The NACC Project has identified cost and schedule pressures due to an evolving sustainment solution, which if not adequately defined will lead to capability impacts for IOC and FOC.	**Ongoing engagement with the JPO to develop and define the JSF sustainment solution. Cost and schedule business cases will be required to define the sustainment baselines.**
Reprogramming. The NACC Project has identified schedule and cost pressures for the Reprogramming element of the program.	**Ongoing engagement with the JPO to better understand technical information and system integration issues; define sustainment strategies; confirm facility requirements and JSF Programmatic cost risks to inform reprogramming life cycle cost estimates.**
Ensuring required industry outcomes during JSF production and transition into service. The NACC Project has identified the need to optimise the implementation of an industry support program to assist Australian industry to win JSF related contracting opportunities in both production and sustainment.	**JSF Program Office is influencing the US JPO sustainment planning to optimise Australian industry participation in F35 Modification Repair Overhaul and Upgrade opportunities outside of the continental United States of America.**

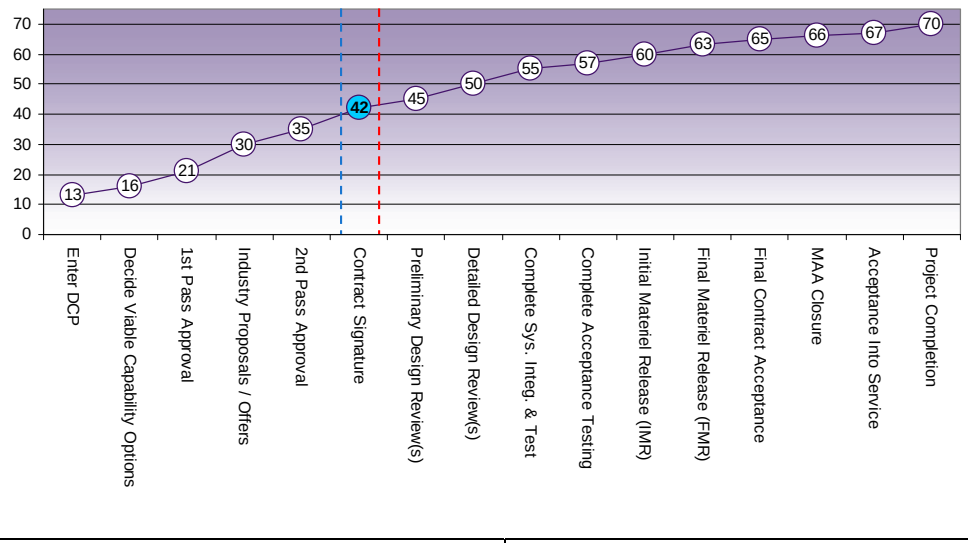
6.2 Major Project Issues

Description	Remedial Action
Noise associated with introducing the JSF at RAAF Base Williamtown is an ongoing sensitive issue and Defence is continuing to investigate options to reduce the noise impacts.	**An environmental impact statement has been developed on the proposed flying operations of the F-35A aircraft. This is required to be assessed under the requirements of Commonwealth legislation, specifically the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. As part of the environmental assessment the potential impact of noise on the Williamtown area has been assessed. The project anticipates that noise will remain an ongoing issue until the Minister for the Environment finalises his approval decision in March 2015. Public consultation commenced in mid 2014.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	6	6	6	6	6	6	6	42
Contract Signature	Project Status	**7**	**6**	6	6	7	**6**	5	**43**
	Explanation	• **Schedule: IMR and FMR delivery dates have been updated to reflect the Second Pass Approval for Stage 2 and are within MAA tolerances**. • **Technical Difficulty:** The JSF aircraft is an extremely complex weapon system, and challenges remain in developing the mature (Block 3) software. • **Operations and Support:** Global sustainment arrangements are still relatively immature; however they are now becoming a focus for the US Project Office and **LM**. The NACC Project is refining its own sustainment costs based on JPO analysis and through a series of scenario-based 'war games'.							



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
JSF is a complex program that requires a robust Program Management framework to be established early in the life of the program lifecycle.	**Governance**
JSF is a collaborative program that requires active engagement to ensure national requirements are met.	**Requirements Management**
JSF Production, Sustainment and Follow-on Development Memorandum of Understanding is run by the Joint Program Office and it is difficult to predict cost, schedule and associated budgeting impact on ADF processes and procurement.	**Governance**
Integration of JSF into ADF systems of systems has been underestimated.	**Requirements Management**
The collaborative environment of the JSF program introduces additional stakeholder complexity due to the engagement of the nine partner nations.	**Governance**

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	AVM Kym Osley (to Dec 13) **AVM Chris Deeble (Mar 14–current)**
Branch Head	AIRCDRE Catherine Roberts
Project Director	GPCAPT John Ibbotson
Project Manager	Mr Bill Greenwood

Project Data Summary Sheet[189]

Project Name	**AIR WARFARE DESTROYER**
Project Number	**SEA 4000 Phase 3**
First Year Reported in the MPR	2008-09
Capability Type	New
Acquisition Type	**Australianised MOTS**
Service	Royal Australian Navy
Government 1st Pass Approval	May 05
Government 2nd Pass Approval	Jun 07
Total Approved Budget (Current)	**$7,847.9m**
2013-14 Budget	**$662.7m**
Project Stage	Detailed Design Review
Complexity	ACAT I

Section 1 – Project Summary

1.1 Project Description

This project will acquire three *Hobart* Class Air Warfare Destroyers (AWD) and their support system for the Australian Defence Force (ADF). The capability provided by the AWDs will form a critical element of the ADF's joint air warfare defence capability and will contribute to a number of other joint warfare outcomes.

1.2 Current Status

On 5 June 2014 the Minister for Defence announced this project as a Project of Concern.

Cost Performance

In-year

The AWD Program underspent the budget allocation ($662.7m) in Financial Year 2013-14 by $3.4m. Foreign Exchange Gains made during the year were $2.3m and the remaining $1.1m was a result of Project Management Office underspend in contracts, travel, training and freight.

Project Financial Assurance Statement

Notwithstanding the issues disclosed at Section 6.2, as at 30 June 2014, project SEA 4000 Phase 3 has reviewed the project's approved scope and budget for those elements required to be delivered by the Defence Materiel Organisation (DMO). Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has applied contingency in the financial year primarily for the treatment of budgetary, project and skills/knowledge risks.

189 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

The AWD Alliance evaluated options to extend the duration of the project in response to a DMO request **in September 2012** to:

- Substantially reduce the Forward Estimates budget;
- Avoid the necessity for further significant increases in recruitment that would subsequently require a large workforce reduction as ship production activity progressively reduced;
- Extend the time interval between delivery of the Landing Helicopter Dock (LHD) Ships and AWDs to Navy and so reduce the challenges and risks associated with the acceptance of these two major capabilities into naval service;
- Extend the AWD workforce profile to avoid a sharp decline in naval shipbuilding before the next naval ship programs start in order to foster a smaller, more productive and sustainable Australian industry capability.

Following stakeholder review and support for the schedule extension and resource considerations, the **then** Minister for Defence announced, on 6 September 2012, that the AWD schedule would be re-baselined and revised AWD delivery dates would be HMAS *Hobart* (Ship 1) – March 2016, HMAS *Brisbane* (Ship 2) – September 2017, and HMAS *Sydney* (Ship 3) – March 2019. These new delivery dates represent delays of 15, 18 and 21 months respectively against the original planned dates.

Since **July 2013** the following major events have occurred:

- **August 2013 – Ship 2 keel blocks and sonar blocks for Ships 2 and 3 delivered to Adelaide from Navantia in Spain;**
- **November 2013 – Ship 1 mast lifted into place;**
- **December 2013 – Task Analysis Requirements Review (TARR) conducted;**
- **February 2014 – Ship 2 keel-laying ceremony occurred on the Common User Facility, this marked the start of the block consolidation for the ship;**
- **February 2014 – First group graduates from Aegis training school;**
- **March 2014 – Ship 1 Stern release – propeller shafts installed;**
- **March 2014 – Integrated Platform Management System training for AWD Alliance commenced;**
- **March 2014 – Hull integration completed for Ship 1;**
- **April 2014 – Training Equipment Provisioning Preparedness Review completed;**
- **June 2014 – Spares Provisioning Preparedness Review completed; and**
- **June 2014 – Ship 3 keel blocks received from Navantia.**

The Alliance is in the process of undertaking a cost and schedule replan. Following implementation of the replan, the baseline will be reviewed to close outstanding Corrective Action Requests (CAR) and subsequently validate the Performance Measurement Baseline.

Materiel Capability Delivery Performance

All significant government specified capability is currently planned to be achieved and in some warfare areas, the capability will be exceeded. However, Electronic Warfare Radar – Electronic Attack sub-system procurement has been deferred as current technology does not meet the contract and Royal Australian Navy (RAN) requirements. The budget has been preserved to support second generation technology being fielded in the AWD. It is expected that the capability will be available in the 2017-18 timeframe. Decisions made by the program in conjunction with the Capability Manager will ensure that AWD is delivered with the expected capability.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

In May 2005 the Government granted first pass approval to the Program, allowing commencement of Phase 2, the Design phase.

Phase 2 oversaw the development of two platform designs:

- The 'Existing' design based upon a modified version of the Navantia designed and built F-100 warship as the Australianised military off-the-shelf option; and
- The 'Evolved' design produced by Gibbs & Cox developed from an in-house design utilising design features of the US Navy class of Aegis Guided Missile Destroyers.

In May 2005, the Government selected Australian Submarine Corporation (ASC) AWD Shipbuilder Pty Ltd as the shipbuilder for the AWD Program and determined that the ships should be built in Adelaide. Raytheon Australia Pty Ltd was chosen as the Combat System Systems Engineer.

In October 2005, Defence sought and received Government approval to acquire three Aegis Weapon Systems to provide the core air warfare capability of the AWD. The Commonwealth subsequently entered into a United States (US) Foreign Military Sales (FMS) agreement for the acquisition of the Aegis weapons system comprising:

- Three Aegis Weapon System sets; and
- Associated engineering services and integrated logistic support.

In June 2007, at Second Pass, the Government granted approval to commence construction of the *Hobart* Class AWD utilising the existing design. This decision initiated the current phase of Project SEA 4000 Phase 3, the construction phase.

Phase 3 includes detailed design, procurement, ship construction, and set to work of the Aegis Combat System and the F-100 based Platform Systems. This culminates in the delivery of three *Hobart* Class AWDs together with the ships support systems including initial spares and ammunition outfits, and initial crew training.

Phase 3 concludes with the delivery to the RAN of the third AWD, HMAS *Sydney.*

At Second Pass, the Government approved Defence's proposal to close SEA 4000 Program Phase 2, Design, and Phase 3.1, Aegis acquisition activities, and combine the remaining Phase 2 and Phase 3.1 scope and funding with SEA 4000 Program Phase 3.

A comprehensive AWD Independent Review was completed in early 2014 with the findings agreed in principle by the Government who has charged the Departments of Finance and Defence with the responsibility to implement the recommendations. The review confirmed a significant cost overrun of the Shipbuilding Budget, which was also identified in the audit report from ANAO. By internal assessment, the DMO added the AWD project to the project of concern list in mid-June 2014. Other contributing factors are the significance of the AWD project to the future of naval shipbuilding in Australia.

Uniqueness

The SEA 4000 Air Warfare Destroyer Program is currently one of Australia's largest and most technically complex Defence projects.

The AWDs have been designated by the RAN as *Hobart* Class Guided Missile Destroyers (DDGs) and will be the RAN's first Aegis capable ships.

The AWDs are being delivered through an Alliance based contract arrangement involving ASC AWD Shipbuilder, Raytheon Australia, and the Commonwealth, represented by the DMO.

Contractual Framework

The Alliance based contract arrangement was signed in October 2007. Key features of the AWD Alliance and the operations of the Alliance based contract arrangement include:

- The Alliance Industry Participants (Raytheon Australia and ASC AWD Shipbuilder) are jointly and severally responsible for the delivery of the three ships and their support systems. Each party remains individually responsible for compliance with all statutory requirements.
- The Alliance is neither a legal body, nor a joint venture.
- The legal and commercial basis for the Alliance is established through the Alliance Based Target Incentive Agreement (ABTIA) contract signed by all three participants. This establishes a virtual

organisation under the governance of the AWD Alliance Board.

- All participants have a shared commercial interest in the outcome of the Program through pain share/gain share arrangements. The Industry Participants fee is at risk if performance is poor, however, they can benefit from delivery ahead of schedule and/or under budget.

The Commonwealth entered into a Platform System Design contract with Navantia, the ship designer, in October 2007. This contract is managed by the AWD Alliance under the Alliance based contract arrangement.

The Aegis combat system is being procured by the Commonwealth under the FMS agreement with the US Navy. This agreement is also managed within the AWD Alliance project team.

While Navantia and the US Navy (and its equipment supplier, Lockheed Martin) are not part of the Alliance, they work closely with the Alliance and are treated in an alliance like manner.

Major Risks and Issues

The major challenges the project faces are:

- Achieving maximum productivity levels through efficient shipyard operation and change management;
- Managing the level and timing of changes to the production baseline to minimise production rework;
- Meeting the consolidation, test and activation schedules within the constraints of a new build in a new Australian shipyard;
- Managing the timely delivery of equipment and fittings from a large number of subcontractors located in Australia and overseas through the AWD Alliance; and
- Delivering an effective, efficient and sustainable through-life support system for the *Hobart* Class DDGs.
- **Sufficiency of the project budget to fund actual cost increases.**

Other Current Sub-Projects

SEA 4000 Phase 3.2 – Standard Missile SM-2 Missile conversion and upgrade. The conversion of the missiles will allow them to be used in the AWDs and provide an enhanced anti-aircraft and anti-ship missile defence capability.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
AIR 9000 Phase 8 – Future Naval Aviation Combat System	The project will acquire 24 MH-60R Seahawk naval combat helicopters, associated weapons and support systems. The aircraft will provide Navy with a contemporary helicopter with anti-submarine warfare and anti-surface warfare capability.	Hangar facility and weapon magazine modifications to **the AWD to** support the integration of the replacement Naval helicopter MH-60R.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Jun 07	Original Approved		7,207.4	
Jan 14	**Real Variation - Transfer**	**(109.9)**		**1**
			(109.9)	
Jul 10	Price Indexation		1,173.2	**2**
Jun 14	Exchange Variation		**(422.8)**	
Jun 14	**Total Budget**		**7,847.9**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – AWD Alliance	**(2,997.0)**		
	Contract Expenditure – US Government	(973.2)		
	Contract Expenditure – Navantia	**(375.4)**		
	Contract Expenditure – NATO Consortium	(74.3)		
	Other Contract Payments / Internal Expenses	**(145.0)**		**3**
			(4,564.9)	
FY to Jun 14	Contract Expenditure – AWD Alliance	**(609.7)**		
	Contract Expenditure – Navantia	**(21.9)**		
	Other Contract Payments / Internal Expenses	**(27.7)**		**3**
			(659.3)	
Jun 14	**Total Expenditure**		**(5,224.2)**	
Jun 14	**Remaining Budget**		**2,623.7**	

Notes	
1	**In January 2014, a real cost decrease was approved to transfer project funds to Defence Support and Reform Group (DSRG) which has responsibility for AWD facilities related deliverables.**
2	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $854.8m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $318.4m having been applied to the remaining life of the project.
3	Other expenditure comprises: Operating expenditure, minor contract expenditure and other capital expenditure not attributable to the listed contracts.

2.2 In-year Budget / Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The AWD Program underspent the Financial Year 2013-14 Budget by $3.4m as a result of Foreign Exchange Gain made during the year and Project Management Office underspend in contracts, travel, training and freight.**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
		(2.3)	FOREX Variation	
		(1.1)	Commonwealth Delays	
662.7	**659.3**	**(3.4)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government	Oct 05	842.7	**1,042.5**	FMS	FMS	1, **2**
AWD Alliance	Oct 07	4,323.1	**5,073.9**	Variable with Pain/Gain Share	Alliance	**2**
Navantia	Oct 07	373.6	**436.0**	Fixed with indices escalation	Alliance based	**2**
NATO Consortium	Dec 09	78.5	**75.3**	FMS (NATO)	FMS (NATO)	**2**

Notes

1 The FMS Case established pre-Second Pass involved three contractual steps (initial version and two amendments); October 2005 for initial engineering services, April 2006 for long lead items and July 2006 for three ship sets of core Aegis Combat System Equipment. The resulting scope was in accordance with Government approval of SEA 4000 Phase 3.1. Post-Second Pass, there have been three further amendments to the FMS Case for additional equipment and services for both the AWD Program and the AWD Alliance. These amendments are in accordance with Government approval at Second Pass for the full scope of SEA 4000 Phase 3. There will be further amendments to the FMS Case to cover additional equipment and services for the project. The Price at Signature excludes $171m spent in previous phases of the project.

The Price at 30 June **2014** excludes a current Alliance cost of **$208.2m for the purchase of FMS equipment to be supplied under the ABTIA contract.**

2 **Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government	3	3	Aegis Combat System	
AWD Alliance	3	3	Air Warfare Destroyer	
Navantia	N/A	N/A	Platform System Design and Services	
NATO Consortium	Classified	Classified	ESSM Missiles	1

Major equipment received and quantities to 30 Jun 14

Block production is underway at all **four** shipyards. See Section 1.2 Schedule Performance for further detail.

Notes

1 Quantity being acquired is classified.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System /Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	AWD Program	Mar 08	N/A	Apr 08	1	
Preliminary Design	AWD Program	Dec 08	N/A	Feb 09	0	1
Critical Design	AWD Program	Dec 09	N/A	Feb 10	0	2
Support System Detailed Design Review	AWD Program	Jun 10	N/A	Aug 10	0	3

Notes	
1	The Preliminary Design Review (PDR) was conducted as scheduled in December 2008 and resulting actions completed as scheduled by February 2009.
2	The Critical Design Review (CDR) was conducted as scheduled in December 2009 and resulting actions completed as scheduled by February 2010.
3	The Support System Detailed Design Review (SSDDR) was conducted as scheduled in June 2010 and resulting actions completed August 2010.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Ship 1 – Complete Hull Integration	Dec 12	**Mar 14**	**Mar 14**	**15**	1, 3
	Ship 1 – Start Combat System Light Off	Dec 13	Dec 14	Dec 14	12	2, 3
	Ship 2 – Complete Hull Integration	Mar 14	May 15	May 15	14	3
	Ship 2 – Start Combat System Light Off	Mar 15	Jun 16	Jun 16	15	3
	Ship 3 – Complete Hull Integration	Jun 15	Aug 16	Aug 16	14	3
	Ship 3 – Start Combat System Light Off	Jun 16	Oct 17	Oct 17	16	3
Acceptance	Ship 1 – Commencement of Category 5 Trials	Aug 14	Aug 15	Aug 15	12	3
	Ship 1 – Provisional Acceptance (Initial Materiel Release)	Dec 14	Mar 16	Mar 16	15	3
	Ship 2 – Commencement of Category 5 Trials	Nov 15	Feb 17	Feb 17	15	3
	Ship 2 – Provisional Acceptance (Materiel Release 2)	Mar 16	Sep 17	Sep 17	18	3
	Ship 3 – Commencement of Category 5 Trials	Feb 17	Jul 18	Jul 18	17	3
	Ship 3 – Provisional Acceptance (Materiel Release 3)	Jun 17	Mar 19	Mar 19	21	3

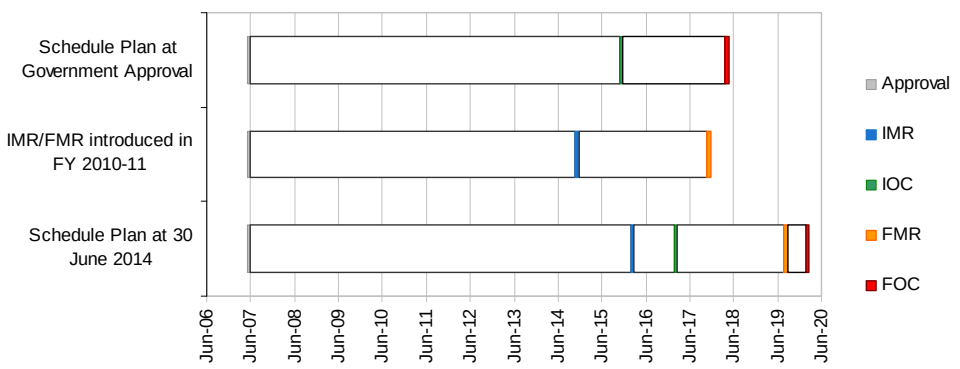
Notes	
1	Complete Hull Integration **was** achieved when the last erection joint **was completed and has been** structurally inspected and accepted.
2	Start Combat System Light Off verifies the readiness of the first set of installed combat system equipment for CAT 4 testing.

3	In 2010 difficulties were encountered in relation to the engineering and construction of some of the first AWD hull blocks. This resulted in the reallocation of block work between BAE, Forgacs and Navantia and amendment of the Alliance Operational Schedule. In response to a subsequent DMO request which included substantially reducing the Forward Estimate budget demand, the smoothing of workforce requirements, the extension of time interval between delivery of LHDs and AWDs to Navy and the fostering of a sustainable Australian naval shipbuilding industry, the AWD Alliance conducted an evaluation of the construction schedule and advised Defence that the AWD schedule should be re-baselined. Following stakeholder review and support for the schedule extension and resource considerations, the **then** Minister for Defence announced, on 6 September 2012, that the AWD schedule would be re-baselined and that the revised AWD delivery dates would be March 2016, September 2017, and March 2019. **An Integrated Baseline Review commenced formally in August 2013 to validate the proposed Performance Measurement Baseline from July 2013 which reflected the changes associated with the schedule extension announced in September 2012.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

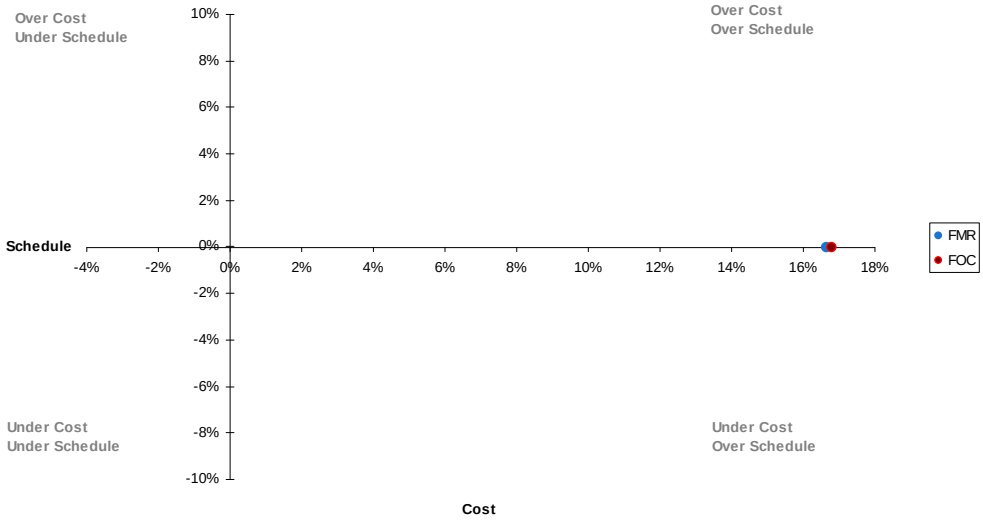
Item	Original Planned	Achieved / Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Dec 14	Mar 16	15	See Note 3 above
Initial Operational Capability (IOC)	Dec 15	Mar 17	15	See Note 3 above
Final Materiel Release (FMR)	Dec 17	Sep 19	21	1
Final Operational Capability (FOC)	May 18	Mar 20	22	2

Notes	
1	FMR is scheduled 6 months after Materiel Release 3 (MR3).
2	FOC is scheduled 12 months after MR3.



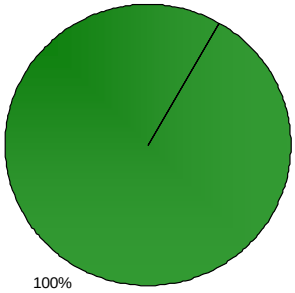
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The Project currently **expects to** meet materiel capability requirements as expressed in the suite of Capability Definition Documentation and in accordance with the requirements of the relevant Technical Regulatory Authorities.
	Amber: N/A
	Red: N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
1. Integration of the Australianised Aegis Combat System. Key Risks: • The current version of the Aegis Weapons System has not been previously integrated in the platform. • Integration of Electronic Warfare and Communications Systems. • Equipment selections may impact on the topside design. • Sonar – The software development and integration.	The risks associated with the integration of the Aegis Weapons System are being actively managed through regular reviews between the Alliance, Platform System Designer, US Navy and Lockheed Martin (the Aegis equipment supplier to the US Navy). Action is taken to ensure emerging issues are identified and addressed in a timely manner. Electronic Warfare and Communications and Information Systems procurement strategies have been developed with a wide range of stakeholder engagement. These strategies are aimed at ensuring that the customer will be satisfied with the contracted solution and that the solution will have minimal impact on the platform design. Sonar – Is being actively managed by the Alliance including formal reviews with close out actions and embedded staff.
2. Capability Acceptance: Certification requirements are unclear for some equipment and US Navy and some Original Equipment Manufacturers are not disclosing requested objective quality evidence.	The Project Certification Plan has been agreed with the RAN. The Program is working closely with the US Navy and Original Equipment Manufacturers to obtain the required objective quality evidence. Working with RAN to establish processes, procedures and principles to achieve certification.
3. Subcontractor Performance: Subcontractor performance may result in poor quality product, delays or changed requirements.	The performance of some subcontractors has required active management and intervention. Embedding Alliance staff in block subcontractors premises provides management oversight and the ability to address and resolve issues quickly. **A capability partnering agreement between ASC and Forgacs has been executed and 6 additional ASC personnel, making a total of 22, joined the Forgacs team on 6 March 2014.** Sonar – The Alliance is actively working with the Sonar OEM at all levels, including the embedding of Alliance staff on-site to manage risk associated with software development and integration.
4. Support System: current data available to the Alliance and/or the Commonwealth may not be mature enough to achieve an optimised support system (maturity of LCC data, loss of project data that supports Through Life Support). Intellectual Property (IP) requirements might not be delivered leading to negative through life support impacts.	Mitigation strategies are in place to minimise the risk and work is in hand with the Alliance to develop strategies to progressively seek the data required to support the development of an optimised support system. An IP remediation plan was developed and implemented by the Alliance **in July 2013. Subsequent submissions show signs of improvement but issues remain with data quality. The AWD Program Management Office is regularly monitoring the ongoing remediation of IP data.**

5. Shipbuilding Productivity: achieving the required level of shipbuilding productivity may be compromised by skilled labour shortages, delays in deliveries of data and materials to the shipyards, and limitations on the production engineering capacity of the shipyards.	**This risk is realised and is reflected In Major Project Issues 5 below.**
6. Schedule: the quality and rework issues in block construction are higher than originally envisaged. As a result of the increasing workloads the schedule is being reviewed and managed by the Alliance. On 26 May 2011 the **then** Minister for Defence announced the reallocation of construction work for the AWD Project.	**This risk is realised and is reflected In Major Project Issues 3 below.**
7. Design products may not be available in a timely manner or satisfactory form.	Active monitoring of the Alliance's Platform System Designer's (PSD) contract management strategy to ensure its effectiveness, and engaging the Alliance and PSD as required to resolve current and potential issues as required.
8. The PSD contract may not provide the level of support that is required to complete ship construction in a timely and cost effective manner.	Establishment of ongoing design support services including construction design support and local design authority availability in support of Ship construction through to delivery of Ship 03.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
Inadequate Configuration Management impact on Ship Acceptance	**Alliance Functional Configuration Audit and Physical Configuration Audit plans are in draft form with key stakeholders for comment. Draft FCA/PCA plan will not be released until significant input and feedback received has been addressed. Early engagement and agreement on the process and expected deliverables is required to support ship Delivery and Acceptance. The Shipbuilder Certification Plan addresses how conformance will be established.**

6.2 Major Project Issues

Description	Remedial Action
1. The delivery of FMS elements of the AWD supplies may not be possible, or may be delayed or compromised in integrity, due to the budget for FMS Engineering and Technical Assistance (ETA) not being sufficient.	Working with the US to identify options to reduce cost and provide waterfront support for Ships 2 and 3.
2. Indexation: Applying an average, fixed Specialised Military Equipment index to the Program budget may not be sufficient to fund the actual cost increases and liabilities defined in the Alliance Based Target Incentive Agreement (ABTIA) and Platform System Design (PSD) contracts.	Close monitoring through annual estimates to ensure that the balance of the total project budget remains sufficient to cover any shortfalls. The program is funding actual cost increases with project contingency funds.

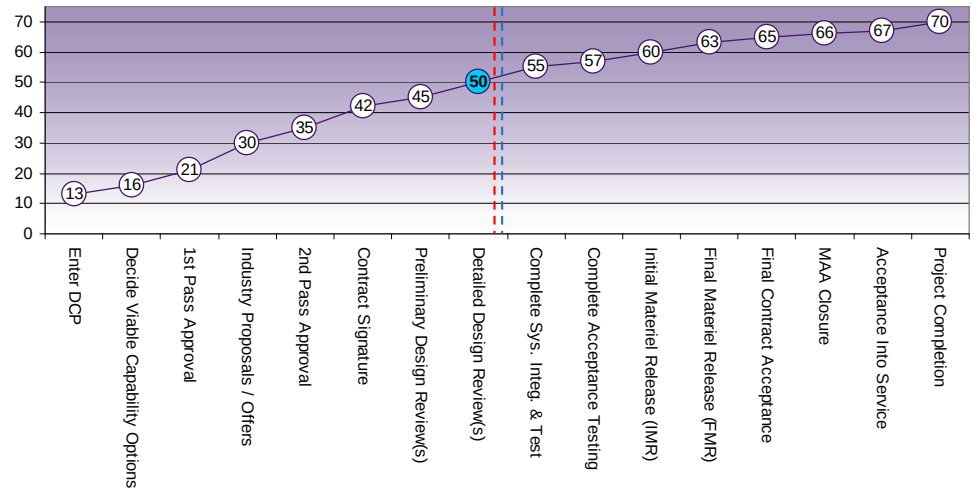
3. Shipbuilding Delay: The AWD Alliance will not meet contracted delivery dates for the three ships. **The quality and rework issues in block construction are higher than originally envisaged. As a result of the increasing workloads the schedule is being reviewed and managed by the Alliance. On 26 May 2011 the then Minister for Defence announced the reallocation of construction work for the AWD Project including work at Navantia. In March 2012 the decision was made to maintain the same block construction arrangements for Ship 03 as Ship 02. In December 2013 some block construction work was re-allocated within Australian shipyards in an effort to minimise further delay.**	In response to delays in hull block fabrication, the AWD Alliance acted to limit a potential two year schedule slip in the delivery of HMAS Hobart by up to 12 months. Two key actions were an initial reallocation of hull blocks among Australian shipyards in December 2010, followed by a further reallocation of blocks between the Australian shipyards and Navantia in May 2011. The AWD Alliance also took action in 2010 to place more shipbuilding experts from Navantia, Bath Iron Works and Lloyds Register into the three shipyards. In September 2012 the **then** Minister for Defence announced that the AWD program would be re-baselined, extending the keel-to-keel interval between each ship to 18 months. ABTIA contract has been amended to reflect the re-baselining. **The program no longer expects that the re-baselined dates agreed in September 2012 can be achieved. As at March 2014 the Alliance has commenced a replanning activity to re-forecast achievable delivery dates with findings to be implemented in 2014.**
4. Change Management: Change introduced to the existing platform design as a result of: • Legislative or regulatory requirements, • Safety requirements, • Equipment obsolescence, • Errors in the original design, and • Interrelated projects (e.g. AIR9000) Will impact cost and possibly schedule. Severity of the cost and schedule impacts to the CoA will be dependent on the scope and timing of the change implementation relative to Ship completion.	A Design Chill was implemented in 2011 to reduce the level of change rolling into the production baseline. Effective engagement with key stakeholders has been critical to ensure the implications of change requests, approval and subsequent implementation are fully understood. Robust mechanisms to control the authorisation of change have been established within the Alliance and Program Office. The change management approval and implementation process has undergone a number of evolutions to expedite change as efficiently as possible. Delays in approval can result in significant cost and schedule impacts.
5. **Productivity of ASC** **AWD shipbuilding productivity has been independently reviewed and benchmarked since 2011. The current low level of shipbuilding productivity is considered a major issue in terms of the overall AWD program and to date the issue has only been partially addressed by ASC, the AWD Shipbuilder. Unless there is a near term improvement in shipbuilding productivity then the current shipbuilding performance, which is in excess of plan and budget, will negatively affect other components of the AWD program.**	**Annual independent reviews have been undertaken by First Marine International (FMI), a company internationally recognised for its expertise in shipbuilding productivity benchmarking.** **While there has been improvement by ASC in some of the areas underpinning the measurement of productivity, there are many areas that have been identified by FMI in current and previous reports that have either not been addressed, only partially addressed, or addressed only recently.** **ASC has implemented strategies aimed at productivity improvement, implemented new management structures, and adopted a keen focus on process changes but these strategies have yet to produce any significant positive productivity change.**

6. **Support Facility availability** **Facilities may not be ready when required for transition into in-service support.**	**Facilities Submission to the Public Works Committee (PWC) occurred in April 2013, followed by an approved expediency motion in May 2013. Construction commenced in July 2013. Interim Facility solutions have been identified to address potential capability gap as a result of the PWC approval delay. Platform Systems training is not affected, however the temporary Combat System training facilities will be established in the Sydney area to minimise disruption to trainers and trainees.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	7	7	7	8	7	7	7	50
Detailed Design Review	Project Status	7	7	8	8	8	**6**	7	**51**
	Explanation	• **Requirement:** Reflects the successful completion of the Support System Detailed Design Review in August 2010. • **Technical Difficulty:** Reflects the completion of Communication Information System subsystem CDR. **66 per cent across four specifications** of Combat Systems Cat 0 – 3 Test Events have been successfully completed. • **Commercial: Reflects the lower than expected contractor performance in terms of ship building productivity.**							



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Formation of the Alliance, a new organisational structure takes time and effort to develop the culture necessary to achieve improved outcomes. An external facilitator was engaged to assist in the initial and ongoing development of the Alliance and this has proved invaluable.	Governance
The Program Office, originally located in both Canberra and Adelaide was relocated to Adelaide to improve operations and interactions with the Alliance. The relocation involved considerable effort and a resultant loss in knowledge of staff who did not relocate. Earlier consolidation of the Program Office would have been beneficial.	Resourcing
The interpretation of the requirements of fitness for purpose of drawings is different between contracting parties. A review of all product types prior to contract and interrogation of the delivery schedule to confirm sufficient time for reviews and incorporation of comments is necessary.	Contract Management
The shipbuilding capacity of shipyards involved in a project like AWD needs to be assessed in detail in terms of precise capacity to undertake production engineering as well as the workload constraints of facilities, production supervision and overall workforce numbers taking into consideration the total contracts conducted at the shipyard in parallel.	Resourcing First of Type Equipment
The schedule that plans the transition from design to production needs detailed evaluation by the designer(s) and the production shipyard(s) to ensure the balance between commencing production and completing very detailed design is appropriately balanced and agreed.	Schedule Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	**AVM Chris Deeble (Acting to Aug 13)** **Mr Colin Thorne (Aug 13–current)**
Program Manager	Mr Peter Croser (Acting)
Deputy Program Manager	Mr Greg McPherson (Acting)
Deputy Program Manager	Commodore Steve Tiffen, RAN

Project Data Summary Sheet[190]

Project Name	**AIRBORNE EARLY WARNING AND CONTROL AIRCRAFT**
Project Number	**AIR 5077 Phase 3**
First Year Reported in the MPR	2007-08
Capability Type	New
Acquisition Type	**Developmental**
Service	Royal Australian Air Force
Government 1st Pass Approval	Dec 97
Government 2nd Pass Approval	Dec 00
Total Approved Budget (Current)	**$3,873.1m**
2013-14 Budget	**$60.2m**
Project Stage	Final Materiel Release
Complexity	ACAT **III**

Section 1 – Project Summary

1.1 Project Description

This project will provide the Australian Defence Force (ADF) with an Airborne Early Warning and Control (AEW&C) capability, with the provision of six aircraft and associated supplies and support. As an integral part of a layered ADF Air Defence System, the AEW&C capability will enhance surveillance, air defence, fleet support and force coordination operations in defence of Australian sovereignty and national interests.

1.2 Current Status

This project was removed from the Projects of Concern list in December 2012.

Cost Performance

In-year

In-year expenditure was approximately two per cent more than budgeted primarily due to recovery of schedule on delayed Aircraft Spares deliveries and the transfer of sustainment repair costs subsequently identified as project warranty-related costs, offset by continuing delays in commitment of equipment integration along with significant exchange rate savings.

Project Financial Assurance Statement

As at 30 June 2014, project AIR 5077 Phase 3 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

190 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

As at 30 June 2012, the Commonwealth had accepted six aircraft in a second-increment initial configuration, available to the Air Force for training and initial operations. The Commonwealth had also accepted the Mission Support Segment, Operational Mission Simulator and AEW&C Support Facility in their respective initial configurations.

Boeing failed to deliver the first aircraft in a final operational configuration in March 2012, as agreed in the settlement reached in April 2011. Under a Remediation Plan agreed with the Commonwealth in December 2011, Boeing delivered the sixth aircraft in a 'final' configuration, capable of supporting all operational tasking short of high-end war fighting in May 2012. However, delays in completing the large volume of formal documentation required for contractual acceptance of the system and negotiation of a third commercial settlement resulted in aircraft final acceptance not occurring until November 2012; a total delay to this milestone against the original contract baseline of 72 months. Materiel Release 3 which supports the declaration of Initial Operational Capability (IOC) was achieved in November 2012. Chief of Air Force declared IOC on 19 November 2012. Final acceptance of the Mission Support Segment, Operational Mission Simulator and AEW&C Support Facility occurred in December 2012.

Since the final acceptance in December 2012, the focus has been on the planning and initiation of remediation work to rectify identified performance shortfalls that were the subject of the commercial settlement, in particular Data Forwarding, radar performance and system stability. **This remediation work is planned to be completed by December 2014, and is progressing within the bounds of the overall schedule critical path. Final Operational Capability (FOC) is expected to be achieved in June 2015, which will be a total delay to this milestone of 78 months.**

Materiel Capability Delivery Performance

In service Wedgetail aircraft have participated in a number of local and overseas exercises over the past **three** years, with each successive System (software) Build delivered to the fleet demonstrating improved integrated system performance. Radar performance in the clear has been substantially remediated and a number of shortfalls in Electronic Support Measures (ESM), Communications Datalink and residual integrated system performance have been progressively remediated. Under the November 2012 commercial settlement, the Commonwealth and Boeing agreed on a plan to resolve the remaining capability risks that need to be retired in the mission systems, communications and integration areas by December 2014. **This agreed set of residual materiel capability will be delivered by December 2014 through two In-Service System Software Builds.**

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Government gave the equivalent of first pass approval for AIR 5077 Phase 3 of this project in December 1997. Following a competitive Initial Design and tendering activity, the Government gave the equivalent of second pass approval in December 2000 and a contract was signed with Boeing the next day for supply of four aircraft and associated supplies and support. In April 2004, Government gave approval to amending the contract for supply of an additional two aircraft.

The airborne early warning and control 'Wedgetail' is based on Boeing's next generation 737 aircraft, modified to accommodate various sophisticated mission systems. The primary sensor on the aircraft is a phased-array radar – with no moving parts – that can scan through 360 degrees.

In March 2007, Boeing presented the results of the schedule replan to the Commonwealth following the company's announcement in February 2007 of a two-year slip in the program. This slip resulted from problems associated with sub-system integration; supplier hardware availability; mission computing, radar and electronic support measures maturity and stability; and aircraft modification. In May 2008, Boeing advised a further delay to the program resulting from ongoing problems with radar and electronic support measures development and system integration.

In December 2008, Boeing and the Commonwealth agreed under a Deed, to enter into a modified test and operational evaluation program aimed at determining the extent to which the aircraft system met the specification and how well it performed operationally. The DMO Program Office, Boeing and Northrop Grumman, supported by Defence Science and Technology Organisation (DSTO) and US Government agencies, also cooperated in the conduct of an independent assessment of radar performance by

Massachusetts Institute of Technology Lincoln Laboratories to determine the extent of the performance shortfall based on flight test data. An operational utility demonstration was successfully conducted in Australia in April 2009 and provided insight into the operational potential of the AEW&C capability.

Based on the outcomes of these activities, the Commonwealth entered into formal negotiations with Boeing in August 2009 seeking a commercial settlement addressing, among other things, the key issues of: project delays; incremental delivery; and compensation for projected performance shortfalls. The parties reached agreement on the way ahead for the program in November 2009.

In April 2010, the Commonwealth accepted two aircraft in an initial operating capacity in order to commence training and initial operations. A third aircraft was accepted in this initial operating capacity in June 2010 and a fourth in December 2010.

Boeing failed to deliver the first aircraft in a final operational configuration in December 2010, as agreed in the settlement reached in November 2009, due to ongoing issues with Communications and ESM subsystems technical maturity and integrated system stability. The Commonwealth entered into contract negotiations with Boeing in November 2010 to refine the path to final acceptance and reached agreement in April 2011.

Boeing failed to deliver the first aircraft in a final operating configuration in March 2012, as agreed in the settlement reached in April 2011, again due to ongoing issues with Communications and ESM subsystems technical maturity and integrated system performance. In December 2011, the Commonwealth and Boeing agreed to a Remediation Plan that required Boeing to deliver the first aircraft in a final operating configuration, capable of supporting all operational tasking short of high-end war fighting, in July 2012.

The Commonwealth entered into contract negotiations with Boeing in September 2012 seeking a final commercial settlement addressing, among other things, compensation for the further delay and residual performance shortfalls. The parties reached agreement in November 2012 resulting in final acceptance of all major systems being achieved by end 2012.

Uniqueness

Project Wedgetail is a highly developmental project. The phased array radar, the heart of the surveillance capability, has never previously been integrated into an operational system. Northrop Grumman Corporation, the supplier to Boeing of the phased array radar, has worked to an extremely tight schedule of putting into production and integrating this unique radar, which was still undergoing initial design at the time of contract signature. Similar schedule acceleration issues have also been encountered on other mission critical systems.

The ADF is the first to operate an aircraft of this configuration and capability and significant effort has been devoted by the Royal Australian Air Force (RAAF) in developing operational doctrine and tactics for its deployment.

Major Risks and Issues

Integration of the radar and other mission critical systems such as electronic support measures, communication systems and data links has proved to be more complex than originally anticipated. Initial planning for the project was optimistic, resulting in an aggressive schedule that had been compressed to such a high level that there was no margin for re-work or risks being realised.

Radar performance was subject to detailed independent analysis and operational assessment in preparation for the contract settlement negotiations held in late 2009, resulting in a determination that performance will not achieve specification at final delivery and further development will be required.

Subsequently, a radar remediation program was established. This program included a radar collaborative research and development program. A contract for the collaborative program was signed on 21 June 2010 **and** performance in the clear has been recovered to very close to specification**. The initial scope of work had been completed in December 2012, but was extended to mid 2014 due to its success and an opportunity to align development with the In-Service software release cycle. Improvements have been validated through laboratory and flight testing, with the agreed final Radar configuration the subject of a checkout flight conducted in March 2014, in parallel with the ongoing quantitative assessment of related clutter performance improvements.**

Performance deficiencies associated with Mission Computing, Tactical Data Links, and ESM subsystems, have also been investigated through a separate program of remediation work. Problem investigation and technical analysis commenced in May 2013, with resultant design changes being progressively developed, tested, and delivered in June 2014, with final release planned through an In Service System Software Build in December 2014.

The remaining technical challenges are low-medium risk. Notwithstanding, incorporation of remaining

performance improvements from the remediation activities now relies on the in-service software organisation and processes which are immature, but developing rapidly.
Other Current Sub-Projects N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Dec 97	Original Approved		2,170.4	1
Jul 98	Real Variation – Transfer	(170.4)		2
Nov 99	Real Variation – Transfer	807.9		3
Apr 01	Real Variation – Budgetary Adjustments	(166.0)		4
Mar 02	Real Variation – Transfer	(3.9)		5
Jun 04	Real Variation – Scope	225.6		6
Aug 04	Real Variation – Budgetary Adjustments	(2.4)		7
Aug 04	Real Variation – Transfer	(14.0)		8
Jun 05	Real Variation – Transfer	(1.0)		8
Aug 05	Real Variation – Budgetary Adjustments	(4.8)		9
			671.0	
Jul 10	Price Indexation		1,111.1	10
Jun 14	Exchange Variation		**(79.4)**	
Jun 14	**Total Budget**		**3,873.1**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Boeing	**(3,037.0)**		**11**
	Contract Expenditure – US Government	**(101.7)**		
	Contract Expenditure – Boeing	**(18.8)**		
	Other Contract Payments / Internal Expenses	**(295.0)**		12
			(3,452.5)	
FY to Jun 14	Contract Expenditure – Boeing	**(7.8)**		
	Contract Expenditure – Boeing	**(15.8)**		
	Other Contract Payments / Internal Expenses	**(37.7)**		13
			(61.3)	
FY to Jun 14	**Total Expenditure**		**(3,513.8)**	
Jun 14	**Remaining Budget**		**359.3**	

Notes	
1	This project's original DMO budget amount is that prior to achieving Second Pass Government approval.

2	Transfer to Project Olympus.
3	Merger of Project Olympus, which had been established separately to acquire classified elements of the AEW&C capability.
4	Variation for overfunding of indexation and foreign exchange at time of approval.
5	Transfer to supplement Overseas Allowances.
6	Increased scope, approved by Government in April 2004, for the acquisition of the fifth and sixth aircraft.
7	Administrative Savings harvest.
8	Transfer to Facilities.
9	Skilling of Defence Industry harvest.
10	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $1,068.4m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $42.7m. $388.1m of this amount relates to a real cost increase for contract price indexation variations beyond the supplementation provided by Government.
11	**Includes System Acquisition Contract (SAC) expenditure $2,964.8m; Initial Design Activity (IDA) expenditure $46.8m, and Performance Incentive Fee expenditure $25.4m. The IDA was completed by Boeing and was an integral element of the Acquisition.**
12	Out of the **$295.0m** Life to Date expenditure up to 30 June **2013** the majority of expenditure is associated with Facilities related expenses of **$63.2m**, **Prime & Support Equipment costs of $56.9m,** Independent Verification and Validation Services of **$50.3m**, travel costs of **$27.3m,** In Service Support **expenses** of **$24.1m**, **External Service Provider costs of $22.1m,** and other project management support costs (legal, project administration, minor asset and ancillary support equipment costs etc) of **$51.1m**.
13	Out of the **$37.7m** expenditure up to **30 June 2014**, the majority is associated with Prime and Support Equipment costs of **$24.0m**, In Service Support **expenses** of **$9.9m**, External Service Provider costs of **$3.1m**, and other project management **support** costs (travel, legal, DSTO support, administration etc) of approximately **$0.7m**.

2.2 In-year Budget / Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
		(0.1)	FMS	**The project overspend is driven primarily by recovery of schedule on delayed Aircraft Spares deliveries and the transfer of sustainment repair costs subsequently identified as project warranty-related costs, offset by continuing delays in commitment of the obsolete operational equipment contract along with significant exchange rate savings.**
		2.3	Overseas Industry	
		0.1	Local Industry	
			Brought Forward	
		(2.0)	Cost Savings	
			FOREX Variation	
		0.8	Commonwealth Delays	
60.2	**61.3**	**1.1**	Total Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Boeing	Dec 00	2,257.7	**3,057.9**	Variable	DEFPUR 101	1, **4**
US Government	Jul 01	97.9	**105.7**	FMS	FMS	**2, 4**
Boeing	Jun 10	5.6	**47.0**	Fixed	ASDEFCON (Services)	**3, 4**

Notes	
1	**Current** SAC **Price is now shown as Expenditure to Date ($3,044.8m at 30 June 2014) (includes**

	Performance Incentive Fee and IDA as described at Section 2.1), plus remaining Milestones ($13.1m).
2	**Current US Government Price is now shown as Expenditure to Date ($101.7m at 30 June 2014) plus remaining Balance ($4.0m).**
3	Reflects **further additions to** AEW&C Radar Collaborative Study (ARCS) **for remediation work scope.**
4	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Boeing	4	6	Boeing 737-700 Increased Gross Weight AEW&C Aircraft	
US Government	N/A	N/A	AEW&C Hardware and US Air Force Support	
Boeing	N/A	N/A	Radar Subsystem Performance Remediation	

Major equipment received and quantities to 30 Jun 14

Acceptance of six aircraft, capable of supporting **Limited Warfighting** tasking. Engineering and maintenance arrangements established.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Preliminary Design	Airborne Mission System	Jul 02	N/A	Jun 02	(1)	1
	Operational Mission Simulator	Jan 03	N/A	Apr 03	3	
	Mission Support System	Mar 03	N/A	Apr 03	1	
	Operational Flight Trainer	Aug 03	N/A	Jul 03	(1)	
	Airborne Early Warning and Control Support Facility	Nov 03	N/A	Oct 03	(1)	
Critical Design	Airborne Mission System	Feb 03	N/A	Dec 02	(2)	
	Operational Mission Simulator	Nov 03	N/A	Nov 03	0	
	Mission Support System	Dec 03	N/A	Nov 03	(1)	
	Operational Flight Trainer	May 04	N/A	Apr 04	(1)	
	Airborne Early Warning and Control Support Facility	Oct 04	N/A	Sep 04	(1)	

Notes

1	Variances to Design Reviews were due to various minor causes.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned (Note 1)	Achieved /Forecast (Note 1)	Variance (Months)	Notes
System Integration	Airborne Mission System	Mar 06	May 12	Nov 12	80	2
	Operational Mission Simulator	Mar 06	Dec 10	Nov 10	57	3, 4
	Operational Flight Trainer	Dec 05	Dec 05	Dec 05	0	
	Mission Support System	Jul 06	Oct 08	Oct 11	63	5
	AEW&C Support Facility	Dec 06	Dec 10	Jul 11	57	6

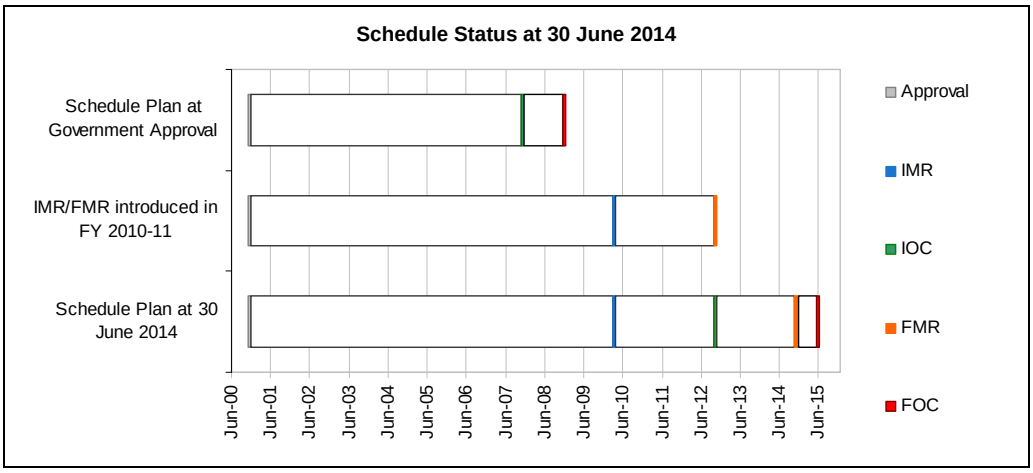
Acceptance	Airborne Mission System	Nov 06	May 12	Nov 12	72	3
	Operational Mission Simulator	May 06	Sep 11	Oct 11	62	3, 4
	Operational Flight Trainer	Mar 06	Nov 08	Feb 09	35	7
	Mission Support System	Aug 06	Jul 11	Oct 11	62	3, 4
	AEW&C Support Facility	Mar 07	Mar 11	Feb 12	59	3, 4

Notes	
1	These dates reflect the completion of testing relating to the Contract Specification and do not include testing associated with the additional compensatory work agreed under the commercial settlements.
2	Airborne Mission System (AMS) integration challenged progress of the AMS development and test program. Most significant challenges related to finalisation and integration of the mission computing, datalinks, and electronic support measures subsystems, including integrated maturity, loading and latency, and stability. Supplier hardware availability presented challenges to the type and production program.
3	Problems associated with sub-system integration; mission computing, loading and latency, radar and electronic support measures maturity and stability; and supplier hardware availability.
4	Ground Support Segments were impacted by AMS schedule delays.
5	System Integration Test and Evaluation, previously reported as completed in May 2009, was resumed as a result of deficiencies subsequently revealed during integrated mission testing.
6	The requirement for formal Acceptance Test and Evaluation for AEW&C Support Facility (ASF) Home Maintenance Base was removed via Contract Change Proposal action in September 2011 with achievement of compliance being conducted via 'Analysis'. As a result, the date for completion of ASF System Integration Test and Evaluation reverted to that for the already-completed System Integration Test and Evaluation for ASF Electronic Warfare Squadron.
7	Disagreement between Boeing and Commonwealth over specification requirements.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

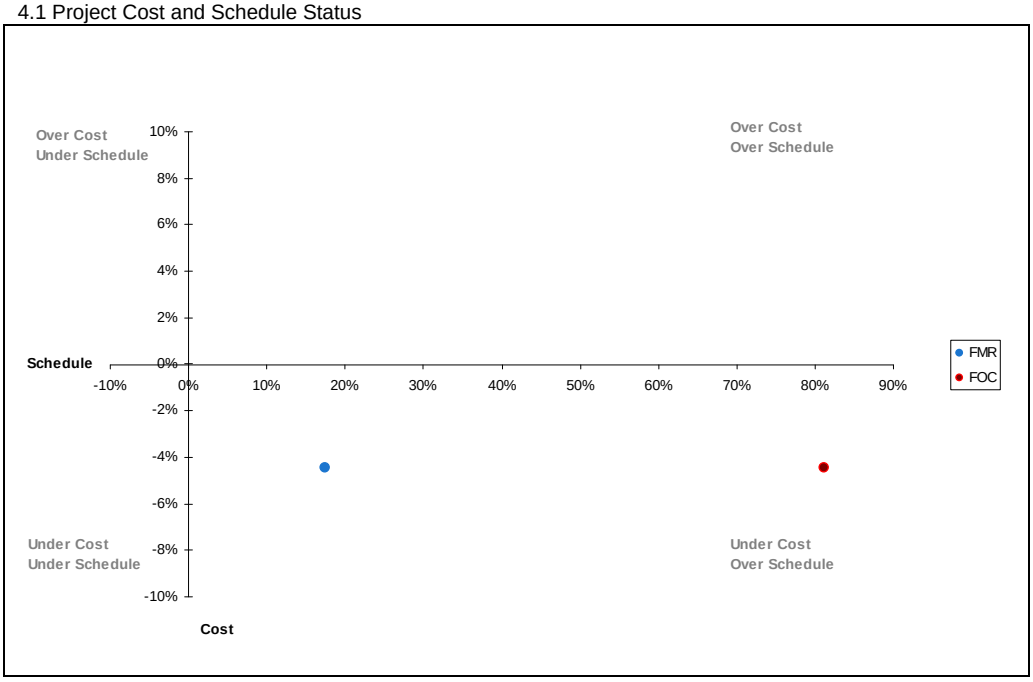
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Apr 10	N/A	1
Materiel Release 2	N/A	Nov 11	N/A	
Materiel Release 3	Jul 11	Nov 12	16	
Initial Operational Capability (IOC)	Dec 07	Nov 12	59	
Final Materiel Release (FMR)	Nov 12	Dec 14	25	
Final Operational Capability (FOC)	Dec 08	Jun 15	78	

Notes	
1	Delays to system delivery due to problems associated with sub-system integration, supplier hardware availability, radar and electronic support measures maturity, and aircraft modification.



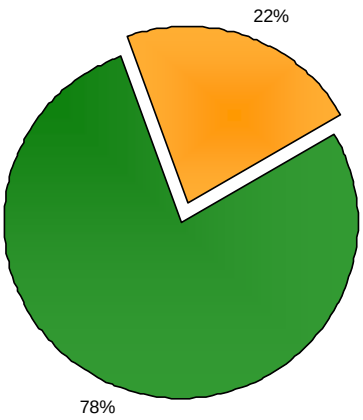
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** Performance requirements for IMR have been met. **Amber:** Performance deficiencies in some elements of the mission system currently pose risk to achievement of FMR. All deficiencies are expected to be addressed under remediation programs agreed by Boeing in accordance with the November 2012 commercial settlement. **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
The remediation activity requires integration and implementation through the sustainment software processes and organisation, however, the planned release date for the target sustainment software build coincides with the current FMR date. As such, any slip in this activity will result in a slip to FMR. Based on the size and scope of the build there is potential for a three to six month delay to its delivery.	The key mitigating action is to provide additional funds for personnel at critical stages of development and to accelerate development if schedule slip is identified. In addition to the application of funding to accelerate development, the Project has established via a senior project manager a relationship with the sustainment software build manager. Ongoing close liaison will allow early intervention should schedule slip be identified and provide focus and influence to meet the planned delivery date. **This risk has been downgraded to medium as a result of the majority of work associated with this software build being successfully completed on schedule.**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

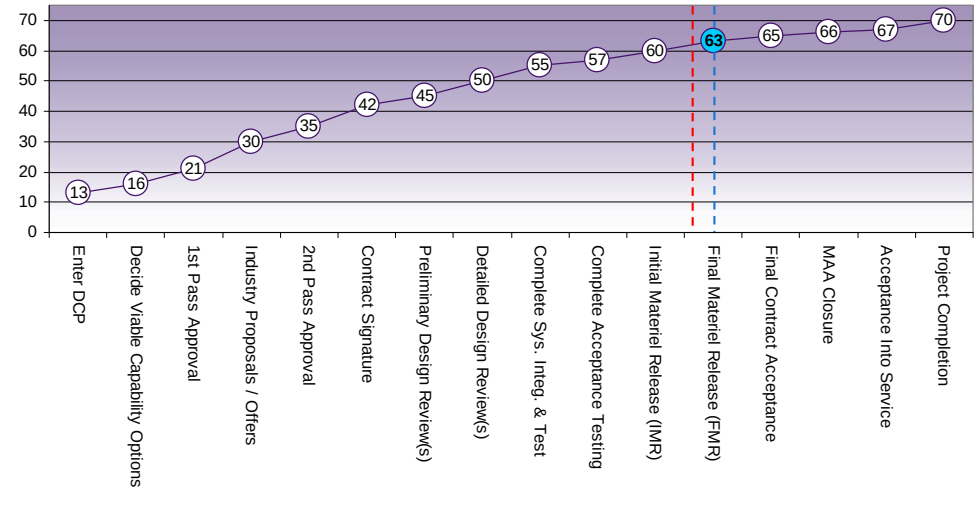
6.2 Major Project Issues

Description	Remedial Action
A previously identified obsolescence risk with operational equipment has been realised as an issue that the project is required to address. This obsolescence issue affects Wedgetail's interoperability with high-end coalition forces.	**This issue is currently being remediated through an incremental approach agreed by RAAF, with an interim fix addressed under AIR 5077 Phase 3. This agreed approach is accommodated within the project's overall delivery schedule or budget.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	10	9	9	9	9	8	9	63
Final Materiel Release	Project Status	10	**8**	9	9	9	8	9	**62**
	Explanation	• **Cost: Contingency is allocated to residual risks.**							



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
In the context of pre-project planning, the need to better appreciate the effort involved in being a customer of a first-of type program.	First of Type Equipment
Underestimating the length of time required and effort involved in undertaking these phases when applied to a complex, highly developmental system.	Schedule Management
Better appreciating the challenges involved in contractor management in a complex developmental project.	Contract Management
Recognising the need for proactive risk management and the use of high-end risk management tools.	First of Type Equipment
The need for industry to pay greater attention to adequately resourcing complex and highly developmental projects.	Resourcing
Early recognition of the need for proactive stakeholder engagement throughout the project.	Contract Management
The need to provide adequate resources with sufficient lead-time to develop and execute the evaluation and negotiating phases for the in service support component of a first of type capability.	Resourcing Contract Management
Making appropriate investment in pre-contract work (such as an IDA phase) to better understand the technical risks, clarify Defence's appetite for it and adjust requirements, acquisition strategy and expectations.	First of Type Equipment
Improving governance to support a more disciplined consideration of strategic trade-offs between performance, cost and schedule post contract signature.	Contract Management Schedule Management
Taking a colder, harder look at risk before contract signature.	First of Type Equipment
Tempering the biases towards overoptimism and underestimation of risk by both industry and Defence, and making allowances for the biases and risks in the commitments made to Government and the Capability Manager.	First of Type Equipment
Accepting and accommodating the likelihood of incremental delivery of capability in developmental projects.	First of Type Equipment
Applying greater workforce, management focus and governance to the definition, planning and execution of the Integrated Logistics Support and sustainment components of the project in keeping with their significant share of total system life-cycle costs.	Resourcing

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	**Mr** Colin Thorne **(to Aug 13)** **AVM Leigh Gordon (Aug 13–current)**
Branch Head	AIRCDRE Leigh Gordon **(to Aug 13)** **GPCAPT Leon Phillips (Aug 13–Sep 13)** **GPCAPT Graham Edwards (Sep 13–Oct 13)** **AIRCDRE Adam Brown (Oct 13–current)**
Project Director	Mr Peter Kiss
Project Manager	**Mr Brian Harrison (Jul 13–current)**

Wedgetail

Project Data Summary Sheet[191]

Project Name	**MULTI-ROLE HELICOPTER**
Project Number	**AIR 9000 Phase 2, 4 and 6**
First Year Reported in the MPR	2008-09
Capability Type	Replacement
Acquisition Type	**Australianised MOTS**
Service	Royal Australian Navy and Australian Army
Government 1st Pass Approval	Apr 06 (Phases 4 and 6)
Government 2nd Pass Approval	Aug 04 (Phase 2), Apr 06 (Phases 4 and 6)
Total Approved Budget (Current)	**$3,785.1m**
2013-14 Budget	**$250.8m**
Project Stage	**Initial Materiel Release**
Complexity	ACAT I

Section 1 – Project Summary

1.1 Project Description

The Multi-Role Helicopter (MRH) Program is a key component of the Australian Defence Force (ADF) Helicopter Strategic Master Plan that seeks to rationalise the number of helicopter types in ADF service. The MRH Program consists of three phases of AIR 9000. Phase 2 **(12 helicopters)** is the acquisition of an additional Squadron of troop lift aircraft for the Australian Army, Phase 4 **(28 helicopters)** will replace Army's Black Hawk helicopters in the Air Mobile and Special Operations roles, and Phase 6 **(6 helicopters)** will replace Royal Australian Navy (RAN) Sea King helicopters in the Maritime Support Helicopter role. All three phases are grouped under the AIR 9000 MRH Program.

1.2 Current Status

On 28 November 2011, the then Minister for Defence announced this project is a Project of Concern.

Cost Performance

In-year

The project **achieved in-year expenditure with a minor underspend of $0.3m.**

Project Financial Assurance Statement

As at 30 June 2014, project AIR 9000 Phase 2, 4 & 6 has reviewed the project's approved scope and budget for those elements required to be delivered by the Defence Materiel Organisation (DMO). Having reviewed the current, financial, contractual obligations, known risks and estimated future expenditure, the DMO considers, **that** sufficient budget **remains** for the project to complete against the agreed scope.

Contingency Statement

The project has applied contingency in the financial year primarily for the treatment of various technical and integration risks identified.

191 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

The project stopped accepting aircraft in November 2010 due to a number of technical and reliability issues, which **have** impacted the achievement of capability milestones. The Commonwealth recommenced accepting aircraft in November 2011 after negotiating a remediation plan; however acceptance of aircraft was again suspended in February 2012 pending resolution of another technical concern related to the aircraft's cargo hook. In May 2012 the Commonwealth agreed to accept a further four aircraft based on Australian Aerospace's agreement to the commercial terms associated with the rectification of the cargo hook issue. Scheduled aircraft acceptance recommenced in June 2012 with the most recent aircraft (**#29**) being accepted in **June 2014**.

As a result of the Deed 2 negotiations with the contractor, the final delivery of aircraft **has been rescheduled to July 2017; this, and ongoing technical deficiencies, have resulted in delays to the** Final Materiel Release (FMR) and Final Operational Capability (FOC) milestones.

Twenty-nine aircraft have been accepted; **seven** aircraft based with the Army's 5th Aviation Regiment in Townsville, six aircraft based with Navy's 808 Squadron in Nowra and **nine** aircraft with the Army Aviation Training Centre in Oakey. Four aircraft are in retrofit, **two aircraft are undergoing Deeper Maintenance or modification and the 29th aircraft is undergoing post-acceptance administration at the Australian Aerospace Brisbane facility**. The first thirteen aircraft require an in-service retrofit to bring them up to the full Phase 2/4/6 capability baseline. As at **June 2014 five** of the thirteen aircraft **had** been retrofitted and accepted back into service**, with the thirteenth aircraft scheduled for February 2016.**

The first of two Full Flight Mission Simulators (FFMS) was accepted in August 2013 and training using the first FFMS commenced in September 2013. Assembly of the second FFMS, within the new building in Townsville, is in progress.

Materiel Capability Delivery Performance

Following achievement of In-Service Date (ISD) with agreed partial achievement of the contracted MRH capabilities, there has been significant work by both Industry and the Commonwealth to define and implement a series of capability block enhancements to bring the MRH90 to contracted standards. This includes a retrofit program to progressively bring all aircraft up to the contracted standard.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The Additional Troop Lift project was first foreshadowed in the Defence White Paper 2000.

The MRH Program consists of Phases 2, 4 & 6. Phase 2 was approved initially, providing 12 additional Troop Lift helicopters for Army. Phases 4 & 6 were approved subsequently with Phase 4 **which provided 28 helicopters** as the replacement of the Australian Army's fleet of 34 S-70A-9 Black Hawk helicopters, again for troop lift capability, and Phase 6 **provided 6 helicopters** as the replacement of the RAN's fleet of six Sea King helicopters, providing maritime support capability for Navy. **The delivery of a 47th MRH90 was negotiated as part of Deed 2. This enables the use of one airframe as a Ground Training Device without impacting the operational fleet.**

In total, the AIR 9000 MRH Program will acquire 47 MRH90 aircraft and support systems. Support capabilities, such as Electronic Warfare Self Protection Support System, MRH Software Support Centre, MRH Instrumentation System and a Ground Mission Management System, will be acquired along with training systems and in-service support.

The Phase 2 Acquisition Contract was signed with Australian Aerospace in June 2005 with the subsequent Sustainment and Program Agreement contracts signed in July 2005.

In November 2005 the Defence Capability and Investment Committee agreed that the way forward was to seek a combined first and second pass approval for both Phases 4 and 6 as part of a single approval process.

Cabinet endorsement was gained in April 2006 in a combined first and second pass process for Phase 4 and Phase 6. The agreed method of procurement, a two stage Contract Change Proposal (CCP), resulted in the execution of options contained in the Program Agreement for the procurement of additional aircraft approved under Phases 4 and 6. Initial CCPs for the Acquisition, Sustainment and Program Agreement Contracts were signed in June 2006.

A further CCP for development of associated systems including: Electronic Warfare Self Protection Support System, MRH Software Support Centre, MRH Instrumentation System and a Ground Mission Management System, as well as two part task trainers and a number of aircraft options were signed in October 2006.

The three AIR 9000 Phase 2/4/6 contracts (Program Agreement Contract, Acquisition Contract and Sustainment Contract) incorporate the above CCPs. On acceptance of two MRH90, appropriate training, maintenance and supply support, an ISD of December 2007 was achieved with aircraft operating under a Special Flight Permit granted by the Chief of Air Force. This triggered the Sustainment Contract to come into effect and all three contracts are now currently active.

The Commonwealth suspended acceptance of aircraft from Australian Aerospace in November 2010**; deliveries** recommenced in November 2011 after **negotiations of** a remediation plan (Deed of Agreement and CCPs) to address a number of engineering and reliability issues. Concurrent with the recommencement of aircraft acceptance in November 2011, the then Minister for Defence announced that the project would be listed as a Project Of Concern citing **exceedences of** early warning thresholds for schedule, aircraft technical deficiencies and Australian Aerospace's performance.

The Commonwealth has conducted negotiations with the prime contractor to review and settle commercial, technical and schedule issues resulting in a variation to the original contract signed on 9 May 2013, which has been termed 'Deed 2'. **Deed 2, which came into effect on 1 July 2013 re-baselined** the delivery schedule **and addressed commercial and technical issues.**

Uniqueness

The MRH90 aircraft is based upon the German Army variant of the NH90 Troop Transport Helicopter. The MRH90 design uses well established aerospace technologies, but will introduce new technologies into Army and Navy, primarily in the areas of composite structure, helmet mounted sight and display and fly-by-wire flight control systems.

The MRH Program is providing an MRH90 capability to two main users - Army and Navy. The capability delivery complexity this introduces has been mitigated through an agreement between Chief of Army and Chief of Navy. This provides the project with a single interface for introduction into service issues.

The MRH Program Office Design Acceptance Strategy is dependent **upon the** French Military Airworthiness Authority's (Direction Générale de l'Armament (DGA)) prior acceptance of the NH90 variants and certification recommendation for the MRH90. The DGA and other National Qualification Organisations' prior acceptance of European NH90s provides confidence for the ADF to leverage off common certification evidence **for the MRH90.**

Major Risks and Issues

The reliability and Rate of Effort of MRH90 is lower than expected and has impacted the training of MRH90 aircrew. Key contractual and capability milestones have also been impacted by the reduced Flying Rate of Effort. **Since Deed 2 effective date of 1 July 2013, the MRH90 rate of effort has improved, however remains lower than required.**

Aircraft system lack of maturity has affected the certification schedule of the MRH90 and subsequently the declaration of capability milestones. Several aircraft component weaknesses, including the cargo hook release mechanism, the Fast **Roping and** Rappelling Device (FRRD), the self defence gun mount, the cabin seating and the non-compliance of the FFMS activities have impacted the achievement of these capability milestones.

Service Release has been achieved for the Enhanced MRH90 Armament System (EMAS), interim Fast Roping and Class 5 VERTREP in March 2014; these are key criteria for the achievement of Initial Operating Capability Navy (IOC Navy). Service Release of the Wet Deck capability was also achieved in March 2014.

Other Current Sub-Projects

N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Apr 04	Original Approved		3.3	1
Aug 04	**Government Second Pass Approval**	953.9		
Jun 06	Real Variation – Scope	2,565.6		2
Oct 06	Real Variation – Transfer	(219.0)		3
Oct 08	Real Variation – Transfer	(20.0)		4
Oct 08	Real Variation – Scope	31.5		5
			3,312.0	
Jul 10	Price Indexation		679.8	6
Jun 14	Exchange Variation		**(210.0)**	
Jun 14	**Total Budget**		**3,785.1**	
	Project Expenditure			
Prior to Jul 13	Contract expenditure – Australian Aerospace	**(1,914.9)**		
	Contract expenditure – CAE Australia	**(133.7)**		
	Other Contract Payments / Internal Expenses	**(130.6)**		7
			(2,179.2)	
FY to Jun 14	Contract expenditure – Australian Aerospace	**(225.3)**		
	Contract expenditure – CAE Australia	**(11.7)**		
	Other Contract Payments / Internal Expenses	**(13.5)**		7
			(250.5)	
Jun 14	**Total Expenditure**		**(2,429.7)**	
Jun 14	**Remaining Budget**		**1,355.4**	

Notes	
1	This project's original DMO budget amount is that prior to achieving Second Pass Government Approval.
2	Incorporation of AIR 9000 Phase 4 (Black Hawk Upgrade/Replacement) and AIR 9000 Phase 6 (Maritime Support Helicopter).
3	The funding related to facilities elements of the project that will be managed by Defence Support and Reform Group (DSRG).
4	Transfer to DSRG for Facilities Infrastructure.
5	Real Cost Increase funding for FFMS.
6	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $556.1m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $123.7m having been applied to the remaining life of the project.
7	Other expenditure comprises: operating expenditure, contractors, consultants, contingency, other capital expenditure not attributable to the aforementioned contracts and minor contract expenditure.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**In-year expenditure was achieved within a minor variance of ($0.3m).**
			Overseas Industry	
		(0.3)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
250.8	**250.5**	**(0.3)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Australian Aerospace	Jun 05	846.3	**2,792.3**	VARIABLE	ASDEFCON (Strategic)	1, 2 3, **4**
CAE Australia	Dec 07	180.5	**178.8**	VARIABLE	ASDEFCON (Complex)	**4**

Notes

1	This contract also includes an Electronic Warfare Self Protection Support System, MRH Software Support System, MRH Instrumented System and 23 Ground Mission Management Systems (GMMS) (4 Fixed GMMS, 7 Deployable GMMS, 1 Reduced, 9 Light and 2 interim GMMS). Contract Base date is January 2004.
2	The MRH Instrumented System includes an airborne instrumentation pallet, some ground based instrumentation and three aircraft (from the total fleet of 47) that have provisions to have the instrumentation pallet installed.
3	**The increase from the original contract value is predominantly due to the increase in aircraft ordered and associated systems following government approved scope changes as described in Section 1.3.**
4	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Australian Aerospace	12	47	MRH90 Aircraft	1
CAE Australia	2	2	Full Flight and Mission Simulator	

Major equipment received and quantities to 30 Jun 14

29 MRH aircraft have been accepted to date. **The first of two FFMS have been accepted by the Commonwealth.**

Notes

1	**The delivery of a 47th MRH90 was negotiated as part of Deed 2. This enables the use of one airframe as a Ground Training Device without impacting the operational fleet.**

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	MRH aircraft - Phase 2	Aug 05	Oct 05	Sep 05	1	1
	MRH aircraft - Phase 4/6	Apr 07	Apr 07	May 07	1	1
	MRH Software Support Centre	N/A	Mar 07	Apr 07	1	
	Electronic Warfare Self Protection Support System	N/A	N/A	Nov 05	N/A	
	Ground based Mission planning and Management System	Oct 05	Oct 05	Feb 07	16	2
	MRH Instrumented System	N/A	Jun 07	Jul 07	1	
	Full Flight and Mission Simulators	May 08	Nov 08	Mar 09	9	3
System Design	Full Flight and Mission Simulators	Oct 08	Mar 09	Jun 09	8	3
Preliminary Design	MRH aircraft - Phase 2	Jan 06	Jan 06	Apr 06	3	
	MRH aircraft - Phase 4/6	N/A	N/A	Jun 08	N/A	
	MRH Software Support Centre	N/A	Jun 07	Jun 07	0	
	Electronic Warfare Self Protection Support System	Mar 06	Mar 06	May 06	2	
	Ground based Mission planning and Management System	Jul 06	Apr 07	Jun 07	11	2
	MRH Instrumented System	N/A	Jun 07	Jul 07	1	
	Full Flight and Mission Simulators	Feb 09	Sep 09	Oct 09	8	3
Critical Design	MRH aircraft - Phase 2	May 06	May 06	Jun 06	1	
	MRH aircraft - Phase 4/6	Aug 08	N/A	Oct 08	2	
	MRH Software Support Centre	N/A	Oct 07	Sep 07	(1)	
	Electronic Warfare Self Protection Support System	Sep 06	Sep 06	Oct 06	1	
	Ground based Mission planning and Management System	Nov 06	Nov 07	Jul 08	20	2
	MRH Instrumented System	N/A	Jun 08	Jun 08	0	
	Full Flight and Mission Simulators	Aug 09	Feb 10	Apr 10	6	3

Notes	
1	Delays in the Systems Engineering process have resulted from the developmental nature of the aircraft system, with the MRH90 variant being unique in some ways.
2	GMMS software delays are directly attributable to aircraft schedule delivery slip.
3	FFMS design review delays stem primarily from slow Contractor derivation of requirements into a suitable System and Subsystem Specification. This was compounded by delays in the prime contractor establishing a vital subcontract with the aircraft manufacturer.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	MRH aircraft - Phase 2	Jul 06	Nov 06	Dec 06	5	
	MRH aircraft - Phase 4/6	N/A	N/A	N/A	N/A	1
	MRH Software Support Centre	N/A	Oct 08	Nov 08	1	

	Electronic Warfare Self Protection Support System	N/A	N/A	Nov 07	N/A	
	Ground based Mission planning and Management System	N/A	N/A	N/A	N/A	2
	MRH Instrumented System	Nov 08	May 09	Dec 09	13	3
	Full Flight and Mission Simulators	Jun 11	Sept 11	Sep 11	4	4
Acceptance	Type Acceptance Review Special Flight Permit 1	Oct 07	N/A	Dec 07	2	5
	Australian Military Type Certificate	Dec 08	Dec 10	Apr 13	52	6
	Full Flight and Mission Simulator #1	**Jul 12**	**Aug 13**	**Aug 13**	**13**	7
	Full Flight and Mission Simulator #2	**Jan 13**	**Oct 14**	**Oct 14**	**21**	7
	Ground based Mission planning and Management System Lot 1	Feb 09	Sep 09	Dec 09	10	8
	Ground Mission planning and Management System Lot 2	Feb 09	Dec 09	Apr 10	14	8
	Ground Mission planning and Management System Lot 3	Sep10	Sep10	Mar 13	30	8
	MRH Software Support Centre	Feb 09	Feb 09	Dec 08	(2)	
	Electronic Warfare Self Protection Support System	Dec 07	Dec 07	Dec 07	0	
	MRH Instrumented System	Mar 10	Jun 10	Sep 11	18	9
Aircraft Acceptance	MRH aircraft #01 (First aircraft)	Dec 07		Dec 07	0	
	MRH aircraft #05 (First Australian built aircraft)	Dec 08		Dec 08	0	
	MRH aircraft **#29** (Most Recent)	**Jun 12**	**Jun 14**	**Jun 14**	**24**	10
	MRH aircraft **#30** (Next aircraft)	**Jul 12**	**Jul 14**	**Jul 14**	**24**	10
	MRH aircraft #47 (Final Aircraft)	Jul 17	Jul 17	Jul 17	0	

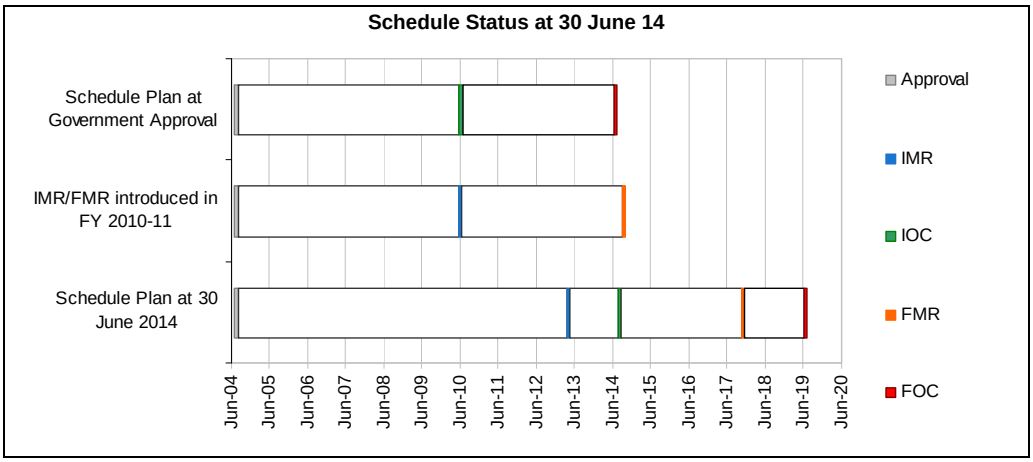
Notes	
1	Phases 4/6 were rolled into the MRH Program from aircraft 13 onwards, which increased the number of aircraft from 12 to 46.
2	The acceptance and test-readiness of the GMMS was broken into six lots post contract signature. The lots compose of GMMS deliverables that have been aligned to aircraft delivery – location and baseline. The acceptance of GMMS lots are listed in the acceptance area of this table.
3	The 13 month delay to closure of Test Readiness Review was due to electronic compatibility test design issues not resolved until November 2009. This delay was mitigated by the development of an interim MRH Instrumentation System capability used for a test activity in October 2009.
4	Achieved through completion of Test Readiness Review for Contractor In-Plant Test and Evaluation in Sep 11.
5	The first Airworthiness Board (for a Special Flight Permit (SFP)) was conducted in November 2007 and a SFP was granted in December 2007. There have been a number of SFP extensions to allow flight trials of the aircraft as it further develops to continue. The most recent SFP was granted in December 2012 and expired in April 2013.
6	Achievement of the Australian Military Type Certificate proved problematic due to **technical and reliability issues, leading to** insufficient levels of Rate of Effort. Rate of Effort was required to validate that in-service support arrangements for the fleet are sufficient to cope with current numbers of aircraft and are growing in maturity to meet fleet requirements. Australian Military Type Certificate and Service Release was achieved 17 April 2013.

7	Refers to acceptance of Simulators in Oakey and Townsville. Delays have been incurred due to the late delivery of facilities and an underestimation of the time required to implement the design.
8	Lot 1, 2 and 3 have been altered to accommodate the variation in aircraft delivery date and configuration.
9	The MRH instrumented system incurred delays due to technical and supportability issues that resulted in contractual non-conformances. These non-conformances were rectified by September 2011.
10	The MRH90 program stopped accepting aircraft in November 2010 due to a number of technical and reliability issues. The Commonwealth recommenced accepting aircraft in November 2011 after negotiating a remediation plan to address a number of engineering and contractual issues; however acceptance of aircraft was again suspended in February 2012 pending resolution of another technical concern related to the aircraft's cargo hook. In May 2012 the Commonwealth agreed to accept a further four aircraft based on Australian Aerospace's agreement to the commercial terms associated with the rectification of the cargo hook issue. Scheduled aircraft acceptance recommenced in June 2012 with the most recent aircraft (**#29**) being accepted in **June 2014.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

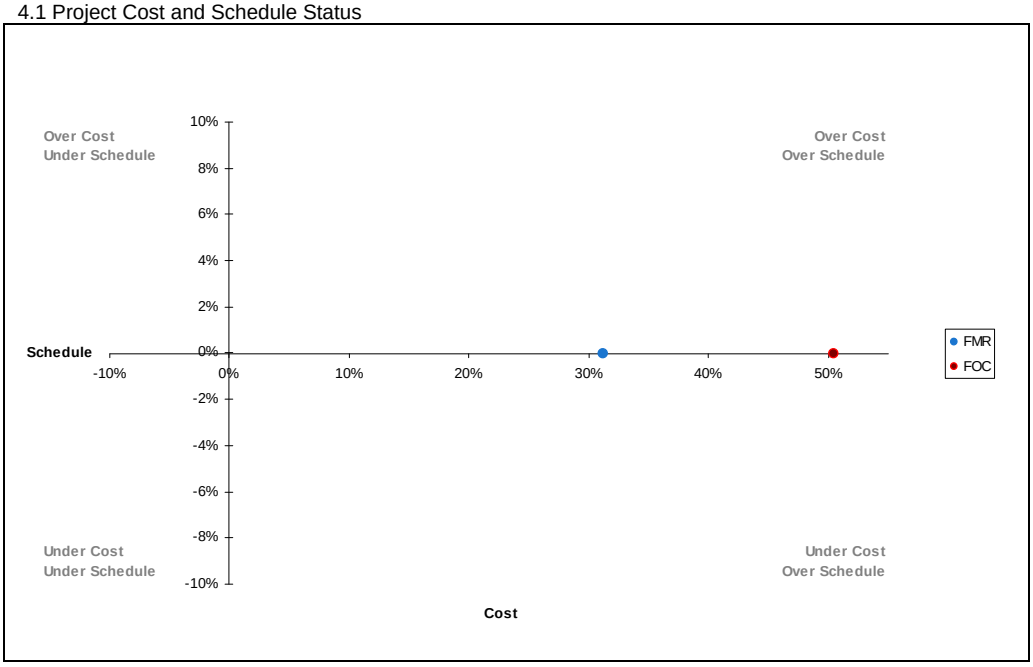
Item		Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Army/Navy	Jun 10	May 13	35	1
Initial Operational Capability (IOC)	Navy	Jul 10	**Sep 14**	**50**	2
	Army	Apr 11	**Sep 14**	**41**	3
Final Materiel Release (FMR)	Army/Navy	Oct 14	**Dec 17**	**38**	4
Final Operational Capability (FOC)	Navy	Dec 12	**-**	**-**	5
	Army	Jul 14	**Jul 19**	**60**	**4**

Notes	
1	The MRH90 program stopped accepting aircraft in November 2010 due to a number of technical and reliability issues. This has impacted the achievement of capability milestones. The Commonwealth recommenced accepting aircraft in November 2011 after negotiating a remediation plan to address a number of engineering and reliability issues; however acceptance of aircraft was again suspended in February 2012 pending resolution of another technical concern related to the aircraft's cargo hook. In May 2012 the Commonwealth agreed to accept a further four aircraft based on Australian Aerospace's agreement to the commercial terms associated with the rectification of the cargo hook issue. Scheduled aircraft acceptance recommenced in June 2012 with the most recent aircraft **(#29)** being accepted in **June 2014**. IMR was declared on 13 May 2013, **based on 6 Product Baseline 3 aircraft.**
2	Affected by delays to IMR. **(Refer to Note 1 above)**
3	Affected by delays to IMR. **(Refer to Note 1 above)**
4	Dates directly impacted by delay to IMR. **(Refer to Note 1 above)**
5	**FOC is now only forecast as a single date. The last capability subset is to be realised by Army.**



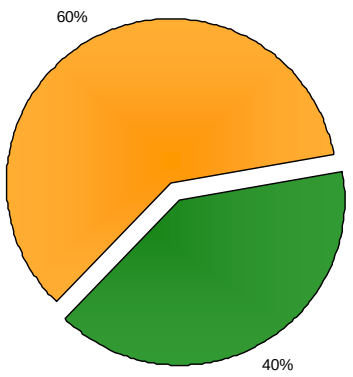
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** **A number of key capabilities have been delivered and service released. Other key capabilities are being progressed in accordance with agreed operational milestones.** **Amber:** There are some materiel capabilities that are undergoing Operational Test and Evaluation (OT&E) activities and working towards Service Release. There are associated risks and issues in achieving Service Release of these capabilities, however the project is actively managing them. **An example is Electronic Warfare Protection.** **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Operational capability milestones will be affected by a number of cabin integration issues, leading to an impact on cost, schedule and performance.	1. Formation of Cabin Integration Working Group; 2. Industry Prototyping; 3. Accept incremental improvements; 4. Use of Liquidated Damages as offset; and 5. Leverage NATO Helicopters 90 (NH90) community solutions.
Troop carrying capability will be affected by the troop seat anthropometric **(study of human body measurement)** issues leading to an impact on operational and capability milestones.	1. Perform analysis to understand limitations; 2. Heavy stakeholder engagement to understand requirement and limitations; 3. Determine appropriate strategy to address requirements and limitations; and 4. Identify commercial options to implement strategy. **This risk has been retired as a result of activities conducted and commercial arrangements implemented under Deed 2.**
The MRH90 navigational capability will be affected by the inability to resolve technical failures associated with the Inertial Reference System (IRS) leading to an impact on performance.	Software and Hardware (Magnetic Anomaly Detector) being implemented by Australian Aerospace. Planned for completion by October 2013 with earlier rectification possible. **This risk has been retired as a result of Service Release of IRS improvements.**

Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
Achievement of IOC Navy and / or IOC Army will slip due to delayed accomplishment of pre-requisite activities or delivery of required operational capabilities.	**1. Prioritise and focus resources toward capability deliverables in support of IOC.** **2. Early identification and mitigation of capability shortfalls.**
Upgrading both FFMS to Sustainment Software Build 1.1 will be delayed due to an inability to negotiate a sustainable upgrade cost with CAE.	**1. Work with CAE-A to identify and optimise cost drivers.** **2. Investigate alternate contracting strategies.**

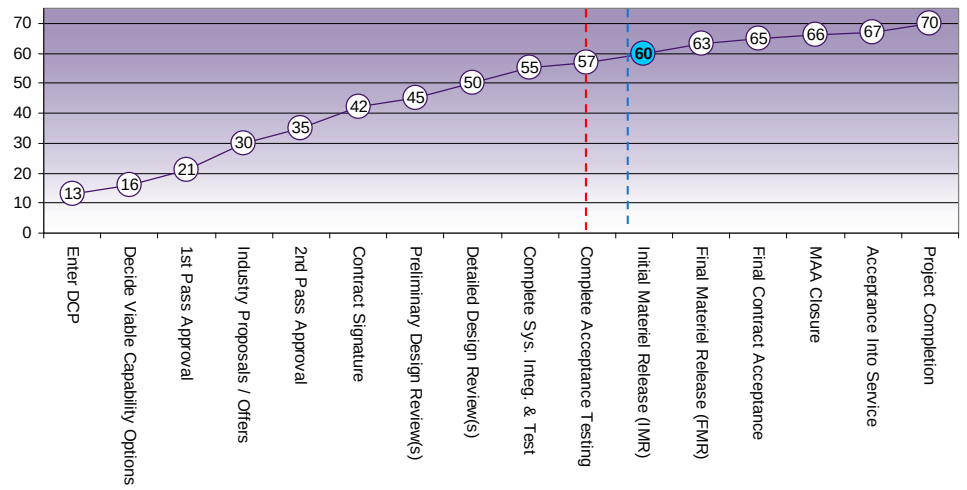
6.2 Major Project Issues

Description	Remedial Action
The MRH90 Search / Landing Light (SLL) was assessed as not fit for purpose due to beam width and lack of covertness. This reduced the range of illuminations under which the aircraft could conduct night flying and limited operational use.	**1. Identify a replacement bulb for SLL capability.** **2. Implement solution to meet capability milestones.**
The test program has been affected by competing priorities because of limited airframe/aircrew resources which will result in delayed identification of issues, resolution of identified issues and delayed subsequent Operational Test and Evaluation activities leading to an impact on schedule.	1. Continue to closely manage test activities in consultation with other agencies, prioritising activities to support subsequent events. 2. Outsource work where appropriate. 3. Consider posting of key staff ahead of end of year. 4. Try to balance test crews to maximise efficiency in test activities. 5. Manage tasking/ workload and seek additional support overall as required.
The Service Release and Operational capability will be affected by the FRRD being deemed not suitable leading to an impact on schedule and performance.	1. Interim FRRD solution has been design accepted and **service release has been achieved**. 2. Identify design options for enduring solution.
Sustainment training will be affected by the late delivery of FFMS leading to an impact on cost, performance and safety.	1. ADF pilots carry out simulator activities on the Helisim in Europe. The cost of this training was met under the provisions of the acquisition contract. 2. Access arrangement negotiated with CAE to allow development of training materials prior to System Acceptance. **This issue has been retired as a result of FFMS#1 being accepted.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	**10**	8	8	8	9	8	**9**	**60**
Initial Materiel Release	Project Status	**8**	7	**9**	9	8	**7**	9	**57**
	Explanation	• **Schedule: IMR has been achieved and detailed planning for remaining activities to achieve FMR is sound.** • **Cost**: Not all risks have been retired; however the estimate at completion to mitigate remains within contingency guidance. • **Requirement:** The MRH System design and acceptance testing phases being essentially complete. Additionally, the project office, with Navy and Army, is conducting validation trials to demonstrate that the system meets in-service requirements. • **Technical Understanding:** The knowledge necessary to operate and support the platform is being transferred to the in-service providers. • **Technical Difficulty:** Capability is still being tested fully due to the immaturity of elements of the capability. • **Commercial: Deed 2 settled a number of long outstanding commercial issues and has implemented sound management arrangements to provide confidence that industry effort will be focused on capability realisation.**							



2012-13 DMO MPR Status - - - - 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Early establishment of the Sustainment organisations. Both Commonwealth and Industry teams need to be set up well in advance of the delivery of the first of **the deliveries**. The provision of accepted aircraft to an Operational Squadron has led to a range of lessons in regard to command and control of assets and people, stakeholder management and the relationship with Industry.	Resourcing
The impact of attaining limited Intellectual Property rights has been critical to the ongoing development of the capability and achievement of value for money in further contract negotiations. It has also limited the provision of data for integration with other platforms (such as the Landing Helicopter Dock ships).	Contract Management
The MRH Project was **incorrectly** viewed as a Military off-the-Shelf (MOTS) acquisition. Lessons associated with **intended** MOTS procurements include: that it is essential that the maturity of any offered product be clearly assessed and understood; and that elements of a chosen off-the-shelf solution may not meet the user requirement.	Off-the-shelf Equipment

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	RADM Tony Dalton
Branch Head	BRIG Andrew Mathewson
Project Director	LTCOL James Allen
Project Manager	Mr Hilton Hunter

Project Data Summary Sheet[192]

Project Name	**OVERLANDER VEHICLES (MEDIUM AND HEAVY VEHICLES AND TRAILERS)**
Project Number	**LAND 121 PHASE 3B**
First Year Reported in the MPR	2013-14
Capability Type	Replacement
Acquisition Type	Australianised MOTS
Service	Australian Army
Government 1st Pass Approval	Jun 04 – Phase 3 Dec 11 – Phase 3B
Government 2nd Pass Approval	Aug 07 – Phase 3 Jul 13 – Phase 3B
Total Approved Budget (Current)	$3,469.0m
2013–14 Budget	$33.3m
Project Stage	Preliminary Design Review
Complexity	ACAT I

Section 1 – Project Summary

1.1 Project Description

LAND 121 Phase 3 was established to replace the current fleet of Australian Defence Force (ADF) Field Vehicles, Modules And Trailers (FVM&T) and will enhance the ground mobility of the ADF.

In December 2011, Government approved the splitting of LAND 121 Phase 3 into two projects:

- LAND 121 Phase 3A – Lightweight and Light Capability (LLC), incorporating the approved Phase 5A; and
- LAND 121 Phase 3B – Medium and Heavy Capability (MHC), incorporating the yet to be approved Phase 5B.

Project Land 121 Phase 3B seeks to acquire 2707 vehicles, in both protected and unprotected configurations and variants, and 1704 trailers to enhance the payload capacity and associated modules. Vehicles will be acquired from the following:

- 2,536 MHC vehicles supplied by Rheinmetall MAN Military Vehicles Australia (RMMVA);
- 122 G-Wagon (with trailers), supplied by Mercedes-Benz Australia / Pacific Pty Ltd, acquired by LAND 121 Phase 3A; and
- 49 Bushmaster Protected Mobility Vehicles (PMV) to be reallocated from the in-service fleet.

1.2 Current Status

Cost Performance

In-year

As at 30 June 2014, financial year 2013-14 expenditure was $33.4m against the forecast expenditure of $33.3m. The minor variation is primarily due to acquiring two vehicles (Batch 0) required to support design and verification activities.

192 Notice to the reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Project financial assurance statement

As at 30 June 2014, project LAND 121 Phase 3B has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency funds in the financial year.

Schedule Performance

Both RMMVA (vehicles and modules) and Haulmark Trailers Australia (trailers) continue to provide deliverables as required under the contracts. Both contracts have commenced the preliminary design phase. Due to delays with RMMVA engaging two of fourteen sub-contractors (stores and bulk liquid) there was a delay of 9 months to the engineering design program. However, this will not impact delivery of the capability and Initial Materiel Release (IMR) will be maintained.

Materiel Capability Delivery Performance

Affordability will impact the overall capability, with costs being managed by maximising off-the-shelf solutions.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Project LAND 121 is a multi-phased project to provide the ADF with the FVM&T and associated support systems to meet ADF mobility requirements including logistic distribution, command and liaison, casualty evacuation, troop lift, and the provision of mobility for specialist assets such as command shelters and communications terminals.

At the time Government approved LAND 121 Phase 3 the ADF's FVM&T fleet consisted of some 7,300 vehicles and 3,700 trailers acquired progressively from 1959. By 2008, 98% of the current assets had exceeded their life of type. The fleet was increasingly costly to maintain, repair and operate. Furthermore, the increased operational tempo from 1999 has compounded the challenges faced by the fleet to provide the mobility needs required by the ADF.

LAND 121 Phase 3 was approved in August 2007 to acquire 1,187 Mercedes-Benz G-Wagons, and 973 matching trailers from Haulmark Trailers Australia (HTA). In August 2011, Government approved the acquisition of an additional 959 G-Wagons and 826 trailers under LAND 121 Phase 5A via the contracts negotiated for Phase 3.

Phase 3 was also intended to acquire medium and heavy FVM&T; however, the Commonwealth withdrew from negotiations with the preferred tenderer, and a tender resubmission process was initiated in December 2008. In December 2011, Defence announced negotiations would commence with the preferred tenderers, RMMVA for the MHC vehicle and module requirements and with HTA for the MHC trailer requirements.

Strictly, MOTS items were not considered appropriate as modifications are required to achieve:

- compliance with Australian Design Regulations,
- a requirement for vehicles to interface with in-service and new Australian designed trailers and modules; and
- integrate with in-service communication equipment.

In a related decision at the same time, Government approved the splitting of LAND 121 Phase 3 into two projects: LAND 121 Phase 3A for the LLC approved under Phase 3 and amalgamating this with the additional scope approved under Phase 5A; and LAND 121 Phase 3B to progress the Phase 3 MHC scope elements This decision effectively closed Phase 3 and amounted to a combined pass approval for the new Phase 3A and an 'interim pass' approval for the new Phase 3B. The December 2011 approval allowed the continuation of contracted activities toward the LLC acquisition and the ongoing negotiations for the MHC contracts for Phase 3B. Phase 3B was required to seek a supplementary second pass approval following contract negotiations.

The Phase 3A LLC Contract Amendments were executed in January 2012 and Phase 3B achieved second pass approval in July 2013.

Uniqueness

LAND 121 Phase 3B is to deliver the FVM&T capability to multiple locations throughout Australia and on operational service overseas. This presents a unique logistic challenge in having a robust Support System that will achieve stated availability requirements for the lowest life cycle cost.

Major Risks and Issues

The following risks and issue may have an impact on schedule, cost, performance, and/or reputation.

Risks associated with the vehicle acquisition process include changes to system specifications, integration issues with new generation communication equipment, and access to public roads. The key issue concerning the project is the timely engagement of key sub-contractors.

Other Current Sub-Projects

LAND 121 Phase 3A will deliver 2,146 lightweight (4x4) and light (6x6) Mercedes-Benz Geländewagen (G-Wagons) and 1,799 matching Haulmark trailers, replacing approximately two thirds of the current Land Rover 4x4 and 6x6 vehicle fleets. The new G-Wagons will be used primarily for tactical training, but will also be available to support humanitarian assistance or disaster relief operations, and to help secure Australia's coastline.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
JP 126 Phase 2 Joint Theatre Distribution	JP 126 Phase 2 will acquire the physical distribution network elements of the Joint Theatre Distribution System, and include MHE and heavy load handling vehicles.	On behalf of JP 126 Phase 2, LAND 121 Phase 3B is acquiring the following: • 141 Integrated Load Handling Systems; and • 399 Flatracks.
JP 2059 Phase 2 Bulk Liquid Distribution	JP 2059 is to provide a bulk fuel and water storage and distribution capability to support the concurrent deployment of: • a brigade-based Joint Task Force; • a Battalion Group deployed on independent operations including their supporting attachments; and • a unit-line refuelling capability for the Armed Reconnaissance Helicopter (ARH).	On behalf of JP 2059 Phase 2A, LAND 121 Phase 3B is acquiring the following: • Nine ARH refuelling systems (Heavy ILHS vehicles with Modules, Heavy, Bulk Fuel Pump and Storage); and • 30 Water Twenty Foot Equivalent Units (Modules, Heavy Bulk Water).
LAND 116 Phase 3 Bushranger	Project BUSHRANGER will provide protected land mobility to Army combat units and RAAF Airfield Defence Guards with the Bushmaster PMV.	Specific FVM&T requirements for LAND 116 Phase 3 and the Enhanced Land Force (ELF) were incorporated into the LAND 121 Phase 3B Basis of Provisioning (BOP).
LAND 121 Phase 3A Overlander LLC	Refer to 'Other Current Sub-Projects'	LAND 121 Phase 3B is dependant on LAND 121 Phase 3A for the delivery of 122 General Maintenance Vehicles, Modules and Trailers (GMV) and 16 Line Laying Modules.
LAND 17 Phase 1C.1	LAND 17 is acquiring the M777A2 Lightweight Howitzer, near-precision guided munitions – the Precision Guidance Kit course-correcting fuse and a networked Battle Management System-Fires, which includes the Advanced Field Artillery Tactical Data System and its communications bearers.	On behalf of LAND 17, LAND 121 Phase 3B is acquiring vehicles and modules to transport specialist artillery stores and personnel.

JP 2072 Battlespace Communications	JP 2072 is a multi-phased project to progressively define and acquire an integrated Battlespace Communications System for the ADF's land elements (BCS(L)) including Army land forces, RAAF air field defence, expeditionary combat support units and Royal Australian Navy landing parties.	LAND 121 Phase 3B is dependant on JP 2072 for the provision of radios to be included into the BGC3 MHC kits.
LAND 75 Battle Management System	LAND 75 Phase 3.4 will deliver a Battle Management System (BMS) to approximately 1,000 vehicles and 1,500 soldiers, enabling increased situational awareness to every Commander in the Battle Group. The BMS delivered by LAND 75 Phase 3.4 in combination with the combat radio system from JP 2072 Phase 1 is known as the Battle Group and Below Command Control and Communications system (BGC3).	LAND 121 Phase 3B is dependant on LAND 75 for the installation of BMS kits into the medium and heavy vehicle fleet.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Dec 11	At Original Approved (Phase 3 project Budget prior to Split into 3A and 3B)		3,237.7	1
Jun 12	Exchange Variation		(66.5)	
Jun 12	Budget as at 30 June 2012		3,171.2	
Jul 12	Real Variation – Scope (Funds retained by 3A)	(622.0)		2
			(622.0)	
Jul 12	**At Original Approval (Phase 3B Project Budget after split from Phase 3)**		**2,549.2**	
Jul 12	Exchange Variation to opening budget	23.3		3
Jul 13	Real Variation – Scope	7.0		4
Jul 13	Real Variation – Scope	21.0		5
Jul 13	Real Variation – Project Supplementation	684.2		6
			735.5	
Jun 14	Exchange Variation		184.3	
Jun 14	**Total Budget**		**3,469.0**	
	Project Expenditure			
Prior to Jul 13	Other Contract Payments/Internal Expenses	(7.9)		7
			(7.9)	
FY to Jun 14	Contract Expenditure – Rheinmetall MAN Military Vehicles Australia (Acquisition)	(17.3)		
	Contract Expenditure – Haulmark (Aust) Pty Ltd (Acquisition)	(10.3)		
	Other Contract Payments/Internal Expenses	(5.8)		8
			(33.4)	
Jun 14	**Total Expenditure**		**(41.3)**	
Jun 14	**Remaining Budget**		**3,427.7**	

Notes	
1	Phase 3 project budget prior to the split into Phase 3A and Phase 3B.
2	Retention of Light Capability scope by LAND 121 Phase 3A.
3	Update of exchange rates from approval to 2012-13 PBS rates.
4	Transfer of funds from Land 116 Phase 3 for acquisition of trailers.
5	Transfer of funds from JP 2059 Phase 2 Bulk Liquid Distribution for acquisition of some vehicles and associated equipment to facilitate fuel and water transportation.
6	Provision for general program supplementation associated with easing cost pressures identified during scoping for project approval.
7	Expenses comprise of $5.1m for salaries and $2.8m for other project office costs not associated with the prime contracts.
8	Expenses comprise of $3.9m for salaries and $1.9m for other project office costs not associated with the prime contracts.

2.2 In-year Budget / Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	The minor variation is primarily driven by Batch 0 Vehicle Acquisition payment being made as originally scheduled. This payment was part of another milestone payment for an activity which was delayed. Payment for the two vehicles was required to allow transfer of ownership to the Commonwealth and this was not part of the delayed activity (IBR).
			Overseas Industry	
			Local Industry	
		0.1	Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
33.3	33.4	0.1	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Rheinmetall MAN Military Vehicles Australia (Acquisition)	Jul 13	1,585.9	1,878.1	Variable	ASDEFCON	1, 2
Haulmark (Aust) Pty Ltd (Acquistion)	Jul 13	397.7	476.1	Variable	ASDEFCON	1, 2
Rheinmetall MAN Military Vehicles Australia (Support)	Jul 13	32.3	46.2	Variable	ASDEFCON	1, 2

Notes	
1	An additional commitment of $26.6m is included in the Mercedes Benz Australia Pacific Pty Ltd contract in Section 2.3 of the LAND 121 Phase 3A Project Data Summary Sheet, as this item is being procured by LAND 121 Phase 3A, on behalf of the LAND 121 Phase 3B project. This commitment is in relation to General Maintenance Vehicles and will be funded by LAND 121 Phase 3B.
2	Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Rheinmetall MAN Military Vehicles Australia (Acquisition)	2,536	2,536	MHC vehicles with associated modules.	1
Haulmark (Aust) Pty Ltd (Acquisition)	1,582	1,582	MHC Trailers.	
Rheinmetall MAN Military Vehicles Australia (Support)	N/A	N/A	MHC Support Contract for vehicles and modules.	

Major equipment received and quantities to 30 Jun 14
Two MHC vehicles have been received to support design and verification activities.

Notes	
1	The quantity figures being communicated publically exclude modules and prototypes.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved / Forecast	Variance (Months)	Notes
Preliminary Design	Vehicles & Modules	Dec 14	Dec 14	Aug 15	8	1, 2, 3
	Trailers	Jun 16	Jun 16	Jun 16	0	1, 2
Critical Design	Vehicles & Modules	Aug 15	Aug 15	May 16	9	1, 2, 4

Notes	
1	All dates represent *'completed by'*.
2	There are numerous design reviews pertaining to the 9 vehicle and 10 trailer variants. All dates represent final reviews subjected to the last vehicle and trailer variants.
3	Delays by RMMVA to secure its subcontractor has impacted the completion of preliminary design review.
4	Delays by RMMVA to secure its subcontractor has impacted the completion of critical design review.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved / Forecast	Variance (Months)	Notes
System Integration, Acceptance Test and Evaluation	Vehicles & Modules	May 16	May 16	Jan 17	8	1, 2, 3
	Trailers	Oct 17	Oct 17	Oct 17	0	1, 2

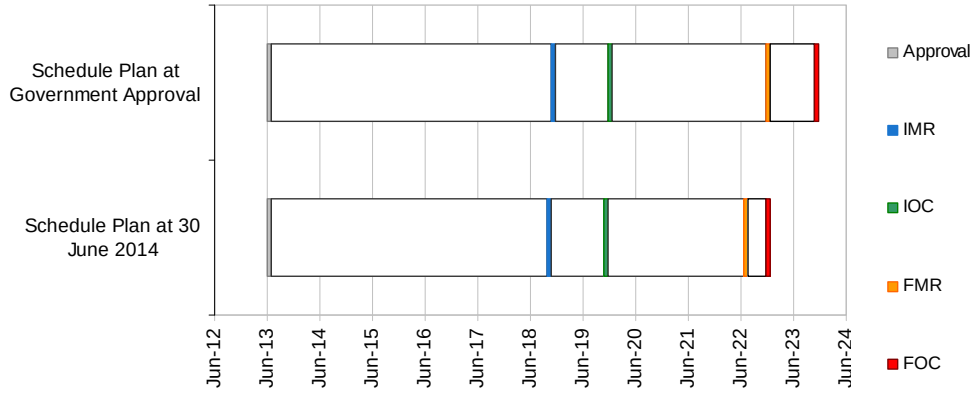
Notes	
1	All dates represent *'completed by'*.
2	There are numerous integration and AT&E activities associated with the 9 vehicle and 10 trailer variants. All dates represent final AT&E to the last vehicle, module and trailer variants.
3	A delay by RMMVA to secure its subcontractor has impacted the completion of AT&E.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved / Forecast	Variance (Months)	Note
Initial Materiel Release (IMR)	Dec 18	Nov 18	(1)	1
Initial Operational Capability (IOC)	Dec 19	Nov 19	(1)	
Final Materiel Release (FMR)	Dec 22	Jul 22	(5)	
Final Operational Capability (FOC)	Dec 23	Jan 23	(11)	

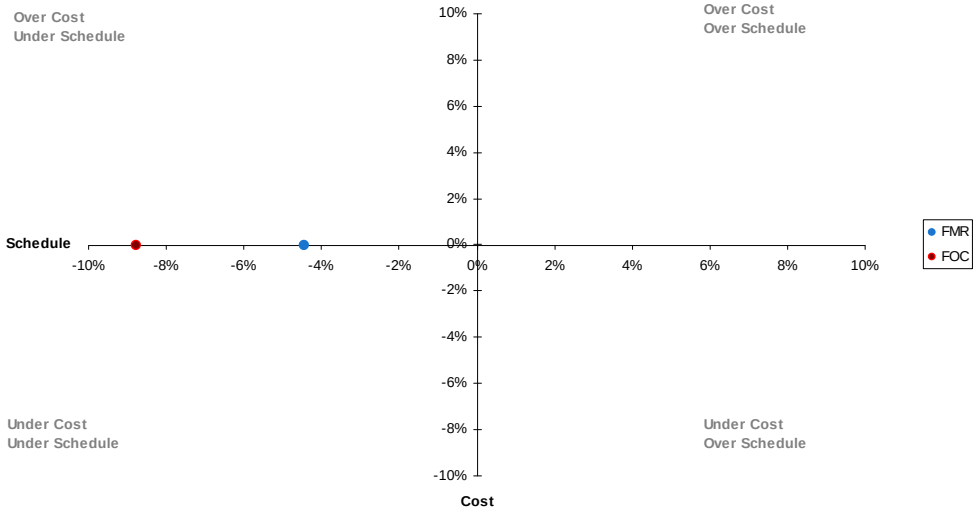
Notes	
1	All variances are forecast to be achieved ahead of planned dates and are a reflection of estimated planned work required to achieve MAA milestones.

Schedule Status at 30 June 2014



Section 4 – Project Cost and Schedule Status

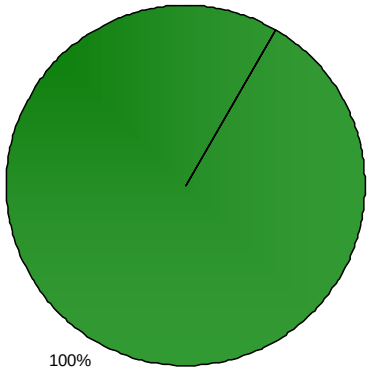
4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance



Green:
The Project expects to meet materiel capability requirements as expressed in the MAA and in accordance with the requirements of the relevant Technical Regulatory Authorities.

Amber:
N/A

Red:
N/A

Note

This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Changes to system specifications. There is a chance that the project will be affected by changes to system specification leading to Contract Change Proposals which will impact on cost and schedule.	**Development of a decision log** Changes will only be considered on formal advice from Army and will include costs and risks. Changes will have to be critical to the capability requirements. There have been no major changes as a result of recent preliminary design reviews undertaken.
Integration of new generation communication equipment (C4I) - vehicles There is a chance that the project will be affected by the complexities of delivering MHC vehicles with an integrated C4I solution impacting on performance, cost and schedule.	**Monitor and Review RMMVA performance.** Design reviews have provided confidence that RMMVA are managing this integration. A subject matter expert has been contracted to support this work and a technical assistance agreement is being finalised to facilitate the completion of work packages. Ongoing engagement is progressing based on a known design with JP 2072 and LAND 75 to ensure configuration management.
Access to Public Roads There is a chance that MHC will be affected by the States and Territories delaying certification and/or not issuing the appropriate permits for operational use which may impact on schedule, cost, performance, supportability, environment, reputation and compliance.	**Develop & agree strategy with States and Territories** The vehicles & trailers acquired under LAND 121 Phase 3B will be incorporated into the Defence Road Transport Exemption Framework. Project developed data pack has been provided to Joint Logistics Command (JLC) to enable JLC to commence engagement with the States and Territories. Project will support where required.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

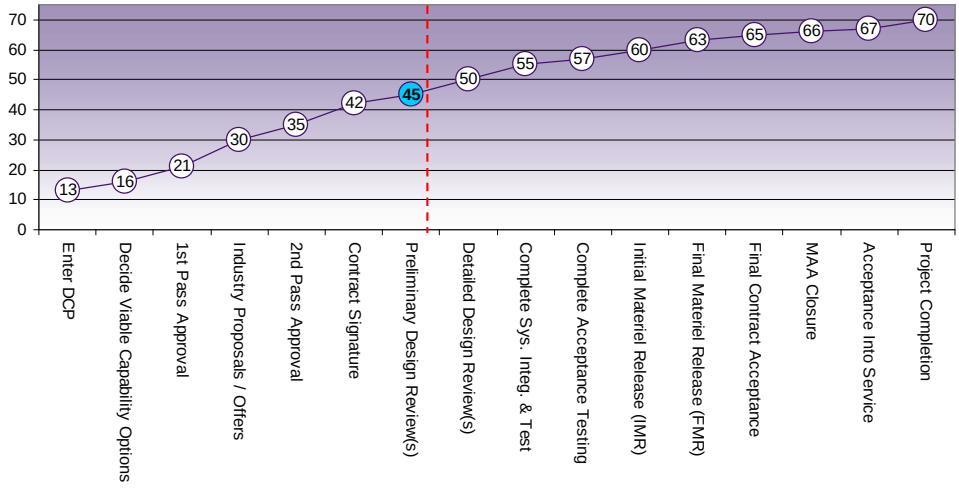
6.2 Major Project Issues

Description	Remedial Action
Sub contractor engagement MHV deliveries will be affected by subcontractor's delay impacting on schedule, cost, performance and reputation	**CoA to undertake financial, capacity and viability assessment of sub contractors** All requisite module sub-contractors have been contracted by RMMVA, less the supplier for liquid modules. The bulk liquid module supplier is expected to be contracted by the end of August 14.
Project interface and integration issues The MHC has been affected by technical engineering and project management integration and interface issues impacting on cost, schedule and performance. Integration includes vehicles, modules and trailers.	**Establish an Interface Control Working Group** The project will establish an Integration Control Framework and Board to manage its responsibilities as the prime systems integrator. Appropriate Systems Engineering and Configuration Management processes will be applied. The aim will be to review and test systems in packaged configurations, including legacy items when required.

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	6	6	6	7	6	7	7	45
Preliminary Design Review	Project Status	8	7	6	6	7	6	6	46
	Explanation	**Schedule:** Concurrent activity and schedule float contribute to confidence that schedule will be within the tolerance of the Materiel Acquisition Agreement. **Cost:** The project is in contract with its primes and scope remains affordable. **Technical Understanding:** Technical understanding is improving as design reviews are conducted. **Technical Difficulty:** Preliminary Design Reviews are confirming the achievability of the requirement. **Commercial:** Contractor is improving its situation with engaging sub-contractors to ramp-up its resources. **Operations and Support:** Detailed operational and support requirements have been specified and in-Service Contracts are in place. These are not yet triggered as the project has yet to exit the design phase.							



2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Government should refrain from announcing preferred tenderers until negotiations are complete. Public announcements undermine negotiation leverage and may provide detail which is subject to change during negotiations.	Contract Negotiation
Projects must have a robust suite of up-to-date capability documents (Operational Concept Document and Functional Performance Specification) available during tender evaluation and negotiations to provide critical contextual information for the negotiation team. These documents also provide the framework for the acquisition authority and capability manager to conduct an informed acceptance process.	Requirements Management
It is key that requirements are fully agreed before negotiations commence to avoid any uncertainty and potential for delays.	Requirements Management
Where doubt exists in relation to compliance claims and/or significant risk is apportioned to a performance requirement, project teams should seek Objective Quality Evidence during tender evaluation, so claims of fitness for purpose are supportable and evidence required during Design Acceptance, and Acceptance Test & Evaluation is minimised.	Requirements Management
For projects of this size and complexity, team members require highly developed project management and contracting skills and experience. In preparing for LAND 121 Phase 3B contract negotiations, the need was identified for external expertise and advice to support the negotiation process. The presence of an experienced negotiator and technical adviser was key to being able to negotiate a successful contract.	Contract Negotiation
The effort involved with the vehicle / module / trailer interface (including all interfaces between elements of the prime equipment) should not be underestimated even for apparently simple equipments. The early formation of interface working groups is critical.	Contract Management
Early involvement of ALTC staff in the development of the Training requirement is mandatory. This includes reviewing the ASDEFCON template DID ILS-910 and relevant clauses pertaining to training and participation in preliminary meetings to the Initial Training Conference. Propose a preliminary brief by ALTC to define expectations and 'fit' to contractual requirements.	Resourcing
Government Furnished Equipment (GFE) lists should be continuously developed and updated while the system specifications and statement of work are still subject to negotiations and potential variation, to ensure all items on the contracted GFE list are available and sourced.	Contract Management
Ensure contractual provisions require the contractor to have executed contracts with Approved Subcontractors within a specific time following contract execution, so as to avoid impact on contract deliverables and slippage to key engineering reviews.	Contract Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013–14

Position	Name
General Manager	AVM Chris Deeble (Acting Jul 13–Aug 13) Mr Colin Thorne (Aug 13–current)
Division Head	MAJGEN Paul McLachlan
Branch Head	BRIG Nagy Sorial (Jul 13–Jun 14) BRIG Haydn Kohl (Jun 14–current)
Project Director	Mr Drew McMeekin (Jul 13–Feb 14 COL Greg McGlone (Feb 14–current)
Project Manager Vehicles and Modules	Ms Jacquie Menzies
Project Manager Trailers	Mr Jonathan McGuigan

Project Data Summary Sheet[193]

Project Name	**FUTURE NAVAL AVIATION COMBAT SYSTEM**
Project Number	**AIR 9000 Phase 8**
First Year Reported in the MPR	2011-12
Capability Type	Replacement
Acquisition Type	**MOTS**
Service	Royal Australian Navy
Government 1st Pass Approval	Feb 10
Government 2nd Pass Approval	Jun 11
Total Approved Budget (Current)	**$3,196.9m**
2013-14 Budget	**$460m**
Project Stage	Detailed Design Review
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

AIR 9000 Phase 8 will acquire 24 MH-60R Seahawk naval combat helicopters, associated weapons and support systems to replace the current **16** S-70B-2 Seahawk helicopters and the cancelled SH-2G(A) Seasprite helicopters. The aircraft **is** equipped with a highly sophisticated avionics suite designed to employ Hellfire air-to-surface missiles and Mark 54 anti-submarine torpedoes. The aircraft will provide Navy with a contemporary helicopter with anti-submarine warfare (ASW) and anti-surface warfare capability.

The acquisition of 24 helicopters will enable the Navy to deploy at least eight Seahawks **embarked at sea** across the ANZAC class frigates and the new Hobart class Air Warfare Destroyers (AWD).

1.2 Current Status

Cost Performance

In-year

While actual expenditure in Financial Year **2013-14** reflects the ramp up of aircraft production to support accelerated delivery of **aircraft 1 and 2 in December 2013, and aircraft 3 and 4 in February 2014**, **the year to date variance is due to foreign exchange gain made on USD payments and minor variations due to the AWD Ship Integration design costs.**

Project Financial Assurance Statement

As at 30 June 2014, project AIR 9000 Phase 8 has reviewed the project's approved scope and budget for those elements required to be delivered by the Defence Materiel Organisation (DMO). Having reviewed the current financial and contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

193 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

The next major milestone will be **Initial Materiel Release (IMR)**, defined as **five** aircraft in USN configuration accepted, **sufficient Explosive Ordnance to support Introduction Into Service and one flight at sea during first quarter 2015**.

Project AIR 9000 Phase 8 **declared In Service Date (**ISD**)** in **January** 2014 ahead of schedule. The first two aircraft **were** delivered early **and a total of four aircraft have now been accepted. Training** for Royal Australian Navy (RAN) aircrew and technical personnel commenced **on schedule. Initial cadres of aircrew and technical personnel have completed training on schedule and are operating RAN MH-60R alongside USN MH-60R Squadrons in Florida, USA**.

Materiel Capability Delivery Performance

The MH-60R Seahawk helicopter being procured is a Military Off the Shelf (MOTS) procurement of a USN specification MH-60R Seahawk. During aircraft production the only modification to the standard USN design is the application of Australian identification markings in lieu of USN markings in the paint scheme and the addition of tamper proofing to four US sensitive avionic boxes per aircraft (this will not affect functionality). The MH-60R Seahawk has been in service with the USN since 2005 and was first deployed operationally by the USN in early 2010. The USN has accepted **178** MH-60Rs and flown in excess of **200,000** flight hours as at **February 2014**. The Australian Defence Force (ADF) has **accepted** delivery of **four MH-60R** aircraft, **as of 30 June 2014 and** there are currently no **known** impediments to the Project achieving the materiel capability performance requirements. The aircraft delivery schedule will result in **ADF** MH-60Rs being delivered earlier than forecast at Second Pass.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The Defence White Paper 2009 stated that 'As a matter of urgency, the Government will acquire a fleet of at least 24 new naval combat helicopters to provide eight or more aircraft concurrently embarked on ships at sea. These new aircraft will possess advanced ASW capabilities, including sonar systems able to be lowered into the sea and air-launched torpedoes, as well as an ability to fire air-to-surface missiles.'

First Pass Approval for the acquisition of the Future Naval Aviation Combat System to satisfy this requirement was provided by Government on 24 February 2010.

The selection of the MH-60R followed a competitive solicitation process between a US Government FMS case offering the Sikorsky / Lockheed Martin MH-60R Seahawk and a direct commercial sale from Australian Aerospace offering the NATO Helicopter Industries NH90 NATO Frigate Helicopter. Second Pass Approval for acquisition of the MH-60R was provided by Government on 15 June 2011.

Uniqueness

The Australian MH-60R helicopter is being acquired as a true MOTS product, in the same baseline configuration as the USN aircraft. A limited number of Australia unique design modifications will be incorporated after all aircraft have been delivered.

The MH-60R is being acquired as a maritime combat capability. It will have limitations in utility roles such as passenger or cargo transfer.

Major Risks and Issues

Delivering the required facilities to house and support the MH-60R capability and associated training systems continues to be the most significant issue in achieving the MH-60R initial operational capability milestone **on schedule**.

Other Current Sub-Projects

Unapproved Project AIR 9000 Phase 7 Helicopter Aircrew Training System (HATS). HATS will be an important link in the training continuum for inductees to the MH-60R training system.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
SEA 1448 Phase 2B – ANZAC Anti Ship Missile Defence (ASMD)	The ASMD upgrades will provide the ANZAC frigates with an enhanced level of self defence against modern anti-ship missiles.	The AIR 9000 Phase 8 project will not achieve Final Operating Capability (FOC) until all ANZAC class frigates are modified for interoperability with MH-60R. ANZAC Class ship modifications will be implemented on vessels post ASMD modification. The aspiration is for the MH-60R modification package to be installed during the ASMD upgrade **in order to maintain the upgrade schedule** Exceptions to this are HMAS *Perth*, which has already completed ASMD modification and **additionally *Anzac*** and *Arunta* **have** already entered the ASMD modification program **and will consequently be modified during another availability period**. Any significant changes to the ASMD schedule may impact on MH-60R **ship integration** modifications.
SEA 4000 Phase 3 – Air Warfare Destroyer Build	The SEA 4000 Phase 3 AWD Project will acquire three Hobart Class Air Warfare capable Destroyers and their support system for the ADF. The capability provided by the AWDs will form a critical element of the ADF's joint air warfare defence capability and will contribute to a number of other joint warfare outcomes.	The AIR 9000 Phase 8 project will not achieve FOC until all Hobart class AWD's are modified for interoperability with MH-60R. AWD modification cannot occur until after each ship is accepted into naval service and a suitable maintenance period for the modifications becomes available.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Aug 09	Original Approved		0.3	1
Jun 10	Real Variation – Budgetary Adjustment	9.6		**2**
Jun 11	**Government Second Pass Approval**	3,019.7		
Jun 14	**Real Variation – Budgetary Adjustment**	**(39.2)**		**3**
			2,990.1	
Jul 10	Price Indexation		0.1	4
Jun 14	Exchange Variation		**206.3**	
Jun 14	**Total Budget**		**3,196.8**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – US Government (AT-P-SCF)	**(430.5)**		
	Contract Expenditure – US Government (AT-P-AHV)	**(11.3)**		
	Contract Expenditure – US Government (AT-B-ZBZ)	**(7.1)**		
	Contract Expenditure – Navy – Empire Test Pilots' School	**(1.4)**		
	Contract Expenditure – US Government (AT-P-GTC)	**(0.2)**		
	Other Contract Payments / Internal Expenses	**(16.0)**		**5**
			(466.5)	
FY to Jun 14	Contract Expenditure – US Government (AT-P-SCF)	**(419.7)**		
	Contract Expenditure – US Government (AT-P-AHV)	**(8.7)**		
	Contract Expenditure – Navy – Empire Test Pilots' School	**(3.4)**		**6**
	Contract Expenditure – US Government (AT-P-GTC)	**(1.9)**		
	Contract Expenditure – US Government (AT-B-ZBZ)	**(1.8)**		
	Other Contract Payments / Internal Expenses	**(19.4)**		**5**
			(454.9)	
Jun 14	**Total Expenditure**		**(921.4)**	
Jun 14	**Remaining Budget**		**2,275.4**	

Notes	
1	This amount represents the DMO Budget prior to achieving Second Pass Approval by Government.
2	**Project Development Funds**
3	**Facilities Budget Transfer to Defence Support and Reform Group**
4	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $0.1m, applied only to the portion of the budget approved at first pass. From July 2010 all project budgets were approved by Government in out-turned dollars including AIR 9000 Phase 8.
5	Other includes travel, contractor support, legal support and general support activities.

6	Project contribution to reimburse Navy for the training of a Test Pilot and Flight Test Engineer at the Empire Test Pilots' School.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The year to date variance is due to foreign exchange gains made on USD payments and minor variations due to the AWD Ship Integration design costs.**
			Overseas Industry	
		(1.3)	Local Industry	
			Brought Forward	
			Cost Savings	
		(3.8)	FOREX Variation	
			Commonwealth Delays	
460.0	**454.9**	**(5.1)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government (AT-P-SCF)	Jun 11	2,090.3	**2,222.0**	Variable	FMS	**2**
US Government (AT-P-AHV)	Aug 11	168.1	**187.2**	Variable	FMS	**2**
US Government (AT-B-ZBZ)	Jan 12	12.3	**25.2**	Variable	FMS	**1, 2**
US Government (AT-P-GTC)	Feb 13	10.9	**12.8**	Variable	FMS	**2**

Notes

1	**Increased quantity of Tactical and Training Missiles in FMS Case.**
2	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government (AT-P-SCF)	24	24	MH-60R, synthetic training devices, and associated mission and support systems	
US Government (AT-P-AHV)	Classified	Classified	Mk 54 Torpedoes	
US Government (AT-P-ZBZ)	Classified	Classified	AGM-114N Hellfire Air to Surface Missiles	
US Government (AT-P-GTC)	N/A	N/A	RAN MH-60R Detachment – Naval Air Station Jacksonville, Florida support	

Major equipment received and quantities to 30 Jun 14

Spares and Support Equipment **deliveries**

Aircraft 1 and 2 delivered in December 2013

Aircraft 3 and 4 delivered in February 2014

5 Aircraft Engines delivered in September 2013

Electronic Warfare Support System delivered in October 2013

HMAS Perth Ship Modifications completed in April 2014

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	MH-60R Helicopter	N/A	N/A	N/A	N/A	1
	ADF Unique Mission System Options **– Phase 1**	**Jan 14**	**Jan 14**	**Apr 14**	TBA	2
	ADF Unique Mission System Options – Phase 2	**TBA**	**TBA**	**TBA**	**TBA**	**2**
Preliminary Design	MH-60R Helicopter	N/A	N/A	N/A	N/A	1
	ADF Unique Mission System Options **– Phase 1**	**Mar 14**	**Mar 14**	**Jun 14**	**1**	2
	ADF Unique Mission System Options – Phase 2	**TBA**	**TBA**	**TBA**	**TBA**	**2**
Critical Design	MH-60R Helicopter	N/A	N/A	N/A	N/A	1
	ADF Unique Mission System Options **– Phase 1**	TBA	TBA	**Jun 14**	**TBA**	2
	ADF Unique Mission System Options – Phase 2	**TBA**	**TBA**	**TBA**	**TBA**	**2**

Notes	
1	MH-60R helicopter system requirements and design reviews not required as it is a MOTS helicopter procured through FMS.
2	**The ADF Unique Mission System Options have been split into two phases. Phase 1** Statements of Work (SOWs) for ADF Unique Mission System Options have been **agreed** by the **Project Office,** USN, Sikorsky and Lockheed Martin. **Director General Technical Airworthiness (DGTA) has endorsed SOWs in accordance with Technical Airworthiness Regulations. Dates are reflective of Phase 1 design reviews. SOW for Phase 2 was released as part of USN request for tender 26 February 2014**.

3.2 Contractor Test and Evaluation Progress

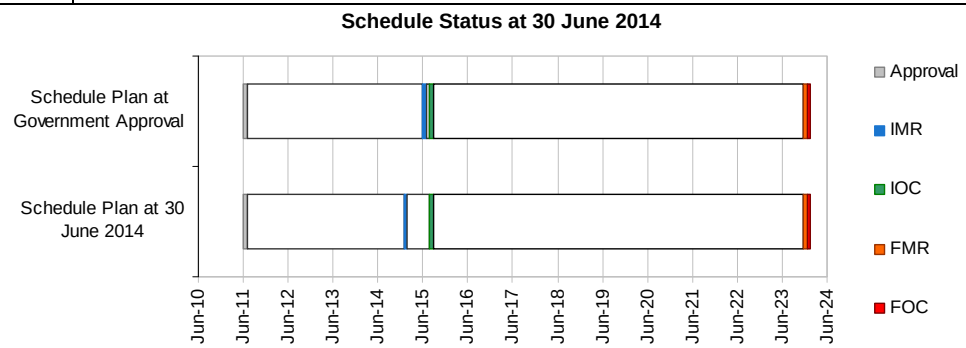
Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	ADF Unique Mission System Options	TBA	TBA	TBA	TBA	1
Acceptance	ADF Unique Mission System Options	TBA	TBA	TBA	TBA	1
	Acceptance of first MH-60R	Jun 14	Dec 13	Dec 13	**(6)**	
	Acceptance of final MH-60R	Sep 18	Aug 16	Aug 16	**(25)**	

Notes	
1	**The ADF Unique Mission System Options have been split into two phases. Phase 1** SOW for ADF Unique Mission System Options have been **agreed** by the **Project Office**, USN, Sikorsky and Lockheed Martin. **SOW for Phase 2 was released as part of USN request for tender 26 February 2014**.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

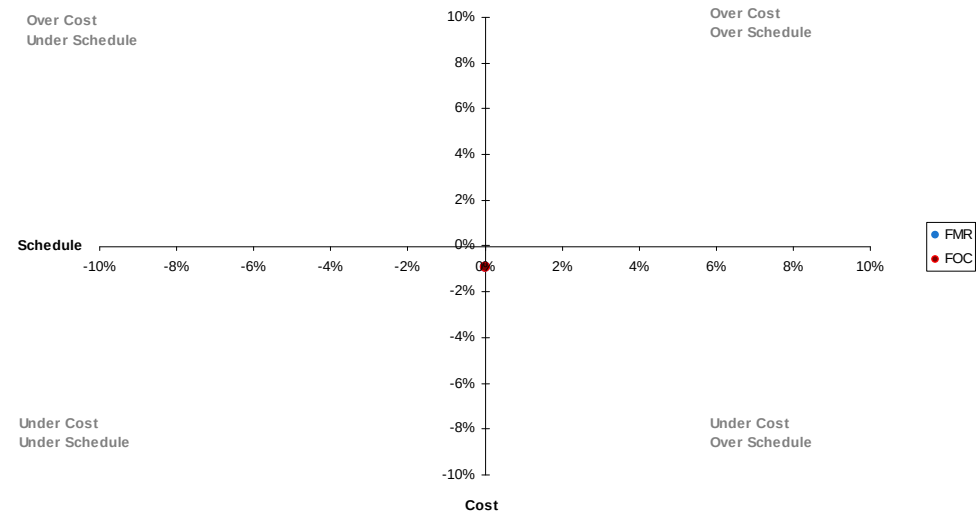
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
In-Service Date (ISD)	Jun 14	**Jan 14**	**(5)**	**1**
Initial Materiel Release (IMR)	Jun 15	**Mar 15**	**(3)**	
Initial Operational Capability (IOC)	Aug 15	Aug 15	0	
Materiel Release 2 (MR2)	Dec 16	Dec 16	0	
Materiel Release 3 (MR3)	Jun 19	Jun 19	0	
Materiel Release 4 (MR4)	**Dec 20**	**Dec 20**	**0**	
Final Materiel Release (FMR)	Dec 23	Dec 23	0	
Final Operational Capability (FOC)	Dec 23	Dec 23	0	

Notes	
1	**Revised aircraft delivery schedule.**



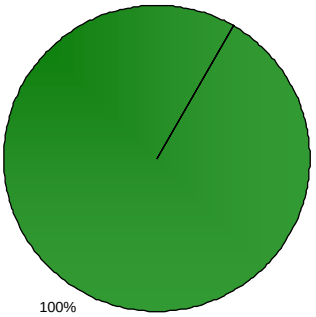
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The project **expects to meet** capability requirements as expressed in the Materiel Acquisition Agreement and supporting suite of Capability Definition Documentation and in accordance with the requirements of the relevant Technical Regulatory Authorities. **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Facilities. The establishment of the training and squadron complex may be affected by construction delays, leading to an impact on cost, performance and schedule, because the facilities project has been delayed by cost and scope issues with the result that IOC is delayed by up to six months.	Provision will be made, in consultation with Headquarters Fleet Air Arm, for the use of temporary or shared hangar and administrative facilities, if required. The PO has sought and gained Ministerial approval to accept and operate the initial batches of MH-60R in the US to consolidate training and to mitigate the facilities risk. Despite facilities **works commencing following contract signature in October 2013** the risk remains high due to no float in **the** build program.
Certification. There is a chance that Design Acceptance will be affected by the inability to use Informed Recognition of Prior Acceptance, leading to an increased Commonwealth certification effort and/or inability to source required level of data, with the result that the cost increases and schedule is not met, or there is a permanent capability gap.	Airworthiness Issue Paper 001 – Single Pilot vs Dual Pilot operations addresses the difference between RAN and USN Configuration, Role and Environment (CRE). Conducted successful due diligence visit to the US (early 2012) to investigate facilities and organisations for visibility of key MH-60R Authorised Engineering Organisation related processes. Perform Statement of Operating Intent (SOI) comparison between USN and RAN. PO perform full CRE assessment (building on SOI comparison) to support design acceptance for each airworthiness milestone. This will include review of the RAN aircraft configuration changes, Aircraft Environment and Usage Comparisons which have been provided by the USN as part of the FMS case, along with a review of USN operational and technical

	policies and procedures in order to identify potential unresolvable CRE scope issues. Review of MH-60R system safety hazard log for RAN acceptability. This has included PO attendance at the H-60 System Safety Working Groups held in the US. Residual risk has been reduced to medium following approval of Project Design Acceptance Strategy and DGTA endorsement of CRE and Certification Basis Document. **This Risk was retired as sufficient technical data was received to support Design Acceptance to achieve award of Special Flight Permit and declaration of ISD.**
Training System. Material Release 2 milestone may be affected by lack of an organic training system leading to an impact on trainee throughput, because the USN are unable to deliver Training Devices to the contracted schedule, with the result that the training system will not be established by February 2015.	USN to identify schedule compression strategies for Australian unique requirements, i.e. double shift production, air freight the devices. **The Project is seeking RAAF Air Lift Group support to return the synthetic training devices to Australia in a bid to reduce shipment duration significantly and reduce schedule risk. The MH-60R PO is also investigating the use of commercial carriers in the event that RAAF is unable to assist due to higher priority tasking.** PO **continues to conduct** weekly teleconference meetings with USN and CAE US and has participated in individual device requirements and design reviews which have reduced the residual risk associated with some elements of the training system (e.g. Avionics Maintenance Trainer), however, the residual risk for the overall training system remains at high as the consequence for any delay to the organic training system remains severe despite reduction of likelihood.
Crashworthiness. There is a chance that crashworthiness certification (and therefore design acceptance) will be affected by the requirement to comply with Airworthiness Directive (AD) 03/2009, leading to necessary modifications and or additional work to gain waivers, with the result that cost is increased and schedule is not met.	The PO has sought Technical Airworthiness Authority advice regarding an exemption from the requirement of Airworthiness Directive 03/2009 in light of the changes provided via Defence Airworthiness Advisory Circular 001/2012. The Defence aircraft crash protection policy is not mature and consequently the MH-60R PO continues to progress a Crash Protection Assessment (CPA) for the MH-60R. PO has provided the CPA to the USN for input which will support the development of a Cost Benefit Analysis to inform certification documentation. **This risk is now being managed as an issue as the exemption to AD 03/2009 was not agreed prior to achieving the Special Flight Permit. The MH-60R Airworthiness Issue Paper on CPA remains open with final crashworthiness certification to be achieved prior to award of Australian Military Type Certificate.**
Issue of Flight Clearance Recommendation. The issue of a Special Flight Permit for ISD may be affected by late delivery of the USN Flight Clearance Recommendation because of the timing and duration of the aircraft test program for 'export variant' configuration changes from the USN baseline with the result that ISD will be delayed.	Liaise with USN to amend the schedule for the test program to finish earlier. Compress schedule required between receipt of the Flight Clearance Recommendation from the USN and the Airworthiness Board (AwB). Continue to utilise USN aircraft via extended on-the-job training or potential USN aircraft lease.

	Delay the AwB as late as possible, whilst still achieving ISD. **Pre-mitigated** risk remains at extreme, however, with the upcoming ADF Participation in Combined Test 1 (CT1) in July 2013 and provision of an Interim Flight Clearance (supporting CT1), draft Naval Air Training and Operating Procedures Standardisation Manual and Naval Aviation Technical Information Product (with RAN supplement) by USN prior to AwB submission, residual risk will be reduced to Medium. **This Risk was retired following receipt of Flight Clearance Recommendation from USN.**
Potential future risk to the MH-60R capability. One project objective as per Second Pass Approval is to maintain the same configuration as the USN MH-60R through life of type in order to realise economies of scale, maintain combat capability parity, and to manage obsolescence. If a Capability Assurance Program is not established and funded, the Australian MH-60R will quickly become an orphan product.	Capability Development Group to provide for the block upgrade program by insertion of a MH-60R Capability Assurance Program in the Defence Capability Plan.
Very High Frequency Omni Range Instrument Landing System (VOR/ILS). There is chance that VOR/ILS certification will be affected by integration issues leading to an inability to certify the system with the result of a significant capability gap and/or milestone slip to deliver the required capability.	Residual risk has been reduced to low following receipt of MH-60S VOR/ILS related specifications from USN which has informed development and review of SOW. Additionally the revised delivery schedule for VOR/ILS will see the modification being conducted in the 2016 timeframe. **This Risk was retired as a result of Australian Unique Modification SOW and design effort.**
Delivery of Non-Compliant Logistics Support Analysis Record (LSAR). There is a chance that ISD and IOC will be affected by the USN being unable to deliver a restructured US MH-60R Logistics Support Analysis a Computer Aided Maintenance Management 2 (CAMM2) compliant product leading to an impact on schedule, cost and supportability because of the USN not understanding the Australian Defence Organisation LSAR unique tables and the CAMM2 data requirements, resulting in a schedule impact.	Residual risk has been reduced to medium following USN contract award to Logistics Engineering Services (LES) to produce LSAR and the regular interaction between the MH-60R PO and LES to streamline the delivery and review of products. **This Risk was retired following receipt and acceptance of aircraft one and two.**
AWD Certification Baseline for MH-60R Integration. There is a risk that the Hobart Class AWD will not be able to embark a MH-60R with full capability and hence affecting FMR, leading to an impact on schedule, cost, performance and reputation	The current contractual aviation certification baseline for the AWD is aligned to the S-70B-2. The MH-60R PO and AWD Project Management Office (PMO) are seeking clarification of the baseline and have engaged DGTA-ADF and RAN regulators to understand the difference between AWD contract certification baseline and any additional requirements to integrate MH-60R into the AWD. Remedial actions are yet to take effect and DGTA-ADF is reviewing extant aviation certification requirements so residual risk remains high at present. **This Risk was transferred to the Air Warfare Destroyer PMO for management as the MH-60R Project scope does not include AWD certification baseline rather it is modification of the AWD for MH-60R.**

Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
MH-60R Health and Usage Monitoring System (HUMS).There is a chance that FMR will be affected by inadequate Information and Communications Technology (ICT) expertise to design, establish and manage the MH-60R HUMS support infrastructure, leading to a negative impact on the capability to conduct credible fatigue life assessments throughout the operational life of the aircraft.	**The MH-60R PO are maintaining a high level of engagement with the USN to ensure early identification of potential problems and to gain a better understanding of the MH-60R HUMS system and its interfaces.** **Remedial actions include ensuring that the appropriate resources, particularly ICT expertise, are applied to the development and implementation of the MH-60R HUMS whilst ensuring the required level of HUMS support, at the operational level as well as hardware and software support at the system level, is established through the sustainment FMS case.**
Inability to use USN derived courseware. There is a chance that IOC milestone may be affected by an inability to use USN courseware for operator and maintainer training on the Defence provided information technology infrastructure resulting in an insufficient indigenous training system leading to an impact on cost, performance and reputation.	**The MH-60R PO have identified a number of mitigation strategies that when employed will reduce the residual risk level to Medium.**
Poor budget performance for Financial Year 2014-15 onwards. There is a chance that quarterly payments for the FMS cases in support of AIR 9000 Phase 8 will be different from that predicted.	**The USN, represented by Program Management Authority 299 (PMA-299) hold monthly Disbursement Tracker reviews to review planned disbursements. The MH-60R PO Resident Business Manager attends these reviews. After each review the Disbursement Tracker is updated to reflect the changes in forecast expenditure.**

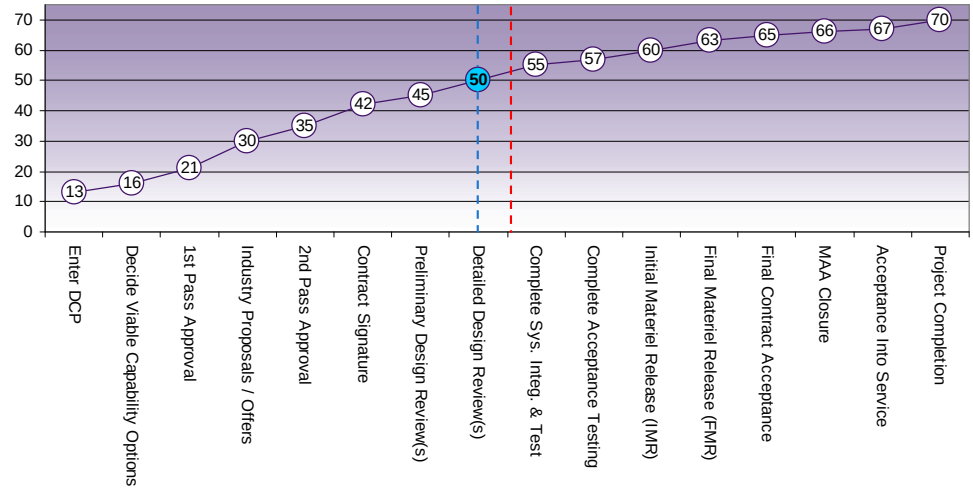
6.2 Major Project Issues

Description	Remedial Action
Crashworthiness. Exemptions are required to allow the final Crashworthiness certification for a MOTS Aircraft against the requirements of AD 03/2009 and the changes provided via Defence Airworthiness Advisory Circular 001/2012. An Airworthiness Issue Paper has identified this issue and the requirement for an exemption to avoid design changes.	**The exemption to AD 03/2009 was not agreed prior to achieving the Special Flight Permit. The MH-60R Airworthiness Issue Paper on Crash Protection Assessment remains open with final crashworthiness certification to be achieved prior to award of Australian Military Type Certificate.** **The project continues to progress this issue through both the technical and operational airworthiness authorities.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	7	7	7	8	7	7	7	50
Detailed Design Review	Project Status	9	8	7	**8**	**7**	7	7	**53**
	Explanation	• **Schedule:** The MH-60R production line is mature. The Project has negotiated early delivery dates for ADF MH-60R. • **Cost:** The overall Estimate at Completion is projected to be within project guidance. The Project has benefitted from economies of scale from the US Government multi-year buys of aircraft and key components.							



2012-13 DMO MPR Status - - - -

2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Whilst an FMS program affords a number of advantages, the transfer of a significant amount of project management and engineering functions to the US Government implementing agency (NAVAIR PMA-299) and the weak bargaining position of the Commonwealth, increases the project's exposure to risk (technical, schedule and cost). The resultant level of risk and complexity is often understated and poorly understood. The level of Commonwealth contract and financial management involvement and oversight of industry is very low in comparison to that mandated for Direct Commercial Sale contracts, yet both procurement methods confront similar issues. Adequate Commonwealth participation in key project management and technical oversight activities in the US, as provided for in the Government Second Pass submission, is critical to provide the required level of contract management.	Contract Management
The recruitment process lead times for candidates not already within the ADF or APS can create significant extended vacancies within the Project workforce, and this is exacerbated by the relatively short notice that Defence personnel are obliged to provide for internal transfers.	Resourcing
By procuring MOTS equipment, adhering to the project's clearly defined scope as detailed by government at Second Pass, and effectively using the Program Management Steering Group to prevent potential scope creep, the project has been able to meet or exceed its financial and schedule obligations as detailed within the project's Materiel Acquisition Agreement.	Off-The-Shelf Equipment

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	RADM Tony Dalton
Branch Head	CDRE Colin Lawrence
Project Director	CAPT Scott Lockey **(to Dec 13)** **CAPT Peter Ashworth (Dec 13–current)**
Project Manager	CMDR Anthony Savage **(Jul 13–May 14)** **CMDR Michael Rainey (May 14–current)**

Project Data Summary Sheet[194]

Project Name	**AMPHIBIOUS SHIPS (LHD)**
Project Number	**JP 2048 Phase 4A/4B**
First Year Reported in the MPR	2008-09
Capability Type	New
Acquisition Type	**Australianised MOTS**
Service	Joint Services
Government 1st Pass Approval	Aug 05
Government 2nd Pass Approval	Jun 07
Total Approved Budget (Current)	**$3,089.4m**
2013-14 Budget	**$247.3m**
Project Stage	Detailed Design Review
Complexity	ACAT I

Section 1 – Project Summary

1.1 Project Description

The JP 2048 Phase 4A/4B project will provide the Australian Defence Force (ADF) with an increased amphibious deployment and sustainment capability through the acquisition of two Landing Helicopter Docks (LHDs) and associated supplies and support.

Together, these 27,000 tonne LHDs will be able to land a force of over 2,000 personnel by helicopter and watercraft, along with all their weapons, ammunition, vehicles and stores.

1.2 Current Status

Cost Performance

In-year

Year end overspend is due to the earlier achievement of the milestone related to delivery of the LHD 02 and superstructure consolidation milestones. This was offset by a number of LHD 01 and Integrated Logistics Support (ILS) deliverables being delayed.

Project Financial Assurance Statement

As at 30 June 2014, project JP 2048 Phase 4A/4B has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has applied contingency in the financial year to address the provision of an IT Standard Operating Environment (SOE), that was to be provided as Government Furnished Material (GFM). The

194 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

SOE cannot be provided as GFM as a result of re-programming of Defence Projects at Government direction and is required to be purchased by the project.

Schedule Performance

The project remains on track for delivering the two LHDs by **the current** planned dates of **September** 2014 and **August** 2015.

Major project milestones achieved in **2013-14** include:

- Delivery of LHD **02** Hull to Australia;
- Consolidation of LHD 01 **Hull** and **Superstructure;**
- **Consolidation of LHD 02 Hull and Superstructure;**
- Recommended Provisioning List (RPL) Contract Change **Proposals**;
- **Commencement of LHD 01 Harbour Acceptance Trials;**
- **Commencement of LHD 01 Sea Acceptance Trials;**
- **Completion of LHD 01 dry-docking for planned blast and paint of Ship's hull; and**
- **Completion of LHD 01 Crew Training.**

Progress of these milestones demonstrates schedule performance and supports the achievement of project outcomes within the planned timeframes.

Materiel Capability Delivery Performance

The amphibious capability sought through the provision of two LHDs is as follows:

- Carriage, in addition to the crew, of approximately 1,200 personnel in the force ashore with a further 800 personnel providing helicopter operations, logistics, command and intelligence as well as other supporting units;
- Space and deck strength sufficient to carry around 100 armoured vehicles, including tanks, and 200 other vehicles (approximately 2,400 lane metres);
- Hangar space for at least 12 helicopters and an equal number of landing spots to allow a company group to be simultaneously landed;
- 45 days endurance for crew and embarked force including sustainment, medical, rotary wing and operational maintenance and repair support to these forces whilst ashore for 10 days;
- Command and control of the land, sea and air elements of a Joint Task Force; and
- The ability to conduct simultaneous helicopter and watercraft operations in conditions up to Sea State 4.

Production set to work and test activities**, although delayed due to low electrical trade productivity,** continue to support achievement of project capability outcomes **with a later than planned acceptance date for the first LHD**.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The Defence Capability Plan 2004-14 identified a requirement to replace the Heavy Landing Ship HMAS *Tobruk* (JP 2048 Phase 4A) and one Amphibious Landing Ship, either HMAS *Manoora* or *Kanimbla* (JP 2048 Phase 4B). In the Defence Capability Plan 2006-16, Phases 4A and 4B of JP 2048 were amalgamated.

A Request For Information was undertaken to gather vessel capability and industry capacity information from international and Australian ship designers and shipbuilders. A Risk Reduction and Design Study and a preliminary Request for Quotation were also undertaken to provide commercial, technical, financial and schedule information for First Pass.

First Pass approval was obtained in August 2005 with the identification of two existing LHD designs that could meet the capability requirements (Armaris' Mistral and Navantia's LHD 'Juan Carlos') and the identification of potential Australian shipbuilders.

After First Pass, a Design Development Activity was conducted at the designers' respective premises to

clarify the necessary Australian environmental and technical requirements, resulting in Australianised designs.

During this process, two shipbuilder/designer teams were formed with Tenix Defence working with Navantia and Thales Australia with Armaris.

A Request for Tender was released in April 2006 to the shipbuilders for the construction of the Australianised designs. Both builders submitted compliant tenders which were evaluated, and Second Pass Approval for the Tenix-Navantia solution was obtained in June 2007.

A contract was signed in October 2007 between the Commonwealth and Tenix Defence (now BAE Systems Australia Defence), for the acquisition of the two Spanish designed *Canberra* Class LHD ships and support systems; the contract came into effect in November 2007.

Uniqueness

While the LHDs are based on an existing Spanish LHD design, the Australianisation changes, the incorporation of an existing SAAB Combat System, and the development and integration of the internal and external communication systems will result in a unique vessel.

Despite the experience gained in amphibious operations with the current amphibious ships in the Royal Australian Navy (RAN), the LHDs will bring a new and unique capability to the ADF by virtue of their size, aviation, well dock, and communications capabilities.

A unique build strategy **has been** employed. The LHD hulls **were** built, including the majority of the fit-out, by Navantia at the Ferrol and Fene Shipyards in Spain. They **were** transported to Australia as individual lifts on a 'float on/float off' heavy lift ship**, the Blue Marlin**. Construction of the superstructure and its consolidation with the hull **was** conducted by BAE Systems Australia Defence (BAE Systems) at their Williamstown (Victoria) Shipyard in Australia. The superstructure contains the high level Combat and Communications Systems equipment that will need to be maintained and upgraded in Australia. BAE Systems **is** also **undertaking** the final out-fit, set-to-work, and trials.

Major Risks and Issues

The project has completed Preliminary Design and Detailed Design Reviews. The project **has** experienced **issues** with the later than planned delivery of LHD 01 Hull from the Subcontractor in Spain to BAE Systems in Australia **and the Contractor's inability to deliver supplies in accordance with the deliverable schedule for LHD 01.** The project has also experienced a number of minor issues concerning the design and integration.

Productivity in the Williamstown Shipyard and workforce capacity remains an essential enabler for timely project completion. **Lower than expected electrical trade productivity has resulted in delays to sea trials and acceptance of the first LHD. BAE Systems continue to seek opportunities to regain lost schedule, but will not be able to recover all lost time caused by the low productivity experienced in the connection and continuity of electrical systems.**

Control of commercially sensitive Intellectual Property remains an on-going management issue for all parties.

While the LHD ships are based on the existing Spanish LHD design, the Australian combat and communication capability requires design and integration work to be undertaken. The task of integration of the Australian elements, such as the combat system and internal/external communications systems, has proved to be more complex than initially thought. Additional time has been required to address integration issues and has resulted in some minor movement of combat and communication system integration milestones. This has not impacted the major milestone of ship delivery.

One of the additional challenges for this project remains the potential for **legislative /** regulatory changes and/or requirements creep on the capability requirements. The project has a fixed budget for the approved requirements, and any changes to regulations that require a change to the vessel or requested capability changes are likely to impact on the project's performance, cost, and schedule outcomes.

Other Current Sub-Projects

JP 2048 Phase 3: Watercraft system acquisition to be used in conjunction with the Phase 4A/4B LHD Mission System. This watercraft will be the ship to shore connector for the LHDs.

JP 2048 Phase 4C: Phase 4C acquisition of a strategic sealift capability.

JP 2048 Phase 5: Landing Craft Heavy Replacement capable of small scale independent operations and augmenting larger amphibious and sealift ships.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
SEA 1442 Maritime Communications Modernisation	The project was established to modernise and integrate the communications infrastructure in the RAN Fleet, and establish the framework for the future modernisation of additional elements of the fleet such as the LHD.	The LHDs will have network capability compatible with the Maritime Tactical Wide Area Network of SEA 1442.
JP 2089 Phase 2 Tactical Information Exchange Domain (Data Links)	The project is intended to deliver tactical data links to legacy platforms and capabilities of the ADF and the infrastructure required to support tactical data exchange at the force level.	The LHDs will be delivered with Link 16, Link 11 and Variable Message Format systems for tactical data exchange that will be compatible with other ADF systems.
JP 2008 Phase 5B Military Satellite Communications	This multi-phased project has been established to provide the ADF with a range of Strategic and Tactical Satellite Communications (SATCOM) capabilities.	Each LHD will include one Maritime Advanced SATCOM Terrestrial Infrastructure System satellite terminal and capability to install a second terminal at a later date if necessary.
JP 5408 GPS Enhancement Project	JP 5408 GPS Enhancement Project is intended to enhance GPS user equipment on ADF legacy platforms.	The GPS Enhancement System will provide protection and/or redundancy capability of sufficient quality and robustness to meet mission critical navigation and timing tasks for ADF systems, including the LHD ships.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Nov 03	Original Approved		3.1	1
Sep 04	Real Variation – Scope	4.8		2
Aug 05	Real Variation – Scope	29.6		3
Jun 07	**Government Second Pass Approval**	2,920.8		
Oct 08	Real Variation – Transfer	9.3		4
			2,967.6	
Jul 10	Price Indexation		428.4	5
Jun 14	Exchange Variation		**(306.6)**	
Jun 14	**Total Budget**		**3,089.4**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – BAE Systems	**(2,305.0)**		
	Other Contract Payments / Internal Expenses	**(85.6)**		6
			(2,390.6)	
FY to Jun 14	Contract Expenditure – BAE Systems	**(230.5)**		
	Other Contract Payments / Internal Expenses	**(17.0)**		6
			(247.5)	
Jun 14	**Total Expenditure**		**(2,638.1)**	
Jun 14	**Remaining Budget**		**451.3**	

Notes	
1	This project's original DMO budget amount is that prior to achieving Second Pass Government approval.
2	To fund a risk reduction activity for the Project to obtain design data and develop designs to meet Australian essential requirements.
3	First Pass Approval.
4	Transfer of funding for technical studies from Defence Science and Technology Organisation.
5	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $350.0m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $78.4m having been applied to the remaining life of the project.
6	Other expenditure comprises: Operating Expenditure, Offer Definition, Consultants, Foreign Military Sales, Contractor Support and Minor Capital expenditure not attributable to the Prime contract.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Year end overspend is due to the earlier achievement of the milestone related to delivery of the LHD 02 and superstructure consolidation milestones. This was offset by a number of LHD 01 and ILS deliverables being delayed.**
			Overseas Industry	
		(9.7)	Local Industry	
		9.9	Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
247.3	**247.5**	**0.2**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract / Arrangement	Notes
		Signature $m	30 Jun 14 $m			
BAE Systems	Oct 07	2,268.1	**2,680.1**	Variable	ASDEFCON	1, **2**

Notes	
1	Contract Price at Revision **87**. Amendments to Contract since signature include execution of contracted options for Training and Spares.
2	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
BAE Systems	2	2	LHD ships and integrated support systems.	

Major equipment received and quantities to 30 Jun 14

Production and fit-out activities for LHD 02 and Sea Acceptance Trials for LHD 01 are continuing.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	Mission System (Includes Platform / Combat Systems)	Feb 08	Feb 08	Feb 08	0	
	Support System	Apr 08	Apr 08	Apr 08	0	
Preliminary Design	Communication	Oct 08	Oct 08	Dec 08	2	1
	Navigation	Oct 08	Oct 08	Dec 08	2	1
	Platform System	Nov 08	Nov 08	Nov 08	0	
	Combat System	Dec 08	Apr 09	Apr 09	4	1
	Whole of Ship	Jan 09	May 09	May 09	4	1
	Support system	Mar 09	May 09	May 09	2	1
Detailed Design	Communication	May 09	Sep 09	Sep 09	4	1
	Navigation	Jun 09	Jun 09	Jun 09	0	
	Platform system	Jun 09	Jun 09	Jun 09	0	
	Combat system	Jul 09	Oct 09	Oct 09	3	1
	Whole of ship	Jul 09	Dec 09	Dec 09	5	1
	Support system	Aug 09	Dec 09	Dec 09	4	1

Notes	
1	Due to the complexity of the design and integration of the combat, communications and platform systems, more time was allocated to the design review activities. The Heavy Lift Ship Company, Dockwise, delivered the LHD 01 hull to BAE Systems in Australia on 28 October 2012 (66 days later than planned). LHD 02 **departed** Spain on the Heavy Lift Ship, Blue Marlin, in December 2013 **and arrived** in Australia in February 2014 on schedule.

3.2 Test and Evaluation Progress

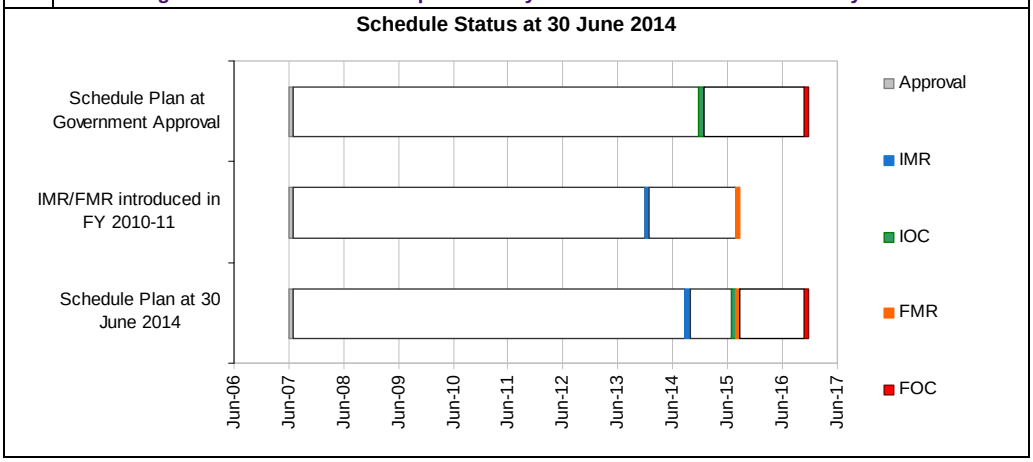
Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	LHD Ships 1 and 2	Mar 15	Mar 15	**Jan 15**	**(2)**	1
Acceptance	LHD Ship 1 Project Acceptance	Jan 14	Feb 14	**Sep 14**	**8**	2
	LHD Ship 2 Project Acceptance	Aug 15	Aug 15	Aug 15	0	
	LHD Final Acceptance	Sep 15	Sep 15	Sep 15	0	

Notes	
1	**LHD 01 production delays have impacted System Integration and set to work activities, however,** System Integration relates to the whole capability, commencing with LHD 01 and completion at LHD 02. **LHD 02 schedule remains within planned schedule tolerance.**
2	**Sea Acceptance Trials for LHD 01 have commenced and Project Acceptance for LHD 01 will occur later than planned. The delay is a direct result of low productivity in the set to work of electrical systems. The Contractor is working to contracted dates and anticipates some recovery of the forecast delay.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

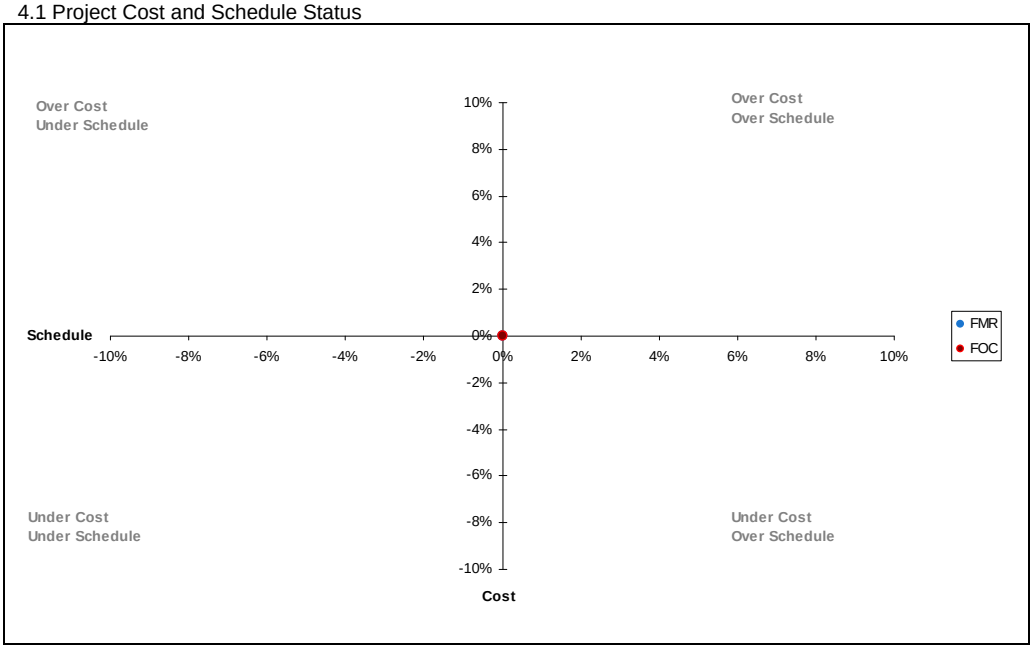
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR) (LHD 01)	Jan 14	**Sep 14**	**8**	1
Initial Operational Capability (IOC) (LHD 01)	**Dec 14**	**Jul 15**	**7**	2
Final Materiel Release (FMR) (LHD 02)	Aug 15	Aug 15	0	
Final Operational Capability (FOC) (LHD 02)	Nov 16	Nov 16	0	

Notes	
1	**LHD 01 production delays have impacted System Integration and set to work activities.**
2	**The change is a direct result of low productivity in the set to work of electrical systems.**



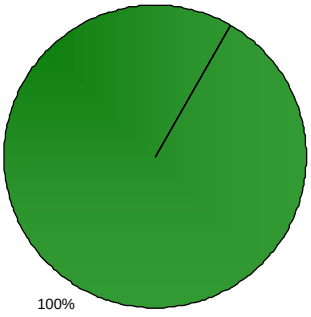
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** Design, production, set to work and test activities continue to support achievement of project Materiel Capability **Delivery** Performance outcomes. Operational capability limitations identified against Materiel Capability **Delivery** Performance requirements through sea trials will be documented, recorded and passed to the Capability Manager at Delivery. All Materiel Capability **Delivery** Performance requirements are expected to be achieved.
	Amber: N/A
	Red: N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Legislative / Regulatory Changes may affect Contract Requirements and impact on the delivery of the two LHDs.	• Raise Contract Change Proposals. • Seek Real Cost Increases to Project Funding where affected by Legislative change. • Seek waivers as necessary.
The delivery of the two LHDs will be affected by scope creep caused by contemporary understanding of requirements.	• Seek schedule and cost relief for changes affected by Stakeholder expectations or changes in related Defence projects. • Program change in the Capability Insertion Program (funding source outside JP 2048 Phase 4A/4B).
The delivery to Australia of LHD 02 will be affected by loss, damage or delay to the ship.	• Provide Navy escort to Heavy Lift Ship in areas of high piracy risk. • Ensure BAE Systems arrange for tugs to tow ships to Australia should Heavy Lift Ship not be available. • Ensure BAE Systems review options to consolidate Superstructure and Hull in Spain as opposed to in Australia. **This risk has been retired. Risk is obsolete, resulting from the delivery of LHD 02 hull from Spain to Australia on schedule.**

Contracted indices escalation exceeds the specialist military supplementation provision.	• Real cost increase. • Reduce contracted scope.
The contractor is unable to deliver supplies in accordance with the deliverable schedule.	• Conduct capability schedule trade-off. • Seek schedule relief.
The LHD Project organisation will be impacted through the lack of the correct number of appropriately qualified personnel available to undertake required LHD Project Office commitments.	• Engaging External Service Providers (Contractors).
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
The delivery of the two LHDs may be affected by an inability to verify system and functionality requirements during Test and Evaluation.	• **Workshops involving BAE Systems and stakeholders to improve quality of test procedures in addressing requirements.** • **Early engagement of stakeholders for the provision of assets required for testing.** • **Identify costs of assets for budgeting purposes.** • **Reschedule activity.**

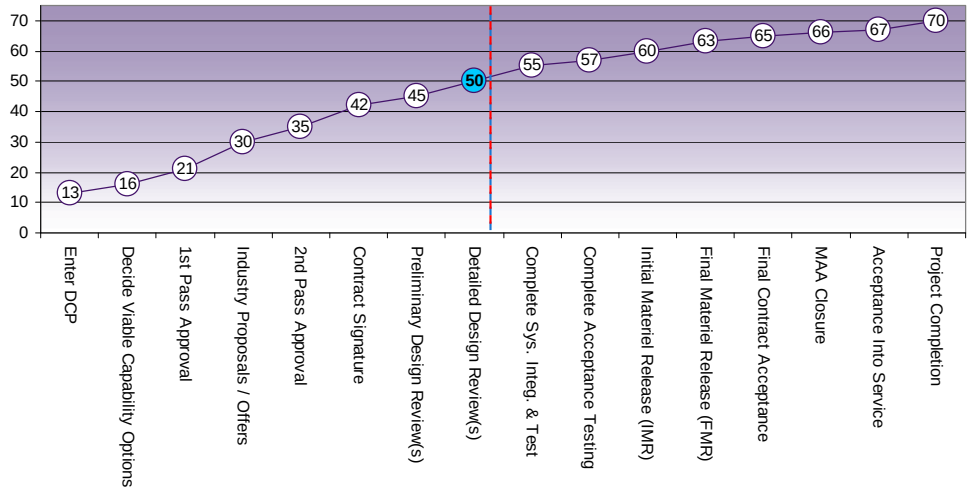
6.2 Major Project Issues

Description	Remedial Action
Intellectual Property management between BAE and Navantia.	An Intellectual Property Deed was signed by Tenix, BAE Systems, Navantia, and the Commonwealth detailing how Intellectual Property will be managed for the LHD Project. The management of Intellectual Property will be monitored through Intellectual Property audits.
Integration complexity.	Due to the complexity of the integration of the combat, communications and platform systems, more time has been allocated to the design activities. Additional time has also been allocated for the design review activities with the establishment of technical forums to carefully review and assess design issues prior to the conduct of the formal review. **This issue has been retired due to the completion of the Design Phase and Sea Acceptance Trials.**
Delay of LHD 01 during delivery to Australia	Ensure BAE Systems explores all options to regain schedule and assess and qualify any aspect of schedule movement. This has included reassignment of resources, reviewing timings of activities, additional shift work, prioritisation of cabling and systems required to de-risk critical path activities.
The contractor is unable to deliver supplies in accordance with the deliverable schedule for LHD 01.	• **Conduct capability schedule trade-off.** • **Seek schedule relief.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	7	7	7	8	7	7	7	50
Detailed Design Review	Project Status	7	7	7	8	8	8	7	52
	Explanation	• **Technical Difficulty:** All Critical Design Reviews have been completed, and Category Level 3 integration testing is complete indicating that major technical complexities have been successfully addressed. Ship production is well progressed with sea trials commenced. • **Commercial:** Contractor is performing and delivering as contracted.							



2012-13 DMO MPR Status - - - - 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
N/A	N/A

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble **(to Sep 13)** **Mr Colin Thorne (Sep 13–current)**
Division Head	RADM Mark Purcell
Branch Head	Mr Patrick Fitzpatrick
Project Director / Manager	CAPT (RAN) Craig Bourke

Project Data Summary Sheet[195]

Project Name	**EA-18G GROWLER AIRBORNE ELECTRONIC ATTACK CAPABILITY**
Project Number	AIR 5349 Phase 3
First Year Reported in the MPR	2013-14
Capability Type	New
Acquisition Type	Australianised MOTS
Service	Royal Australian Air Force
Government 1st Pass Approval	Aug 12
Government 2nd Pass Approval	Apr 13
Total Approved Budget (Current)	$3,036.6m
2013-14 Budget	$376.2m
Project Stage	Enter Contract
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

The EA-18G Growler Airborne Electronic Attack Capability provides for the acquisition of 12 Boeing EA-18G Growler aircraft, ALQ-99 Tactical Jamming Systems (TJS), associated weapons, support and training systems to establish an Airborne Electronic Attack capability for the Australian Defence Force (ADF).

1.2 Current Status

Cost Performance

In-year

The project spent $370.3m against an in-year budget of $376.2m including an out of cycle Foreign Military Sales (FMS) Termination Liability bill for the FMS case covering the aircraft production contract, originally planned in Financial Year 2014-15 The FMS payments resulted in a small exchange variance.

Project Financial Assurance Statement

As at 30 June 2014, project AIR 5349 Phase 3 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

Despite the significant change of scope approved in April 2013 to acquire new aircraft in lieu of modification

195 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

of existing Lot 33 F/A-18F Super Hornets, the project is on schedule to achieve the initial In-Service Date milestone in January 2017, as well as the subsequent Materiel (and Capability) Release milestones. The United States (US) Navy has experienced delays in establishing the major aircraft production contracts. Notwithstanding, aircraft production is on schedule (maintained by Boeing using company funds) and development effort of the aircraft software is well underway and is achieving early development milestones. Seven Royal Australian Air Force (RAAF) aircrew have commenced training on the EA-18G at Naval Air Station Whidbey Island USA.

Materiel Capability Delivery Performance

The project remains on track to deliver a US Navy common Airborne Electronic Attack Capability based on the EA-18G aircraft and ALQ-99 TJS.

The EA-18G Growler contains the ALQ-218 Radio Frequency Receiver System as well as the ALQ-227 Communications Countermeasures Set to receive broad spectrum radio frequency signals and subsequently disrupt or jam those signals with the ALQ-99 Tactical Jamming System. As the EA-18G Growler airframe is based on the F/A-18F Super Hornet Block II configuration, it retains an Air-to-Air capability with the APG-79 Radar and AIM-120 AMRAAM missiles. Additional AIM-120 Advanced Medium Range Air to Air Missiles (AMRAAM) tactical missiles and Captive Air Training Missiles (CATMs) are being procured for the expanded air combat fleet.

The Australian EA-18G Growler will retain the capability for aircrew to train for the employment of AGM-88B High Speed Anti-Radiation Missiles (HARM) and AGM-88E Advanced Anti-Radiation Air to Ground Missiles (AARGM), with four HARM CATMs and eight AARGM CATMs being procured.

The AN/ASQ-228 Advanced Targeting Forward Looking Infra-Red (ATFLIR) pod will also be integrated onto the EA-18G and 15 ATFLIR pods will be procured. Air Combat Manoeuvring Instrumentation pods will also be procured for the Growler fleet to maximise training effectiveness.

In addition to modifying aircrew and maintenance training devices that were procured by AIR 5349 Phase 1 for the F/A-18F Super Hornet to enable training on either the F/A-18F or EA-18G, the project will also acquire an additional two Tactical Operational Flight Trainers (TOFTs) (flight simulators) to address the increased training requirements of the additional EA-18G Growler aircrew.

The project plans to follow a similar approach taken to recent FMS acquisitions (including the F/A-18F Super Hornet) within the aviation domain to ensure compliance with Australian Defence Force airworthiness and workplace health and safety standards.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Defence first considered an Airborne Electronic Attack Capability based on the EA-18G Growler as part of the Force Structure Review 2008 (FSR08). While it was noted that an Electronic Attack capability would have broad application in a range of contingencies, the decision at the time was to consider the capability further as part of FSR13. Notwithstanding, in 2008, the Government approved a production modification for the last 12 F/A-18F Super Hornet aircraft procured under AIR 5349 Phase 1, to enable future upgrade to EA-18G Growler configuration, should strategic circumstances dictate.

In early 2011, the US Department of Defence advised the ADF that the US Navy (the sole operator of the EA-18G Growler) would place its final order for these aircraft in the second half of 2012 and the production line would close in 2015. Accordingly, the US Navy advised that if Australia wished to economically acquire an Airborne Electronic Attack capability, the only feasible option would be to add any Australian requirements to the final US Navy production contract.

In August 2012, the Government approved acquisition of an Airborne Electronic Attack Capability based on the EA-18G Growler. The approved scope from this combined pass approval consisted of modification of 12 existing RAAF Lot 33 F/A-18F Super Hornets.

Defence continued to assess the risk associated with the ADF's air combat transition from the F/A-18A/B Hornet and the F/A-18F Super Hornet, to the F-35A Joint Strike Fighter and developed options for Government consideration – the Air Combat Capability Transition Review. In April 2013, the Government approved the preferred option, which included the acquisition of 12 new build EA-18G Growler aircraft in lieu of modification of existing F/A-18F Super Hornets.

The project classification is Australianised Military-Off-The-Shelf as there are a small number of Australian unique changes, such as ATFLIR and AIM-9X Stores Clearances.

The Acquisition Strategy for AIR 5349 Phase 3 is to procure the principal materiel elements of the capability through the US Government FMS program. Accordingly, a number of FMS cases have been established with Navy International Programs Office and Naval Air Systems Command for acquisition of the materiel components of the capability as well as aircrew and maintainer training. Another FMS case will be utilised to acquire AIM-120 AMRAAM missiles from the US Air Force Security Assistance Command and the AMRAAM Joint Program Office. The procurement approach for the sustainment of the capability will mirror, and optimally leverage that already in place for the F/A-18F Super Hornet and will comprise a combination of Australian Industry based commercial support contracts, augmented where necessary with FMS case procured, US Government sourced products and services.

The Materiel System for the capability will comprise 12 EA-18G Growler aircraft, ALQ-99 Tactical Jamming Systems, AIM-120 AMRAAM missiles, AGM-88B/E HARM/AARGM training missiles, alternate mission equipment, mission planning systems, training devices, spares and support and test equipment, as well as training for aircrew and maintenance personnel. The Airborne Electronic Attack architecture will be enabled by a US Navy common electronic warfare database.

Initially, both aircrew and maintenance personnel will be trained in the US utilising the US Navy's training system for the EA-18G Growler. Following the initial training of maintenance personnel, an EA-18G Growler maintenance training framework will be established at RAAF Base Amberley for ongoing training. For aircrew, training will remain in the US throughout the capability life cycle, supported by DMO managed FMS cases.

AIR 5349 Phase 3 will establish a Support System for the capability, which leverages the significant configuration commonality between the F/A-18F Super Hornet and the EA-18G Growler. Existing support contracts are planned to be modified to include sustainment products and services for the EA-18G Growler, in a similar way to that already in place for the F/A-18F Super Hornet. In addition, US Government FMS cases delivering sustainment products and services will either be amended or replaced with arrangements including both F/A-18F and EA-18G systems. Notably, consistent with the Air Combat Capability Transition Review outcomes agreed by Government, all F/A-18F and EA-18G aircrew training will be transitioned to the US once No.6 Squadron commences transition from being the F/A-18F training squadron to the EA-18G operational squadron.

Uniqueness

Noting that AIR 5349 Phase 3 shares many common aspects with AIR 5349 Phase 1 and the acquisition of the F/A-18F Super Hornet, the primary area of uniqueness resides in the introduction of an offensive radio frequency Electronic Attack capability, and the underpinning materiel enablers for this new warfare domain for the ADF.

Major Risks and Issues

At this stage of the project's life cycle, most of the significant risks relate to the availability of hardware test assets to support the aircraft software development and acceptance test activity. While the majority of test asset risks are being successfully mitigated, AIR 5349 Phase 3 remains exposed to the potential late delivery of an appropriately configured AIM-120 AMRAAM test asset from AIR 5349 Phase 2.

Other Current Sub-Projects

AIR 5349 Phase 1 – Bridging Air Combat Capability: Provision of 24 F/A-18F Super Hornets and associated supplies and support. Some AIR 5349 Phase 1 delivered supplies will be shared with AIR 5349 Phase 3 once the EA-18G is introduced to service. AIR 5349 Phase 3 will augment AIR 5349 Phase 1 delivered support arrangements.

AIR 5349 Phase 2 – Bridging Air Combat Capability Weapons: Provision of Air-to-Air and Air-to Surface Weapons and expendables for the F/A-18F Super Hornet. AIR 5349 Phase 3 is dependent on Phase 2 for delivery of an AIM-120 AMRAAM test asset to support scheduled delivery of an AIM-120C7 capable EA-18G Growler. AIR 5349 Phase 3 will also procure additional AIM-120 AMRAAM assets to augment the stock being procured under AIR 5349 Phase 2.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Aug 12	Original Approved		1,155.3	1
Apr 13	Real Variation - Scope	1,486.1		
			1,486.1	2
Jun 14	Exchange Variation		395.2	
Jun 14	**Total Budget**		**3,036.6**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – US Government (AT-P-LEN)	(36.0)		
	Contract Expenditure – US Government (AT-P-AZN)	(0.8)		
	Other Contract Payments / Internal Expenses	(0.1)		3
			(36.9)	
FY to Jun 14	Contract Expenditure – US Government (AT-P-LEN)	(148.0)		
	Contract Expenditure – US Government (AT-P-SCI)	(213.8)		
	Contract Expenditure – US Government (AT-P-GTM)	(4.8)		
	Contract Expenditure – US Government (AT-P-AZN)	(1.5)		
	Other Contract Payments / Internal Expenses	(2.2)		3
			(370.3)	
FY to Jun 14	**Total Expenditure**		**(407.2)**	
Jun 14	**Remaining Budget**		**2,629.4**	

Notes	
1	Government approval in August 2012 for modification of Super Hornet aircraft to EA-18G Growler configuration and acquisition of associated Electronic Attack equipment.
2	Government approval in April 2013 to change acquisition strategy to acquisition of new-build aircraft rather than modification of existing aircraft.
3	Other expenditure comprises: Operating expenditure, contractors, consultants, other capital expenditure not attributable to the aforementioned contracts and minor contract expenditure.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	The variance is primarily due to positive exchange rate movement against both the June 2014 FMS case payments and the out of cycle FMS Termination Liability payment.
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
		(5.9)	FOREX Variation	
			Commonwealth Delays	
376.2	370.3	(5.9)	Total Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government (AT-P-LEN)	Aug 12	944.2	897.9	Reimbursement	FMS	1
US Government (AT-P-AZN)	May 13	36.2	39.1	Reimbursement	FMS	1
US Government (AT-P-SCI)	Jul 13	1,313.1	1,485.1	Reimbursement	FMS	1
US Government (AT-P-GTM)	Sep 13	19.3	19.4	Reimbursement	FMS	1

Notes	
1	Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government (AT-P-LEN)	Various	Various	Advanced Electronic Attack Kits, ALQ99 Tactical Jamming Systems, Launchers, Launch computers, Joint Mission Planning System and Software	
US Government (AT-P-AZN)	12	12	HARM and AARGM training missiles, associated support equipment and training	
US Government (AT-P-SCI)	12	12	EA-18G aircraft, associated spares and support equipment	
US Government (AT-P-GTM)	N/A	N/A	Initial Aircrew and Maintenance Training	

Major equipment received and quantities to 30 Jun 14
No major equipment has been received to date.

Notes	
1	N/A

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirement	EA-18G Aircraft	N/A – Military Off the Shelf				
	Aircraft Software – SCS H10A	Jan 14	N/A	Jan 14	0	
	Mission Planning System	May 14	N/A	May 14	0	
	ALQ-99 TJS	N/A – Military Off the Shelf				
	Modified TOFTs	Nov 14			0	1
	New-build TOFTs	Nov 14			0	1
	Modified Integrated Visual Environment Maintenance Trainers (IVEMTs)	Nov 14			0	1
Preliminary Design	EA-18G Aircraft	N/A – Military Off the Shelf				
	Aircraft Software SCS H10A	Jun 14	N/A	Jun 14	0	2

	Mission Planning System	Aug 14	N/A	Aug 14	0	
	ALQ-99 TJS	N/A – Military Off the Shelf				
	Modified TOFTs	May 15			0	1
	New-build TOFTs	May 15			0	1
	Modified IVEMTs	May 15			0	1
Critical Design	EA-18G Aircraft	N/A – Military Off the Shelf				
	Aircraft Software SCS H10A	Jun 14	N/A	Jun 14	0	2
	Mission Planning System	Sep 14	N/A	Sep 14	0	
	ALQ-99 TJS	N/A – Military Off the Shelf				
	Modified TOFTs	May 15			0	1
	New-build TOFTs	May 15			0	1
	Modified IVEMTs	May 15			0	1

Notes	
1	Training Devices schedule is pre-contract (contract award scheduled for November 2014).
2	SCS H10A Preliminary Design Review and Critical Design Review (held by US Navy) was a combined event, hence dates are the same.

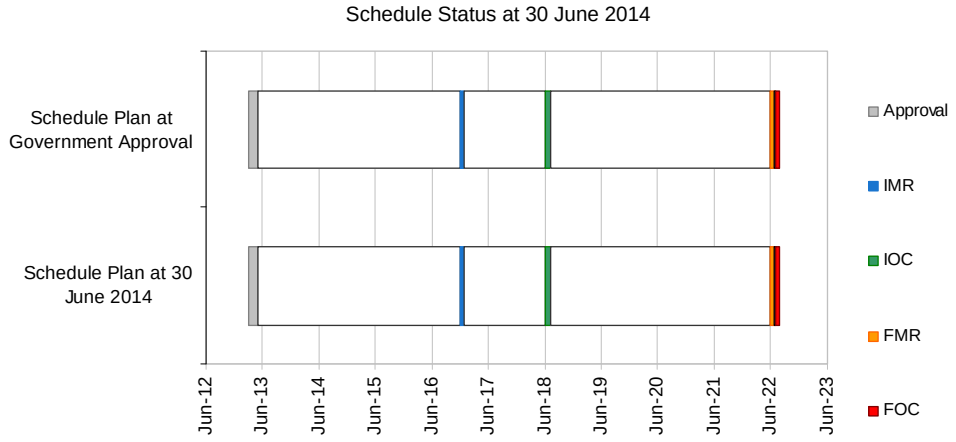
3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned (Note 1)	Achieved /Forecast (Note 1)	Variance (Months)	Notes
System Integration	EA-18G Aircraft	Jun 16	N/A	Jun 16	0	
	Aircraft SCS H10A	Jul 16	N/A	Jul 16	0	
	Mission Planning System	Jul 16	N/A	Jul 16	0	
	ALQ-99 TJS	Jul 16	N/A	Jul 16	0	
	Modified TOFTs	Sep 16	N/A	Sep 16	0	
	New-build TOFTs	Sep 17	N/A	Sep 17	0	
	Modified IVEMTs	Oct 16	N/A	Oct 16	0	
Acceptance	EA-18G Aircraft	Jul 16	N/A	Jul 16	0	1
	Aircraft Software – SCS H10A	Jul 16	N/A	Jul 16	0	1
	Mission Planning System	Jul 16	N/A	Jul 16	0	1
	ALQ-99 TJS	Jul 16	N/A	Jul 16	0	1
	Modified TOFTs	Jan 17	N/A	Jan 17	0	
	New-build TOFTs	Sep 17	N/A	Sep 17	0	
	Modified IVEMTs	Nov 16	N/A	Nov 16	0	

Notes	
1	US Navy conduct a combined development and acceptance test program encompassing aircraft, SCS H10A, mission planning system, stores integration testing including the ALQ-99 TJS. Accordingly, dates for system integration and acceptance testing reflect the same schedule window.

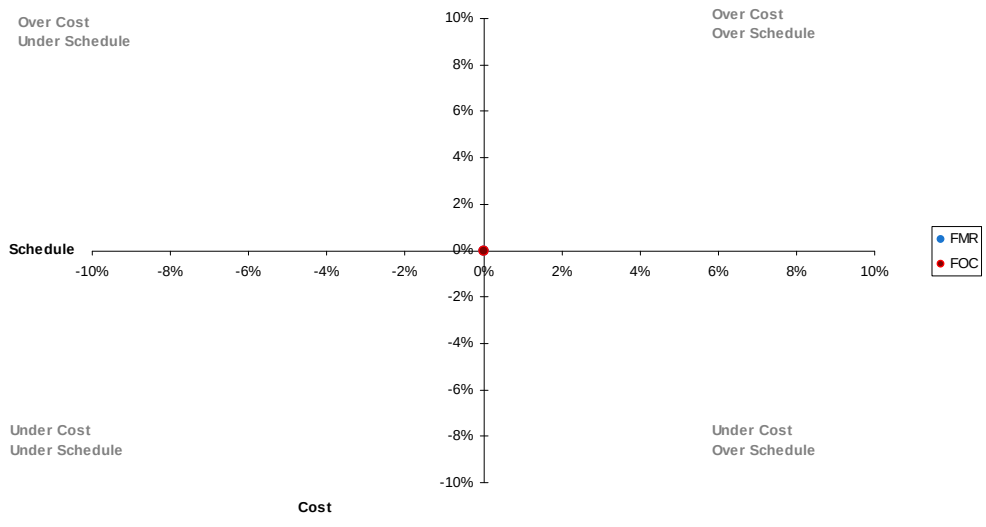
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jan 17	Jan 17	0	
Initial Operational Capability (IOC)	Jul 18	Jul 18	0	
Final Materiel Release (FMR)	Jul 22	Jul 22	0	
Final Operational Capability (FOC)	Jul 22	Jul 22	0	



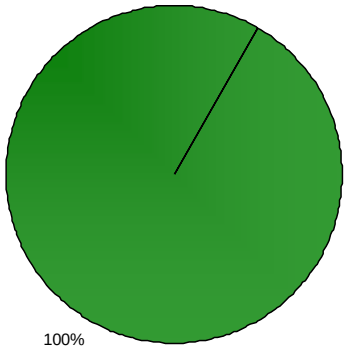
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The project remains on track to deliver a US Navy common Airborne Electronic Attack capability based on the EA-18G Growler aircraft. **Amber:** **Red:**
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a possibility that the AIM-120 Integrated Test Vehicle will not be available in time for H10A software development, laboratory and flight test, delaying integration of the AIM-120 on the EA-18G Growler.	If a correctly configured asset is not available on schedule, AIR 5349 Phase 3, in consultation with the US Navy, will progress with testing with available assets.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

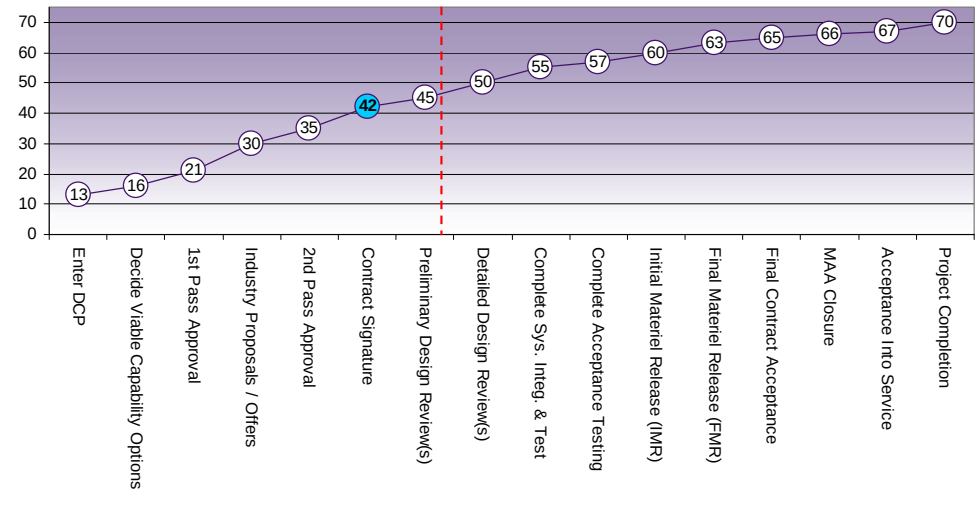
6.2 Major Project Issues

Description	Remedial Action
N/A	N/A

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	6	6	6	6	6	6	6	42
Enter Contract	Project Status	7	7	6	6	7	7	6	46
	Explanation	**Schedule:** Finalisation of US Navy production contracts is expected to increase schedule maturity and confidence in meeting Materiel Acquisition Agreement milestones. **Cost:** The project is tracking to plan, aided by increasing US Navy program maturity driving more fidelity in forecasting. **Technical Difficulty:** Aircraft have commenced production while software development remains on schedule for early test milestones, reflecting increasing design maturity. **Commercial:** US Navy has a functional risk management framework in place for the Australian Growler acquisition.							



2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
For appropriate management according to DMO best practice benchmarks, allocation of project management resources is required immediately on project approval, particularly for projects with primarily FMS acquisition strategies. These projects inherently experience significant lag between Second Pass approval and schedule and financial management maturity, due to the lag between FMS case establishment and initial prime acquisition contracts when compared to commercially based acquisitions. The delay in achieving maturity benchmarks are only exacerbated when resourcing is not applied early in the acquisition life cycle.	Resourcing

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	AVM Leigh Gordon
Branch Head	AIRCDRE Axel Augustin
Project Director	Mr Gavin Healy
Project Manager	WGCDR Steve Green

Project Data Summary Sheet[196]

Project Name	**ARMED RECONNAISSANCE HELICOPTER**
Project Number	**AIR 87 Phase 2**
First Year Reported in the MPR	2007-08
Capability Type	New
Acquisition Type	**Australianised MOTS**
Service	Australian Army
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Mar 99
Total Approved Budget (Current)	**$2,033.0m**
2013-14 Budget	**$6.6m**
Project Stage	Acceptance Into Service
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

This project was approved to provide a reconnaissance and fire support capability for the Australian Defence Force (ADF). The project has contracted for delivery of 22 aircraft including an instrumented aircraft (permanently fitted with in-flight test instrumentation), a Full Flight and Mission Simulator, two Cockpit Procedures Trainer(s), Groundcrew Training Device(s), Electronic Warfare Mission Support System, Ground Mission Equipment, with supporting stores, facilities and ammunition.

1.2 Current Status

Cost Performance

In-year

As at 30 June 2014, Final Plan estimate of $6.6m was achieved.

Project Financial Assurance Statement

As at 30 June 2014, project AIR 87 Phase 2 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

196 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

The OCH Milestone was achieved on 14 December 2012 following acceptance of the 22nd final configuration aircraft, A38-002, from retrofit.

The Final Acceptance Milestone was achieved on 28 May 2013, signifying completion of Australian Aerospace's obligations under the acquisition contract.

The Final Materiel Release (FMR) Approval Certificate was signed by all stakeholders on 19 March 2014, with Army caveats.

Project Closure activities are in progress.

Materiel Capability Delivery Performance

As at **30 June 2014**, all 22 Armed Reconnaissance Helicopter (ARH) have been accepted by the Commonwealth in the Initial Operational Test and Evaluation Readiness configuration; six are being used for training, one of which is also being used to support test activities; and 16 are being used for collective training and Operational Evaluation in the operational squadron in Darwin. All three simulators have been accepted and are being used for aircrew training in Oakey and Darwin. All aircraft have had the enhanced anti-collision light modification incorporated and four aircraft have had the additional ballistic protection modification incorporated.

The rebaselined schedule included all planned engineering activities required to deliver a fully compliant ARH System. Full compliance or Service Release of all Engineering Change Proposals was achieved in May 2013.

Operational Evaluation of the delivered ARH capability is **still** being progressed by Army. Operational Capability 2 (OC2) milestone, a deployable squadron, **was granted by the Chief of Army on 11 July 2013. The delivery of the remaining items is being managed and has minimal impact on the overall ARH capability.**

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The project received Government approval in March 1999 to replace the Army's aerial reconnaissance and fire support capability, which **was** based on the 1960s technology Bell Kiowa and Iroquois helicopters. The project's acquisition strategy specified substantial Australian Industry Involvement, and in December 2001 the Commonwealth entered into separate contracts with Australian Aerospace for the Acquisition and Through Life Support (TLS) programs.

The first four aircraft were manufactured and assembled in France and the remaining 18 aircraft were manufactured in France and assembled in Brisbane. One ARH is fitted with flight test instruments to assist the test and evaluation of ARH capability upgrades.

The training system relies heavily on simulation devices using the Full Flight and Mission Simulator and Cockpit Procedures Trainer(s) which were built in France, then shipped to Australia. The Full Flight and Mission Simulator and one Cockpit Procedures Trainer are installed at Oakey (Queensland); the second Cockpit Procedures Trainer is installed at Darwin (Northern Territory).

The project experienced delays in achieving the Initial Operational Capability (IOC) critical contractual milestone, which was originally contracted for June 2007, resulting in the Commonwealth exercising its contractual right to stop all payments on the Acquisition Contract while maintaining payments on the TLS Contract.

Delays resulted in insufficient numbers of aircraft, training devices and logistics support in service to enable the required training outcomes.

Australian Aerospace served a notice of dispute in October 2007 and the parties entered into a formal Dispute Resolution process over issues affecting both the Acquisition and TLS contracts. The dispute resolution process resulted in both parties signing a Deed of Agreement in April 2008 which established a revised Acquisition Contract Price and Delivery Schedule, a revised TLS Contract pricing structure that transitioned it to a Performance Based Contract, and established networks for work done by third-party support subcontractors. The re-plan included integration of a program necessary to retrofit all ARH to the final configuration where all mission systems are certified for employment by Army crews (known as the

retrofit program). Partial payments to Australian Aerospace on the ARH Acquisition Contract were recommenced in April 2008, with full payment due on signing of the Contract Change Proposals (CCP).

Changes to the Acquisition Contract arising from the signing of the Deed of Agreement were agreed between the parties in February 2009, with full payment recommencing from this date.

The commensurate major documentation amendment through a CCP was approved in May 2009, and the Contract Amendment was issued in June 2009.

Uniqueness

The Australian Tiger ARH design is based on the Eurocopter French and German Armies Tiger helicopters. The ARH design varies from the French and German designs through changes made to the following systems:

- Secure radio communication systems;
- Digital Map System;
- Integration of the Hellfire Missile weapon system;
- 70mm rocket modifications;
- Storage Bay and Digital Video Recorder;
- Roof Mounted Sight multi-target tracking system; and
- Helmet Mounted Sight and Displays in both cockpits.

The ADF's Airworthiness certification of the ARH Tiger aircraft relies on the French Airworthiness certification process undertaken by the French acquisition agency (Direction Générale de l'Armement). The ADF's Director General Technical Airworthiness recognises the French acquisition agency as a competent certification agency, and subsequently accepts the French acquisition agency certification of common Tiger systems used in the Australian ARH Tiger. In doing so, the French acquisition agency certification of the French aircraft became an integral part of the ADF's ARH certification plan. Consequently, delays in the French program flowed through to the ADF's ARH program and delivery of operational capability to the Army. This caused schedule slip in the aircraft and system certification, simulator development and aircrew training. The delays in the program resulted in the contractor failing to achieve the original contracted IOC critical milestone.

Major Risks and Issues

Although all major risks identified in the 2012-13 Major Projects Report have been retired from an Acquisition perspective and project closure activities are in progress, the Final Materiel Release (FMR) Approval Certificate, signed by all stakeholders on 19 March 2014, was caveated by the Capability Manager.

The caveats to FMR relate to Rate of Effort generation, suitability of the Groundcrew Training Device, Electronic Warfare Self Protection performance, and high cost of ownership. These issues, other than the Groundcrew Training Device suitability which was delivered to the contracted requirements, stem from the less than expected maturity level of Airbus Helicopter's Tiger program at the time of Acquisition. Their effect, however, is being realised as poor performance in the Tiger Sustainment System. The DMO is actively working with Airbus Group Australia Pacific, and their parent, Airbus Helicopters, to address these issues through the Tiger Sustainment System, noting that the Rate of Effort and cost of ownership issues in particular are significant, complex and are unlikely to be resolved in the short term.

Other Current Sub-Projects

N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Mar 99	Original Approved		1,584.0	
Oct 02	Real Variation – Transfer	(18.2)		1
Dec 03	Real Variation – Transfer	(59.1)		2
Aug 04	Real Variation – Budgetary Adjustments	(2.2)		3
Sep 04	Real Variation – Transfer	(3.0)		4
Jun 05	Real Variation – Transfer	(4.0)		5
Aug 05	Real Variation – Budgetary Adjustments	(4.5)		6
			(91.0)	
Jul 10	Price Indexation		418.2	7
Jun 14	Exchange Variation		**121.8**	
Jun 14	**Total Budget**		**2,033.0**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Australian Aerospace	**(1,704.2)**		8
	Other Contract Payments / Internal Expenses	**(153.7)**		9
			(1,857.9)	
FY to Jun 14	Contract Expenditure – Australian Aerospace	**(5.9)**		
	Other Contract Payments / Internal Expenses	**(0.7)**		10
			(6.6)	
Jun 14	**Total Expenditure**		**(1,864.5)**	
Jun 14	**Remaining Budget**		**168.5**	

Notes	
1	Transfer to Defence Support Group (DSG) Oakey Redevelopment Project to develop ARH specific infrastructure.
2	Transfer to DSG 1 Aviation Relocation Project (Darwin) to develop ARH specific infrastructure.
3	Administrative Savings harvest.
4	Transfer to Defence Science and Technology Organisation to fund studies in support of ARH.
5	Transfer to DSG to fund AIR 87 facilities constructed as part of the Darwin 1 Aviation Relocation Project.
6	Skilling Australia's Defence Industry harvest.
7	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $414.9m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $3.3m having been applied to the remaining life of the project.
8	Includes first five years support costs of the TLS Contract (two years Pre-Implementation and the first three Contract Years), Preliminary Engineering Proposals and Indefinite Quantity tasks performed in Acquisition.
9	Other expenditure comprises: operating expenditure, External Service Providers, Foreign Military

	Sales, research and development costs and other capital expenditure not attributable to the aforementioned contract and minor contract expenditure.
10	**The major components of the Other Contract Payments are to Nova Aerospace for engineering support to the value of $0.2m and a Foreign Military Sales payment of $0.1m for rockets.**

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**N/A**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
6.6	**6.6**	**0.0**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Australian Aerospace	Dec 01	1,139.9	**1,710.0**	Variable	SMART 2000	**1, 2**

Notes	
1	**Increase in price is due to updates for Price and Exchange over the life of the project as well as the approval of Contract Change Proposals. A Deed of Closure to the Australian Aerospace Prime Contract was signed on 28 May 2013.**
2	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Australian Aerospace	22	22	Tiger Armed Reconnaissance Helicopter	

Major equipment received and quantities to 30 Jun 14
22 aircraft have been accepted by the Commonwealth. Engineering and maintenance arrangements established.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	ARH System	Mar 02	N/A	Feb 03	11	1
	Aircrew Training Devices	Jun 02	N/A	Feb 03	8	2
System Design	ARH System	Jun 02	N/A	Feb 03	8	1
	ARH System - Delta System Design Review	Mar 03	N/A	Apr 03	1	1
	Aircrew Training Devices	Apr 03	N/A	Jul 03	3	2
Preliminary Design	ARH Tiger	Oct 02	N/A	May 03	7	3
	Aircrew Training Devices	Mar 03	N/A	Oct 04	19	2
Critical Design	ARH Tiger	Mar 03	N/A	Jul 04	16	4
	Aircrew Training Devices	Sep 03	N/A	Jun 05	21	2

Notes	
1	Reliance on the certification of the French Tiger variant was critical to the Australian design review and acceptance program. The DMO's ability to leverage from the French program was adversely impacted because the French program had not achieved design approval outcomes in the timeframe expected.
2	The Full Flight and Mission Simulator required customisation to both the visual system and the motion systems following contract signature in order to account for capability deficiencies associated with the proposed simulator design. A major cause of the delay in delivering training devices can be attributed to the efficacy with which the software provided from the aircraft manufacturer's test program was being managed to produce a high fidelity simulator.
3	As the ARH is a variant of the French and German Tiger helicopters, the ADF Technical Airworthiness Authority planned to utilise the existing certification work undertaken by the French acquisition agency (Direction Générale de l'Armement). **Delays experienced directly impacted on design and development and the Australian Military Type certification achievement.**
4	The maturity of the ARH design has required ongoing engineering changes to the approved ARH product baseline presented to the Airworthiness Board at the In Service Date. As a result, subsequent flight testing **was** required to confirm contract compliance and operational acceptance of incorporated design changes to enable removal of Australian Military Type Certificate and Service Release limitations.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Full Flight and Mission Simulator Contractor In-plant	Jul 04	N/A	Oct 07	39	1
	Cockpit Procedures Trainer Oakey Contractor In-plant and On-Site	Jul 04	N/A	Jun 08	47	1
	Cockpit Procedures Trainer Darwin Contractor In-plant and Army In-plant	Jul 04	N/A	Dec 08	53	1
Acceptance	ARH					
	Type Acceptance Review Special Flight Permit	Oct 04	N/A	Jun 05	8	1
	Australian Military Type Certificate	Jun 05	N/A	Oct 05	4	1
	Aircrew Training Devices - Final Acceptance Test and Evaluation					
	Full Flight and Mission Simulator (Transition Training capability)	Feb 05	N/A	Nov 07	33	1

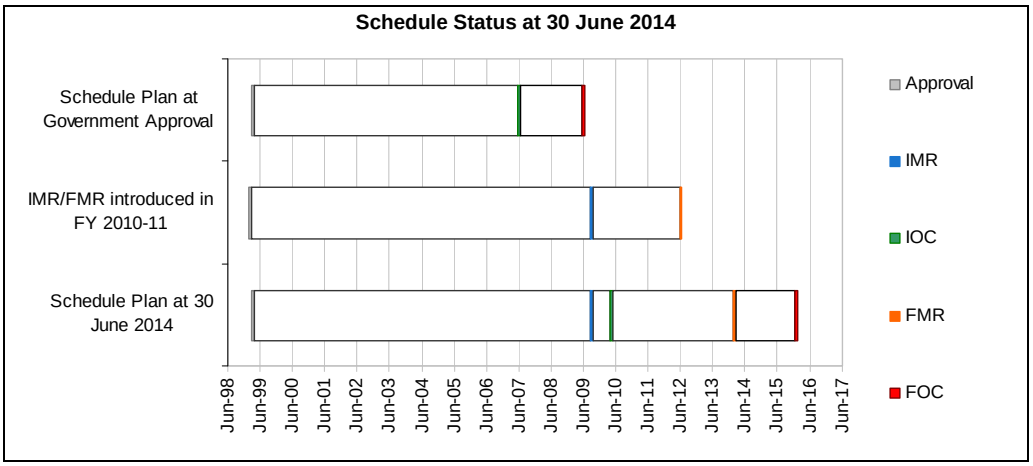
	Full Flight and Mission Simulator (Full Training capability)	Feb 05	N/A	Nov 09	57	1
	Cockpit Procedures Trainer Oakey	Feb 05	N/A	Nov 09	57	1
	Cockpit Procedures Trainer Darwin	Feb 05	N/A	Feb 10	60	1
	Acceptance					
	ARH #11	Jul 06	N/A	Apr 08	21	1
	ARH #22	Apr 08	N/A	Nov 11	43	1, 2

Notes	
1	The difference between the Original Planned and Achieved dates is due to contractor delays in delivering conforming supplies.
2	The acceptance of the 22nd production ARH was contracted for July 2011. The milestone was achieved on 25 November 2011. Note: Production aircraft (#22) is the 22nd aircraft accepted by the Commonwealth which is not to be confused with the milestone for the 22nd aircraft accepted in the Initial Operational Test and Evaluation configuration under the Acquisition Contract. The 22nd aircraft accepted in the Initial Operational Test and Evaluation configuration was achieved on 14 December 2012 following the delivery of A38-002 from retrofit.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

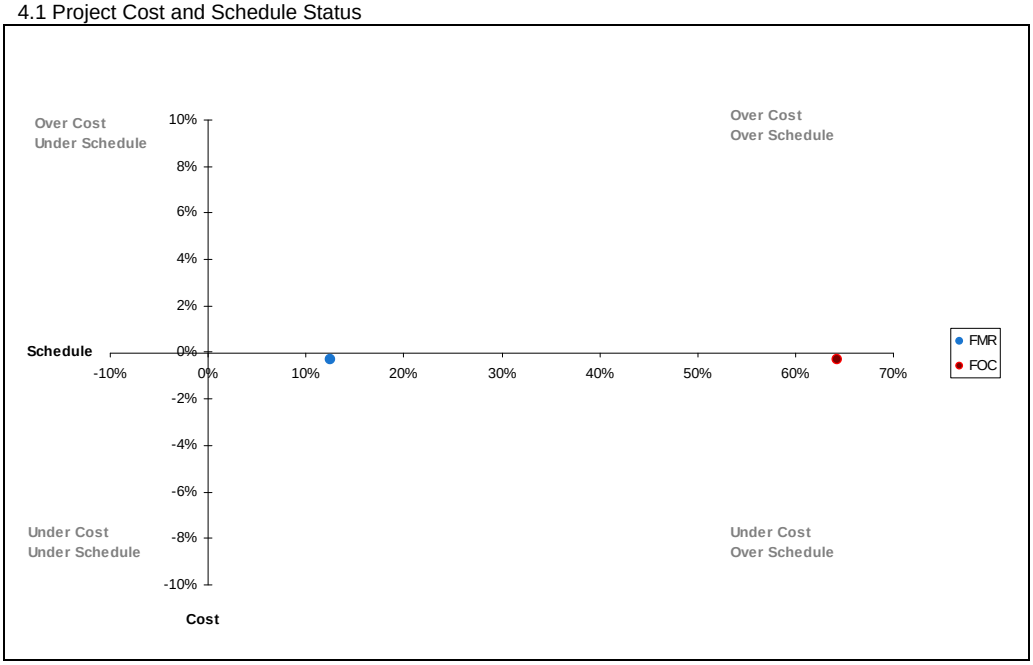
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Sep 09	N/A	
Initial Operational Capability (IOC)	Jun 07	Apr 10	34	1
Final Materiel Release (FMR)	Jul 12	**Mar 14**	**20**	2
Final Operational Capability (FOC)	Jun 09	Jan 16	79	3

Notes	
1	Operational Capability 1 (OC1) (IOC) was granted by Chief of Army on 8 April 2010 **with the variance primarily due to contractual delays.**
2	No FMR originally identified. Current FMR is the date agreed in Amendment No. 2 to the project AIR 87 Phase 2 Materiel Acquisition Agreement. This date was not achieved. Delays in the achievement of the Final Acceptance Milestone under the contract with Australian Aerospace and in the formal transition of capability components to the respective in-service management agencies have contributed to the delay in achieving FMR. FMR was planned to be achieved by 30 June 2013. As at 30 June 2013, a decision on FMR achievement had not been made. **The FMR Approval Certificate was signed by all stakeholders on 19 March 2014, with Army caveats. The reason for the delay was the time taken to get all stakeholders to sign off on the FMR Approval Certificate.**
3	**Previously, as** a result of the reduction in flying **Rate of Effort** experienced by the ARH fleet, as well as a requirement to conduct amphibious operations from LHD ships, Army amended its Acceptance into Operational Service Plan, to reflect the associated training delays. Consequently, Chief of Army advised that the previously anticipated achievement date of December 2012 **would** not be met, and that a date of January 2016 **was** planned. Chief of Army has **since** advised that FOC has not been delayed by a new requirement to conduct amphibious operations **but that the delay was solely due to the reduced Rate of Effort of the aircraft.**



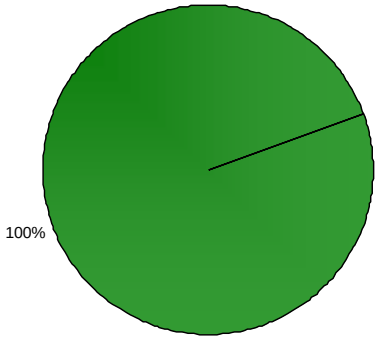
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** **The project is currently meeting Materiel Capability requirements as expressed in the MAA.** The project has delivered all 22 Armed Reconnaissance Helicopters in the final configuration and **had** the required numbers of aircrew, groundcrew and technicians trained **prior to the achievement of FMR.** Deliveries of some GPS receivers and other items of Support and Test Equipment are yet to be formally delivered and accepted. The delivery of the remaining items is being managed and has minimal impact on the overall ARH capability. **Twenty Additional Ammunition Bins have been delivered with the remainder expected in 2014.** The **late** delivery of the **remaining** Additional Ammunition Bins **also** has minimal impact on the ARH capability.
	Amber: N/A
	Red: N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that the Project Scope baseline will be affected by the outcomes of Operational Evaluation leading to an impact on cost and schedule.	**Risk retired following the achievement of FMR on 19 March 2014.**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
There is a chance that the FOC milestone will be affected by the inability to generate the required Rate of Effort leading to an impact on cost and schedule.	**DMO is working with industry to improve their maintenance and supply support networks.** **The possible procurement of additional equipment to mitigate poor Rate of Effort.** **This risk has been transferred to sustainment.**

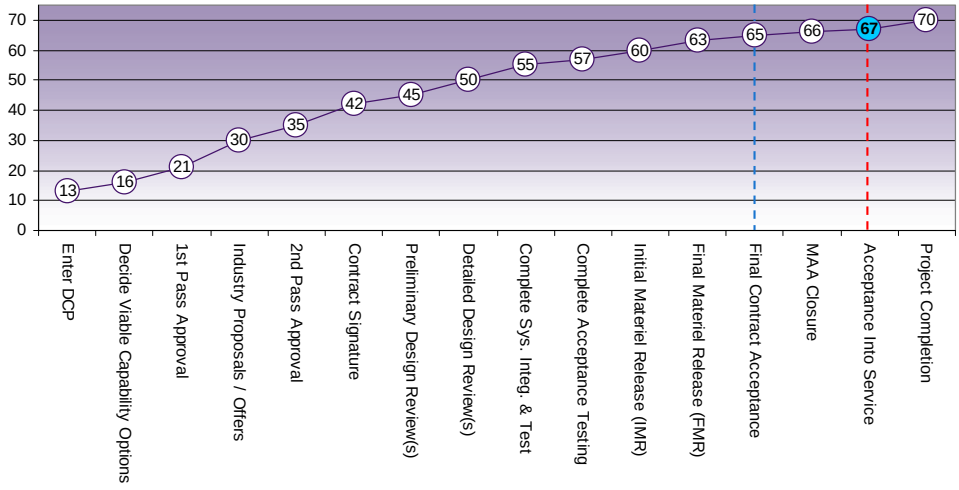
6.2 Major Project Issues

Description	Remedial Action
The Groundcrew Training Devices, delivered to the Acquisition Contract specifications, no longer meet Army's necessary training outcomes.	**Investigation by Defence on appropriate options to address current system deficiencies prior to Project LAND 9000 ARH Capability Assurance Program.** **This issue is being managed by Capability Development Group and the Capability Manager.**
The Electronic Warfare System fitted to the ARH is not performing to specification during specific aircraft manoeuvres.	**Latent Defect claim submitted and is currently under technical assessment by industry.** **This issue is being managed in sustainment.**
In Financial Year 2013-14 the estimated cost of sustaining the ARH Capability in exchange of flying hours represents very poor return on investment for Army. Army requires adjustment to the sustainment contract to ensure value for money.	**A contracted Strategic Review of the Through Life Support Contract is being undertaken between DMO and industry to review the contract price basis and once completed a contract amendment will follow.** **This issue is being managed in sustainment.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	10	9	10	10	10	9	9	67
Acceptance Into Service	Project Status	10	9	**10**	10	**10**	9	9	**67**
	Explanation	**N/A**							



2012-13 DMO MPR Status - - - -

2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Aircraft still undergoing development by their parent Defence force or Original Equipment Manufacturer should not be classed as off-the-shelf.	Off-The-Shelf Equipment
Delays in the French program flowed through to the ADF's ARH program and delivery of operational capability to the Army. This has caused schedule slip in the aircraft and system certification, simulator development and aircrew training. The delays in the program have resulted in the contractor failing to achieve the IOC critical milestone.	Off-The-Shelf Equipment
Resolve or escalate minor disputes as they arise to prevent escalation to major contract dispute.	Contract Management
Use integrated teams with strong processes and empowered staff facilitated by appropriate contractual arrangements.	Resourcing Contract Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	RADM Tony Dalton
Branch Head	BRIG Andrew Mathewson
Project Director	**Mr Cliff Meyer (Acting to Nov 13)** **COL Anthony McWatters (Nov 13–current)**
Project Manager	**Mr Cliff Meyer**

Project Data Summary Sheet[197]

Project Name	**F/A-18 HORNET UPGRADE**
Project Number	**AIR 5376 Phase 2**
First Year Reported in MPR	2007-08
Capability Type	Upgrade
Acquisition Type	**Australianised MOTS**
Service	Royal Australian Air Force
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	May 98
Total Approved Budget (Current)	**$1,881.3m**
2013-14 Budget	**$10.9m**
Project Stage	**Acceptance Into Service**
Complexity	**ACAT III**

Section 1 – Project Summary

1.1 Project Description

The AIR 5376 Phase 2 project was established to upgrade the existing F/A-18 fleet to incorporate enhancements to the aircraft's air defence capability. Enhancements were being implemented in three distinct stages. The first stage was to enable the aircraft to more effectively perform its air defence role. The second stage involved enhancing pilot situational awareness, and the final stage is providing additional aircraft self protection.

In addition to these hardware upgrades of the F/A-18 Fleet, each stage included new or upgraded aircraft software and ground support and training systems.

1.2 Current Status

Phase 2.1	**Cost Performance** The Project was completed within budget.
	Schedule Performance The Project was completed ahead of schedule.
	Materiel Capability Delivery Performance Capability has been accepted into service.
Phase 2.2	**Cost Performance** The Project has achieved Technical and Contractual Completion within budget.
	Schedule Performance All Hornet aircraft have been accepted within schedule.
	Materiel Capability Delivery Performance Capability has been accepted into service.

197 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Phase 2.3	**Cost Performance** In-year Program expenditure in Financial Year **2013-14 is in line with budget expectations**. Project Financial Assurance Statement As at 30 June **2014**, project AIR 5376 Phase 2 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope. **Contingency Statement** **The project has not applied contingency in the financial year.**
	Schedule Performance **The Project has delivered** all major elements to support both Initial and Final Operational Capability (FOC). **FOC is expected to be achieved by November 2014. The further delay was caused by software characteristics requiring resolution that were identified during testing.**
	Materiel Capability Delivery Performance All major elements provided by Phase 2.3 have demonstrated their fitness for purpose. The project achieved Supplemental Type Certificate and Service Release in November 2012.
HACTS	**Cost Performance** In-year Program expenditure in Financial Year **2013-14 is currently less then budgeted due to reductions in project management procurement activities**. Project Financial Assurance Statement As at 30 June **2014**, project AIR 5376 Phase 2 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope. **The** Hornet Aircrew Training System (HACTS) Improvement Program (HIP), **commenced in November 2013 and remains within its approved budget.** **Contingency Statement** **The project has not applied contingency in the financial year.**
	Schedule Performance **HIP entered contract in November 2013.** HACTS FOC is expected to be achieved by **February 2017.**
	Materiel Capability Delivery Performance **The improvements to HACTS is required to align the training systems with** Hornet capabilities introduced by continued aircraft and weapon system upgrades.
Note	
The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

1.3 Project Context

Background
Following the decision to select the F/A-18 Classic Hornet as the Royal Australian Air Force's (RAAF) multi-role fighter in 1981, the need to address equipment obsolescence and develop aircraft capabilities has resulted in the establishment of the F/A-18 Hornet Upgrade Program AIR 5376 (known as the HUG Program). Project AIR 5376 Phase 2 is comprised of three sub phases: Phase 2.1 Radar upgrade, Phase 2.2 Avionics

upgrade, and Phase 2.3 Electronic Warfare upgrade. An additional sub phase was created for the associated upgrade of the HACTS.

AIR 5376 Phase 2.1 enabled the aircraft to more effectively perform their air defence role. This included provision of a new fire-control radar, and an Electronic Protection Collaborative Development Program with the United States (US) Navy to develop Electronic Protection techniques for the radar.

AIR 5376 Phase 2.2 provides aircrew with enhanced situational awareness by upgrading the avionics suite with the installation of the following equipment:

- LINK 16 secure data link. The LINK 16 equipment provides a multifunction information distribution system;
- An upgraded counter measures dispenser set;
- A multi-purpose colour screen display group upgrade;
- Upgraded digital moving map system including Tactical Air Moving Map Capability;
- A joint mission planning system; and
- A joint helmet-mounted cueing system.

AIR 5376 Phase 2.3 provides additional aircraft self protection with:

- Replacement of the radar warning receiver with an updated Raytheon radar warning receiver for the whole fleet;
- Supplementation of the counter measures dispenser system capability with a SAAB counter measures dispenser system thereby increasing expendable capacity;
- Supplementation of the radar jammer capability with the Elta jammer pod; and
- Enhancement of the aircraft data recording capability.

HIP involves **improvements to HACTS which is required to align the training systems with** Hornet capabilities introduced by continued aircraft and weapon system upgrades. **The training systems include:**

- Three tactical operational flight trainers (two at Williamtown, one at Tindal) including instructor operator stations and instructor/student debrief stations; and
- Tactical readiness trainers incorporating **an** advanced helmet mounted display.

Uniqueness

The Project Office performs the role of prime integrator for all AIR 5376 Phase 2 sub phases. Boeing (St Louis) is contracted for the aircraft integration aspects. The US Navy, through Foreign Military Sales (FMS), is responsible for developing core aircraft software upgrades. New equipment is sourced directly from suppliers, either through FMS or direct commercial contracts. Contracts and FMS cases are placed incrementally as requirements mature. Therefore, the Commonwealth retains a significant portion of risk throughout the life of the project.

AIR 5376 Phase 2.2 included a collaborative program with the Canadian Forces for the development of the upgraded colour displays, achieving significant efficiencies for both countries.

AIR 5376 Phase 2.3 installed some equipment which is not common with the US Navy and had not been integrated onto an F/A-18 A/B aircraft previously.

Major Risks and Issues

Major risks and issues associated with AIR 5376 Phase 2.3 have now been overcome, as all key elements have transitioned to In-Service use and operation.

The remaining **focus** for AIR 5376 Phase 2 is **the** implementation of HIP. HACTS achieved FMR in January 2012. However, when the capability was offered to the RAAF in the expectation of FOC declaration, it was found that certain HACTS elements were not suitable for operational training despite the AIR 5376 Phase 2 Materiel Acquisition Agreement (MAA) being satisfied. As a consequence, the RAAF identified the requirement for HIP and made an associated decision that FOC for HACTS would not be declared until HIP has been implemented. Currently, HIP is **in contract, with** HACTS FOC **scheduled for February 2017.**

Other Current Sub-Projects

N/A. All sub phases are addressed in this report.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
AIR 5416 Phase 1 Electronic Warfare Self Protection (EWSP)	AIR 5416 was a multi-phase project that was established to	AIR 5376 was dependent on AIR 5416 Phase 1 for the Full

	redress the EWSP limitations of selected ADF aircraft and therefore improve the survivability of these aircraft in combat.	Scale Engineering Development of an indigenous Radar Warning Receiver and the Initial Design Activity and adaptability studies that focused on the design of a common EWSP suite that could be tailored for installation in the F/A-18 A/B aircraft.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
May 98	Original Approved		1,300.0	
Feb 99	Real Variation – Transfer	23.9		1
Aug 00	Real Variation – Transfer	11.3		2
Jul 01	Real Variation – Scope	(132.1)		3
Oct 02	Real Variation – Transfer	(0.2)		4
Oct 03	Real Variation – Scope	9.3		5
Aug 04	Real Variation – Budgetary Adjustment	(0.7)		6
Aug 04	Real Variation – Scope	(1.2)		7
Dec 04	Real Variation – Scope	(67.0)		8
Aug 05	Real Variation – Budgetary Adjustment	(2.7)		9
May 07	Real Variation – Scope	412.5		10
			253.1	
Jul 10	Price Indexation		323.5	11
Jun 14	Exchange Variation		**4.7**	
Jun 14	**Total Budget**		**1,881.3**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – The Boeing Company	**(302.3)**		
	Contract Expenditure – US Government (AT-P-LZY)	**(282.0)**		
	Contract Expenditure – US Government (AT-P-LDG)	**(128.8)**		
	Contract Expenditure – ELTA Systems Ltd	**(109.3)**		
	Contract Expenditure – Raytheon	**(72.4)**		
	Other Contract Payments / Internal Expenses	**(741.2)**		12
			(1,636.0)	
FY to Jun 14	Contract Expenditure – Raytheon	**(9.2)**		
	Contract Expenditure – ELTA Systems Ltd	**(0.1)**		
	Other Contract Payments / Internal Expenses	**(1.1)**		13
			(10.4)	
Jun 14	**Total Expenditure**		**(1,646.4)**	
Jun 14	**Remaining Budget**		**234.9**	

Notes	
1	Transfer from other phases of AIR 5376.
2	Transfer from AIR 5376 Phase 1 Hornet Aircrew Training System.
3	White Paper considerations.
4	Transfer to Facilities.
5	Scope increase for Hornet Aircrew Training System.
6	Administrative Savings Harvest.
7	Transfer to Facilities.
8	Decrease for Radio Frequency Jammer.
9	Skilling Australia's Defence Industry harvest.
10	Scope increase to include Hornet Electronic Warfare Self Protection Suite upgrade being conducted under Phase 2.3.
11	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $314.3m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $9.2m having been applied to the remaining life of the project.
12	Other expenditure comprises: operating expenditure, contractors, consultants, other capital expenditure not attributable to the aforementioned top five contracts and minor contract expenditure. As the prime systems integrator, the Commonwealth is undertaking a strategy of incremental contracting of work packages as they are defined, this has included engaging in over 23 FMS cases with the US Government to support various stages of the project. Other expenditure includes an amount of $178.2m on other major FMS cases for items such as the multifunctional information distribution system, joint helmet mounted cueing system, project risk reduction, and Hornet upgrade support activities, **$115.8m** aircraft software upgrade, **$87.9m** on operating expenditure; **$55.0m** on fleet modifications by Boeing Defence, $39.3m for the HUG Phase 2.1 Radar Collaborative Development program, **$31.0m** by BAE Systems Australia, **$22.5m** on counter measures dispenser sets and pylon modification kits from SAAB AB and **$19.6m** on Project Management, Engineering, Technical and Contractor Support Services, FMS cases. In addition $7.7m on procurement of Infrared and Chaff countermeasures supplies, $6.1m on Project related International and Domestic Travel, $5.7m on Hornet data recorder acquisition from ELBIT, $5.5m on the ALR2002 Upgrade with MICREO Ltd, $4.6m on the upgrade to the Radio Frequency Stimulator at the Joint Electronic Warfare Operational Support Unit, $2.6m on aircraft maintenance with Hunter Aerospace Corporation, $1.1m on PLM-4 RSS Retrofits with Global Solutions, **$1.0m** on project international and domestic freight charges and **$157.6m** in other related capital expenditure.
13	Other expenditure comprises: operating expenditure, contractors, consultants, other capital expenditure **and Project Management**.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**This is primarily due to reductions to Project Management procurement activities.**
			Overseas Industry	
			Local Industry	
			Brought Forward	
		(0.5)	Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
10.9	**10.4**	**(0.5)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government (AT-P-LZY)	Oct 99	350.3	**282.6**	FMS	FMS	**1**
The Boeing Company	Dec 01	50.4	**302.3**	Firm/Fixed	DEFPUR101	**1**
Raytheon	May 04	53.6	**92.9**	Fixed	ASDEFCON	**1**
US Government (AT-P-LDG)	Dec 06	206.8	**128.8**	FMS	FMS	**1**
ELTA Systems Ltd	May 08	89.8	**110.1**	Fixed	ASDEFCON	**1**

Notes

1	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government (ATPLZY)	71	71	APG73 Radars	
The Boeing Company	Various	Various	Aircraft & Pylon modification kits	
Raytheon	3/0	3/3	Tactical Readiness Trainers, Tactical Operational Flight Trainers **and HACTS/HIP hardware and software upgrades.**	**1**
US Government (ATPLDG)	66	73	Radar Warning Receivers	
ELTA Systems Ltd	Various	Various	ECM Jammer Pods	

Major equipment received and quantities to 30 Jun 14

Phase 2 Hornet Aircrew Training System – FMR delivered. Phase 2.1 Air Defence Upgrade – completed. Phase 2.2 Avionics Upgrade – completed. Phase 2.3 Electronic Warfare Upgrade – FMR delivered.

Notes

1	**The HACTS Improvement Program (HIP) will upgrade the HACTS to align the training systems with Hornet capabilities introduced by other phases of this project.**

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	Phase 2.1	N/A	N/A	N/A	N/A	
	Phase 2.2	Feb 02	Feb 02	Feb 02	0	
	Phase 2.3	Jan 07	Jan 07	Jan 07	0	
	HACTS	Sep 04	Sep 04	Sep 04	0	
	HIP	**Feb 14**	**Feb 14**	**Mar 14**	**1**	
Preliminary Design	Phase 2.1	N/A	N/A	N/A	N/A	
	Phase 2.2	Sep 02	Sep 02	Sep 02	0	
	Phase 2.3 (Systems Design Review)	Jan 07	Jan 07	Jan 07	0	
	HACTS	Jan 05	Jan 05	Jan 05	0	
	HIP (Engineering Design Review)	**May 14**	**May 14**	**Jun 14**	**1**	

Critical Design	Phase 2.1	N/A	N/A	N/A	N/A	
	Phase 2.2	Mar 03	Mar 03	Mar 03	0	
	Phase 2.3	Jun 07	Jun 07	Jun 07	0	
	HACTS	Mar 05	Mar 05	Mar 05	0	
	HIP (Engineering Design Review)	**May 14**	**May 14**	**Jun 14**	**1**	

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved/ Forecast	Variance (Months)	Notes
System Integration	Phase 2.1	N/A	N/A	N/A	N/A	
	Phase 2.2 (First Article Contract / Project acceptance)	Feb 05	Jan 05	Jan 05	(1)	1
	Phase 2.3 (System Integration Lab Test)	May 07	May 07	May 07	0	
	HACTS (Factory Acceptance Test)	May 06	May 06	May 06	0	
	HIP (Test Readiness Review)	**Jun 15**	**Jun 15**	**Jun 15**	**0**	
Acceptance	Phase 2.1	N/A	N/A	N/A	N/A	
	Phase 2.2 (Aircraft Modification DMO Acceptance – A&B model)	Nov 05	Nov 05	Nov 05	0	
	Phase 2.3 (Aircraft Verification and Validation)	Sep 08	Sep 08	Aug 08	(1)	1
	HACTS (Site Acceptance Test)	Jun 06	Jun 06	Jun 06	0	
	HIP (System Acceptance Review)	**Dec 15**	**Dec 15**	**Dec 15**	**0**	

Notes	
1	Modification of Validation and Verification aircraft completed earlier than anticipated.

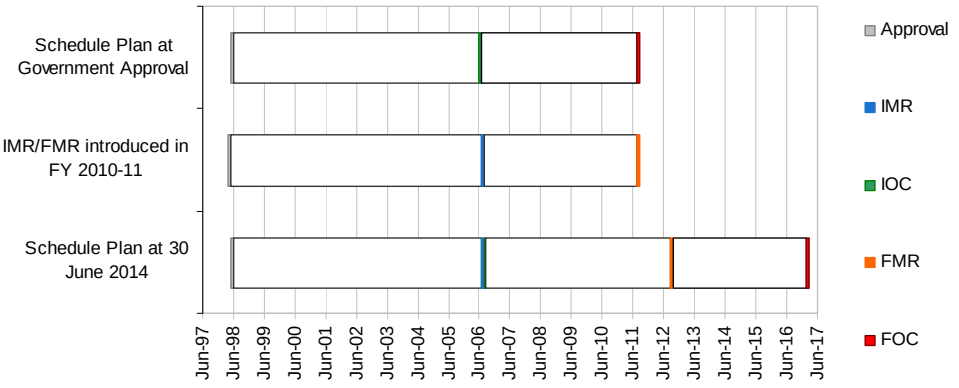
3.3 Progress toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)				
Phase 2.1 IMR	N/A	N/A	N/A	
Phase 2.2 IMR	N/A	Apr 07	N/A	
Phase 2.3 IMR	N/A	Dec 08	N/A	
HACTS IMR	N/A	Jul 06	N/A	
Materiel Release (MR) 2				
Phase 2.3 MR2	Aug 11	Aug 11	0	
Initial Operational Capability (IOC)				
Phase 2.1 IOC	N/A	N/A	N/A	
Phase 2.2 IOC	Apr 07	Apr 07	0	
Phase 2.3 IOC	Nov 09	**Nov 09**	**0**	**1**
HACTS IOC	Jun 06	Jul 06	1	2

Final Materiel Release (FMR)				
Phase 2.1 FMR	N/A	N/A	N/A	
Phase 2.2 FMR	N/A	Dec 07	N/A	
Phase 2.3 FMR	Jun 11	Sep 12	15	3
HACTS FMR	Aug 11	Jan 12	5	4
Final Operational Capability (FOC)				
Phase 2.1 FOC	N/A	N/A	N/A	
Phase 2.2 FOC	Dec 07	Dec 07	0	
Phase 2.3 FOC	Aug 11	**Nov 14**	**39**	**5**
HACTS/**HIP** FOC	Mar 07	**Feb 17**	**119**	**6**

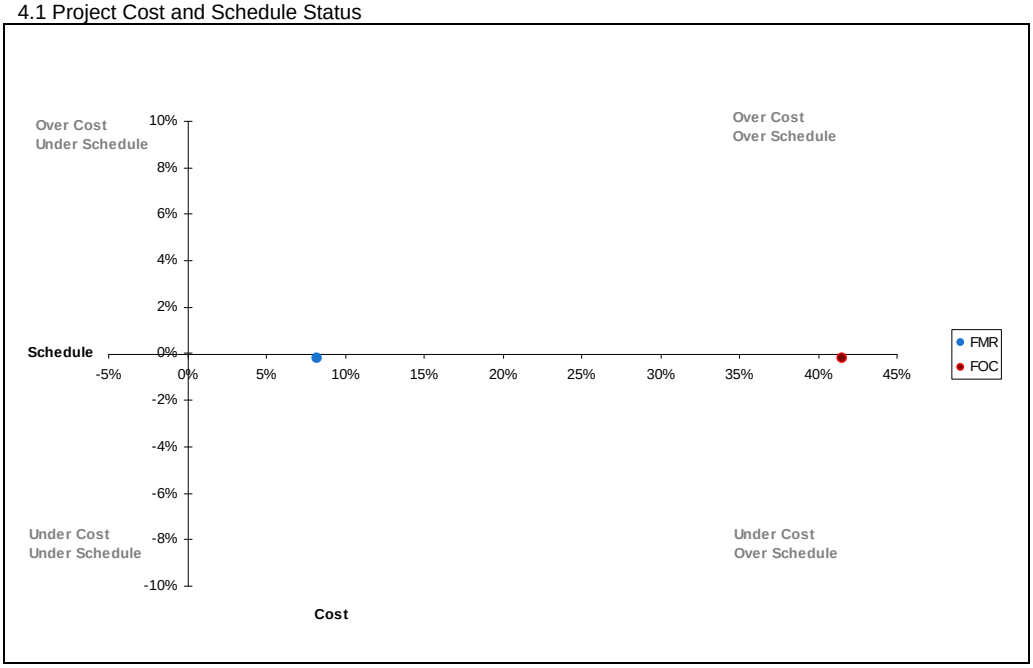
Notes	
1	**The Phase 2.3 IOC Forecast date was incorrectly reported in the previous MPR. IOC for Phase 2.3 was achieved in November 2009, and confirmed in the Materiel Acquisition Agreement, signed in June 2011.**
2	Delays in the development and issue of Site Acceptance Report.
3	The delivery of jammer pods and associated ground support equipment delayed achievement of the FMR.
4	Delivery of the advanced helmet mounted display delayed achievement of the FMR.
5	**FOC** Project Office actions are complete, including achievement of Supplemental Type Certification and Service Release in November 2012. **Further testing identified software characteristics that required resolution. This has been completed but testing needs to occur. This testing was conducted in the United States in March 2014, with time allowed for finalisation of data analysis and test reports prior to capability manager signoff.**
6	The delivery of upgrades to the HACTS system to HUG Phase 2.2 aircraft configuration has been completed. A further upgrade to align **the** HACTS configuration with **current** fleet aircraft **is being** progressed **through the HIP**.

Schedule Status at 30 June 2014



Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Delivery Capability Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** **All major equipment has been delivered. Some characteristics have been identified with Phase 2.3. Further testing was completed in 2014 with FOC expected to be declared by November 2014. The** HACTS **Improvement Program (HIP) is being progressed and will** align the system with Hornet capabilities introduced by continued aircraft and weapon system upgrades. **Amber:** N/A **Red:** N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)		
Description		Remedial Action
Phase 2.3	N/A	N/A
Emergent Risks (risk not previously identified but has emerged during 2013-14)		
Description		Remedial Action
HACTS	**There is a chance that the HACTS Improvement Program (HIP) does not elevate HACTS functionality sufficiently to attain FOC in accordance with the HUG planned schedule.**	**Project Office is in close engagement with 81WG operators, throughout the development and integration activity, to allow early detection and correction of potential shortfalls.** **Project Office close monitoring of prime and sub contractor schedules, weekly stakeholder meetings, monthly Integrated Project Team (IPT) meetings and special purpose Working Groups as required.**

6.2 Major Project Issues

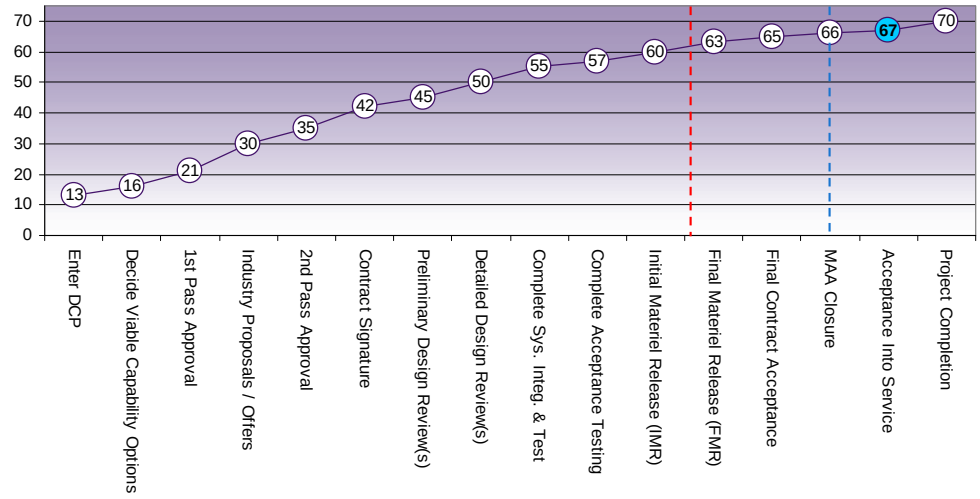
Description		Remedial Action
Phase 2.3	N/A	N/A
HACTS	There is a chance that HACTS capability will not be optimised and/or rectified leading to an impact on performance.	The acquisition strategy has been approved and **the HIP is in contract as of November** 2013. This issue has been re-evaluated and **now has a post-mitigation rating of moderate.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	10	**9**	10	10	10	**9**	**9**	**67**
Acceptance Into Service	Project Status	**9**	**9**	**9**	10	**8**	**9**	**8**	**62**
	Explanation	• **Schedule:** All major elements for HUG Phase 2.3 have now been delivered with some EL/L-8222 Long Lead spares deliveries still outstanding. **The recent signing of the HACTS Improvement Program has required an adjustment to the schedule status of the overall HUG Phase 2 program which is expected to close in 2017.** • **Requirements: HUG Phase 2 delivered all requirements in accordance with the current MAA and achieved FMR sign off (thus a score of 10 achieved). However there were a number of quality issues with the delivered simulator capability that Air Force required to be remediated before FOC approval would be given. The new score of 9 reflects the status of these remediation activities and acknowledges their impact on HUG Phase 2.** • **Technical Difficulty: As above. The score has been changed to reflect the fact that all HUG Phase 2 elements have been integrated and tested successfully on the classic Hornet (thus a**							

		score of 10 proven). The score was changed to reflect the fact that the simulator components that required remediation are currently being integrated and tested in the US and are not yet proven. This does not change the fact that 100% of aircraft upgrades have been successfully proven and the simulator is a low risk known technology (as a Commercial-Off-The-Shelf product) and represents less than two per cent of the overall project in terms of cost and capability. • **Operations and Support: As above - FMR has been signed and HUG Phase 2 upgrades to the aircraft have been successfully completed and are fully operational. The HACTS capability, delivered as part of HUG Phase 2, is being used operationally with the deficient quality issues. The lower score reflects the fact that the remediated simulator capability is not yet operational and has not yet transitioned to Air Force.**



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Integrated Product Teams: Integrated product teams for all project disciplines (engineering, logistics, commercial, test and evaluation, and display development) were established with members from all major stakeholders (Commonwealth, prime and sub contractors, US and Canadian Government representatives). These teams met formally on a regular basis and with significant issues being raised with the overarching management integrated product team. As well as ensuring progress towards a common goal, the teams enabled the implementation of many other project initiatives that relied on quick and honest communication between all parties.	Governance Resourcing
Joint Risk and Schedule Management: Through the integrated product teams a common risk and schedule management methodology was implemented for the entire project. Boeing, as the prime integrator, provided a vehicle to manage both risk and schedule in a common framework. Pro-active management of risks was encouraged and many mitigation strategies, particularly in respect to display development, were implemented to avoid schedule delays.	Governance Schedule Management
Proactive Contract Management: Due to the incremental contracting nature of the project, joint and proactive contract management was essential. Regular commercial integrated product teams provided an effective vehicle to manage the prime integration contract with Boeing and FMS cases with the US Government.	Contract Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	AVM Colin Thorne **(to Aug 13)** **AVM Leigh Gordon (Aug 13–current)**
Branch Head	AIRCDRE Axel Augustin
Project Director	WGCDR Bruce Murray **(to Aug 13)** **Mr Richard Weston (Aug 13–current)**
Project Manager	SQNLDR Ewan Reid **(to Jan 14)** **Mr Paul Butler (Jan 14–current)**

Project Data Summary Sheet[198]

Project Name	**AIR TO AIR REFUELLING CAPABILITY**
Project Number	**AIR 5402**
First Year Reported in the MPR	2008-09
Capability Type	New
Acquisition Type	**Developmental**
Service	Royal Australian Air Force
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	May 03
Total Approved Budget (Current)	**$1,821.4m**
2013-14 Budget	**$29.8m**
Project Stage	Complete Acceptance Testing
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

This project will provide the Australian Defence Force (ADF) with five new generation Airbus A330 Multi Role Tanker Transport aircraft (MRTT), to be known as the KC-30A in Royal Australian Air Force (RAAF) service. The MRTT will be equipped with both hose and drogue and boom refuelling systems capable of in-flight refuelling of current and future aircraft, including F/A-18 Classic and Super Hornets, Hawk Lead-In Fighter, Wedgetail Airborne Early Warning and Control, C-17 Globemaster III, and Joint Strike Fighter (JSF). The MRTT will also provide significant Air Logistics Services capability for carriage of up to 270 passengers and cargo. The acquisition also establishes the infrastructure necessary to deliver services including engineering, maintenance, spares management, technical data, software and training support for the new fleet.

1.2 Current Status

On 15 October 2010, the **then** Minister for Defence Materiel announced this project is a Project of Concern.

Cost Performance

In-year

The variance of $1.5m is attributable to the signature of Deed 4 which enabled payment of milestone 26C for SG2A Tranche 1, closure of a group of agreed platform and ancillary systems non-conformances and an overspend against Additional Work Tasking Order 27 for the procurement of breakdown spares and repairable items.

Project Financial Assurance Statement

As at 30 June 2014, project AIR 5402 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO

198 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

Concurrent with acceptance of the first aircraft, DMO and **Airbus Defence and Space** agreed the principles of a commercial settlement which, amongst other things, **included** a plan for remediation of all non-conformances, a program of improvements to the **Aerial Refuelling Boom System (ARBS)** and a re-baseline of the Contract Milestone Dates. The commercial settlement was signed concurrently with acceptance of the third aircraft (A39-004) in November 2011.

The prototype aircraft (MRTT#1) was accepted on 29 December 2011 following refurbishment to remove the extensive suite of flight test instrumentation, repair structural damage, install retrofit modifications, and to complete the interior fit out. In accordance with the commercial settlement, MRTT#1 was handed back to **Airbus Defence and Space** for use during 2012 for testing of modifications to the military avionics and boom refuelling systems.

Commencement of qualification flight testing was delayed due to additional inspections and repairs to MRTT#1 to correct quality and maintenance deficiencies. Flight testing of the military avionics was completed in October 2012, with ongoing technical investigation of two functions**.**

Certification of modifications to the boom refuelling system was further delayed due to completion of investigation into the in-flight loss of boom incident in September 2012 on a United Arab Emirates Air Force aircraft being operated by **Airbus Defence and Space**. Certification (safety) flight testing was completed February 2013.

Qualification (contract compliance) flight testing commenced in March 2013 but was unable to be completed prior to induction of the test aircraft into heavy maintenance in July 2013 due to a number of test anomalies.

Flight test resumed in November 2013 with certification and qualification flight test to be conducted through 2014. Completion of boom testing is planned for July 2014.

Interim Acceptance of the Simulation Devices was achieved in March 2013 following completion of formal accreditation testing**.** The first pilot and Aerial Refuelling Operator conversions using the Simulation Devices were completed in December 2012.

The fifth and final KC-30A aircraft was accepted from **Airbus Defence and Space** in Madrid in November 2012 and ferried to Australia by a RAAF crew.

Deed of Settlement, Release and Amendment 4 was reached with Airbus Defence and Space on 18 June 2014 to rebaseline the contract, complete the development and testing of the ARBS and to further enhance the aircraft and simulation devices.

Materiel Capability Delivery Performance

To meet Defence strategic goals, the DMO has worked closely with **Airbus Defence and Space** to ensure that the initial configuration at acceptance provides essential capability for Air Logistics Support (passengers and cargo) and pods (hose and drogue) air to air refuelling. A suitable framework to enable contractual acceptance of aircraft with non-critical non-conformances has been established. This framework also ensures that full compliance will be achieved by Final Materiel Release (FMR) in order to achieve Final Operational Capability (FOC). All issues identified to date have suitable processes and procedures in place to reduce the operational impact. The non-conformances **are being** carefully managed to meet minimum requirements of Initial Materiel Release (IMR) and Initial Operational Capability (IOC), noting that IOC was declared in February 2013**, and IMR in May 2014.**

Non-conformances to the contracted capability include **issues with** radio management, military avionics, mission planning **and the lack of an acceptable** boom refuelling system.

Although the aircraft has been certified (with limitations) for boom refuelling of small and large aircraft, an agreement has also been reached on improvements to the ARBS to provide an effective operational capability**.**

While delivery of an operational boom refuelling system has been significantly delayed, the capability impact is not considered significant provided FOC can be achieved prior to the JSF aircraft entering RAAF service.

The United States has also provided approval for the Electronic Warfare Self Protection system to be installed and tested (safety of flight and airworthiness only) in Australia, which will be completed by FOC.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Government gave the equivalent of second pass approval in May 2003 for a new generation air to air refuelling capability.

An open Request for Tender was released in June 2003 for both the Acquisition and Through Life Support (TLS) Contracts. In April 2004, Government announced that the Military Transport Aircraft Division of the European Aeronautic and Space Company Construcciones Aeronauticas S.A. (EADS CASA), teamed with Qantas Defence Services, had been selected as the preferred tenderer for the supply of five Airbus A330 MRTT aircraft and their associated support.

The Acquisition Contract was signed with Spanish company EADS CASA in December 2004. The TLS Contract was signed with Qantas Airways Limited in February 2007.

In April 2009, the Military Transport Aircraft Division of EADS was amalgamated with the Airbus Military Division, and commenced trading as Airbus Military. **In February 2014, Airbus Military was rebranded and commenced trading as Airbus Defence and Space.**

The A330 MRTT is based on the Airbus A330-200 medium/long-range twin aisle commercial aircraft. The first (prototype) aircraft **was** modified and tested by **Airbus Defence and Space** in Madrid, Spain. The remaining four aircraft **were** modified by Qantas, under subcontract to **Airbus Defence and Space**, at the Australian Conversion Centre, located at Brisbane Airport, Australia.

A Contract Change Proposal (CCP) was signed in March 2006 for the procurement of a Full Flight Mission Simulator, Integrated Procedures Trainer and a Simulator Training Facility.

Another CCP was signed in December 2006 for changes to the cockpit layout to accommodate redesign of the refuelling operator console and associated changes to the cockpit access door and forward lavatory. Implementation of these changes on the first aircraft required the conversion and test activities to be divided into two phases:

- Phase 1 **involved** the structural modification of the aircraft, including installation of boom and pods for civil certification.
- Phase 2 **involved** the installation of the military systems, installation of the refuelling operator console and completion of cabin modifications for full military certification and qualification of the modified aircraft.

Uniqueness

AIR 5402 is the lead customer of the A330 MRTT platform, including the lead customer for the **Airbus Defence and Space** developed ARBS. Whilst **Airbus Defence and Space** has previously developed and delivered underwing pod equipped A310 MRTT aircraft to the German and Canadian Air Forces, the A330 MRTT is a significantly more complex developmental effort to design, build and test the first of type, highly integrated military mission and refuelling systems. In parallel, **Airbus Defence and Space** is required to develop the publications, training devices and training material to support introductory training of aircrew and maintenance staff and for transition to the TLS Contractors for ongoing support of the new tanker capability. **Subsequent sales to Saudi Arabia, United Kingdom, United Arab Emirates and Singapore have bolstered the Airbus Defence and Space commitment to the program and helped amortise development costs.**

Major Risks and Issues

Airbus Defence and Space's ability to meet the rebaselined schedule milestones for delivery of the full contracted capability continues to be the greatest challenge.

Principal challenges expected during the next reporting period include:

- The timely completion of testing and DMO acceptance of the documentation for qualification (contract compliance) of changes to the military avionics systems, Mission Planning System, and improvements to the ARBS.
- Planning and implementation of a program to incorporate modifications to the military avionics and boom refuelling systems to in-service aircraft and support to introduction into service of the boom.

Other Current Sub-Projects

N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
May 03	Original Approved		2,076.6	
Jun 04	Real Variation – Budgetary Adjustment	(149.4)		1
Aug 04	Real Variation – Budgetary Adjustment	(1.2)		2
Aug 05	Real Variation – Budgetary Adjustment	(3.0)		3
Nov 05	Real Variation – Transfer	(135.5)		4
			(289.1)	
Jul 10	Price Indexation		484.1	5
Jun 14	Exchange Variation		**(450.2)**	
Jun 14	**Total Budget**		**1,821.4**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – **Airbus Defence and Space**	**(1,452.1)**		
	Other Contract Payments / Internal Expenses	**(104.6)**		6
			(1,556.7)	
FY to Jun 14	Contract Expenditure – **Airbus Defence and Space**	**(11.9)**		
	Other Contract Payments / Internal Expenses	**(19.4)**		7
			(31.3)	
Jun 14	**Total Expenditure**		**(1,588.0)**	
Jun 14	**Remaining Budget**		**233.4**	

Notes	
1	Defence Capability direction regarding currency mix at approval and Government decisions.
2	Administrative Savings harvest.
3	Skilling Australia's Defence Industry harvest.
4	Transfer to Defence Support and Reform Group for delivery of MRTT infrastructure at RAAF Amberley and at other RAAF bases.
5	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $473.9m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $10.2m having been applied to the remaining life of the project.
6	Other expenditure comprises: operating expenditure, contractors, consultants, contingency, other capital expenditure not attributable to the aforementioned prime contract and minor contract expenditure. The major component of this amount is for Tanker Hire costs ($26.4m) **incurred in Financial Year 2009-10,** associated with the delay to the program.

7	Other expenditure comprises: operating expenditure, contractors, consultants, contingency, other capital expenditure not attributable to the aforementioned prime contract and minor contract expenditure. **This amount includes $4.5m for Project Office and Resident Project Team salaries, $1.0m for Additional Work Tasking Orders, $1.6m in operating expenses (including travel), $5.4m for the Block upgrade program, $3.3m for HALSPO spares, $0.4m in FMS, and other miscellaneous orders.**

2.2 In-year Budget / Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Variance of $1.5m is attributable to the signature of Deed 4 which enabled payment of MS26c and an overspend for the procurement of breakdown spares and repairable items.**
		1.1	Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
		0.4	Commonwealth Delays	
29.8	**31.3**	**1.5**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Airbus Defence and Space formerly Airbus Military	Dec 04	1,413.4	**1,567.0**	Variable	ASDEFCON	1

Notes

1	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustment for indexation (where applicable).** **The increase in contract value is due primarily to a number of major CCPs including CCP-001 Simulator, CCP-074 Support and Test Equipment, CCP-078 Spares, CCP-053 Flight Management System, CCP-060 Training Course Development and CCP-102 Boom Enhancements.**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Airbus Defence and Space formerly Airbus Military	5	5	Provision of a new generation air to air refuelling capability comprising five A330 MRTT aircraft and associated supplies and support.	

Major equipment received and quantities to 30 Jun 14

Acceptance of the third aircraft (A39-004) was achieved on 7 November 2011. The fourth aircraft accepted (MRTT#1) by the Commonwealth was achieved on 29 December 2011 but retained in Madrid under **Airbus Defence and Space** care, custody and control during **2012 to 2014** to be used for testing of modifications to the military avionics and boom refuelling systems, with acceptance of the fifth aircraft (A39-005) achieved on 30 November 2012**.**

Initial Acceptance of the Simulation Devices (Full Mission Simulator, Part Task Trainer and Integrated Procedures Trainer) and Facility was achieved on 28 December 2011.

Acceptance of additional deliveries of spares and support and test equipment were achieved during 2012-13.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements /Design	MRTT Aircraft	Feb 05	Feb 05	Mar 05	1	
System Requirements	Simulation Devices	May 06	May 06	Oct 06	5	
Preliminary Design	MRTT Aircraft	Jun 05	Jun 05	Jun 05	0	
	Simulation Devices	Sep 06	Sep 06	Jun 07	9	
	Simulation Devices Facility	Sep 06	May 07	Jul 07	10	
Critical Design	MRTT Aircraft	Feb 06	Mar 06	Jun 06	4	1
	Simulation Devices	Mar 07	Jan 08	Jan 09	22	2
	Simulation Devices Facility	Apr 07	Nov 07	Jan 09	21	3
	Aerial Refuelling Boom System	Sep 11	Sep 11	Dec 11	3	4
Final Design	MRTT Aircraft	Sep 06	Sep 06	Jul 07	10	1
	Aerial Refuelling Boom System	Dec 11	Dec 11	Jul 12	7	4

Notes	
1	The MRTT Aircraft Critical Design Review (CDR) was conducted over a series of meetings from February to May 2006. Although design for the majority of the aircraft systems had been satisfactorily completed, the design for key elements of the aircraft mission system was not yet mature. “Practical Completion” of the CDR Milestone was achieved in June 2006; with a follow-on milestone (designated as the Final Design Review (FDR). Concurrently, evaluations of the new Remote Aerial Refuelling Operator console identified the need for changes to the cockpit layout. These changes were agreed as part of the CDR close-out and required a change to the conversion and test process, which was split into two phases: Phase 1 for structural conversion and civil certification, and Phase 2 for installation of the military avionics and military certification. Closure of the residual activities to achieve the FDR proved problematic. These were progressively completed over the following 12 months.
2	Delays to completion of the MRTT Aircraft design process had a knock-on impact to completion of the Simulation Devices CDR.
3	Completion of the CDR for the Simulation Devices Facility was delayed due to redesign to accommodate increased security requirements.
4	Additional design review milestones **were** added for development of improvements to the ARBS. As with previous design reviews, closure of the contract milestone has lagged conduct of the design review activity in order to complete approval of documentation in accordance with the milestone exit criteria.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	MRTT Aircraft	Aug 08	Dec 08	May 11	33	1
	Simulation Devices	Feb 09	Dec 09	Apr 11	26	2
Acceptance	MRTT Aircraft – Milestone 18 - Acceptance of First Aircraft	Dec 08	Oct 10	Jun 11	29	1
	Simulation Devices and Simulation Devices Facility	May 09	Dec 11	Dec 11	31	2
	Full Mission Simulator Final Accreditation	Feb 10	Feb 14	**Feb 15**	**60**	2
	Aerial Refuelling Boom System	Dec 12	Dec 12	**Nov 14**	**23**	3
	Contract Final Acceptance	Feb 11	Feb 14	**Aug 15**	**54**	4

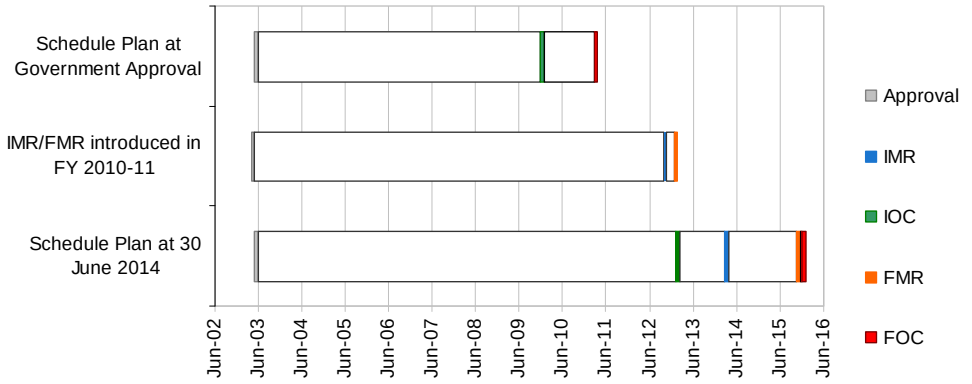
Notes	
1	Originally planned as a single-phase activity, the system integration test program for the first-of-type A330 MRTT was split into two phases to accommodate changes to the Remote Aerial Refuelling Operator console. The first phase, for civil certification of the modified aircraft, was successfully completed in February 2008. The second phase, for military certification and qualification of the modified aircraft, commenced end of December 2008, approximately six months late due to the combination of delays to the first and second conversion phases. Unexpected and continued delays experienced in the development test phase during 2009 delayed commencement of the formal certification ground and flight testing program. A Technical Certificate for certification of the A330 MRTT was issued by the Spanish military certification authority Instituto Nacional de Tecnica Aerospacial (INTA) in October 2010 and reissued in April 2011 to certify changes introduced following a serious in-flight incident and loss of the boom in January 2011 during a training flight with Portuguese F-16 fighters. Qualification testing was completed in December 2010; although two additional flights were necessary, and completed in May 2011, to complete test evidence necessary to demonstrate compliance with the contract specification. Acceptance Test and Evaluation of the first MRTT Aircraft (MRTT#3) was conducted during May 2011 as part of the Customer Acceptance Process following completion of all system integration testing and aircraft preparation for delivery.
2	Delays to completion of the MRTT Aircraft test process has a knock-on impact to completion of testing of the Simulation Devices as the data required for its final accreditation is dependent on a targeted flight test phase conducted at the end of the formal test program. The Simulation Devices were introduced in phased manner to recover schedule due to delays in the aircraft test program, enabling initial acceptance to be completed in 2011 and training to commence on the devices in 2012. Final accreditation was delayed due to the need for development and testing of further improvements to meet full capability and flow-through of changes to the Simulation Devices.
3	**The ARBS program was delayed due to continued development of the ARBS. The Milestone schedule was rebaselined at Deed 4 to allow for further testing.**
4	Rectification of all non-conformances at initial acceptance and provision of service bulletins for upgrade of delivered aircraft is required to be completed by Contract Final Acceptance. Delays to completion of the Mission Planning System, improvements to the boom and refurbishment and re-delivery of MRTT#1 are expected to further delay achievement of Contract Final Acceptance.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Oct 12	**May 14**	**19**	1**, 5**
Initial Operational Capability (IOC)	Dec 09	Feb 13	38	2
Final Materiel Release (FMR)	Feb 13	**Dec 15**	**34**	3**, 5**
Final Operational Capability (FOC)	Mar 11	**Dec 15**	**57**	4

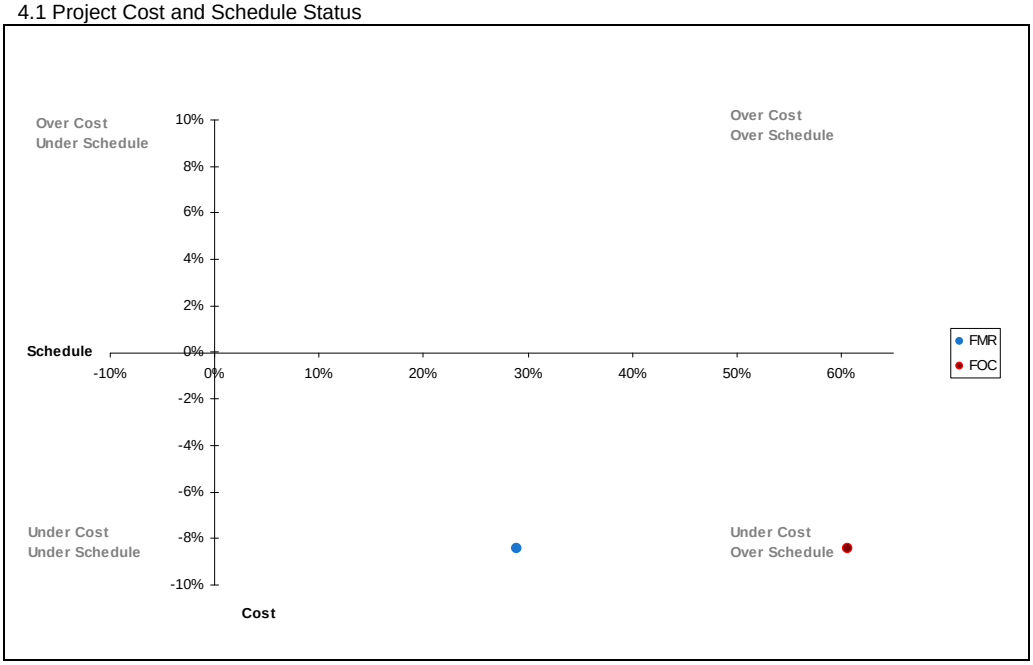
Notes	
1	DMO milestone for delivery and acceptance of two aircraft, **and issue of a Special Flight Permit for Air Logistics Support and air to air refuelling for pod refuelling only** in support of an IOC. Although IOC achievement has been declared, a declaration of IMR **was** delayed pending approval of **the IMR report.**
2	IOC **required** demonstration of an effective capability for Air Logistics Services (passengers and cargo) and pods (hose and drogue) air to air refuelling. Variance from the original planned date **was** due to delays to the development, certification and qualification of the first-of-type aircraft and refinement of planning and identification of additional training and operational test and evaluation requirements. Delays to Acceptance of the first aircraft required alternative arrangements for provision of aerial refuelling and air logistics services to meet Air Force operational and training commitments.
3	DMO milestone for delivery and acceptance of five aircraft and mature support system, including training devices, training materials, publications, spares and support and test equipment.
4	Further improvements to the military avionics and boom refuelling systems are necessary to achieve full capability and were impacted by **induction of MRTT#1 into maintenance and continued development of the ARBS.** Delays will impact the workup and achievement of the expected operational readiness for FOC.
5	**In 2004, Government approved the IOC and FOC Original Planned dates. In 2010 Defence introduced the IMR and FMR milestones. The Original Planned dates for IMR and FMR were aligned with the then Forecast dates for IOC and FOC.**

Schedule Status at 30 June 2014



Section 4 – Project Cost and Schedule Status

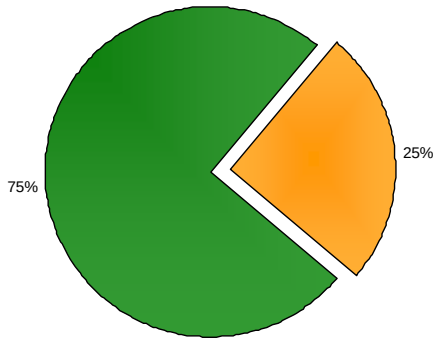
4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance



Green:

Introduction into Service of the KC-30A capability **was** impacted by first-of-type performance and reliability problems with the refuelling pods and delays to implementation of the interim mission planning systems. Notwithstanding, the project **has delivered the** materiel capability requirements for IMR **and IOC** including but not limited to:

- Safely and effectively refuelling aircraft equipped with pod hose and drogue compatible refuelling systems;
- Ability to accept military and civil pallets and bulk cargo;
- Suitable military and civil communication and navigation suites; and
- Aircraft and TLS system capable of sustaining initial prescribed annual rate of effort.

Amber:

There is risk to meeting all materiel capability requirements for FOC due to acceptance of aircraft in an initial configuration and the risk of successful remediation of all non-conformances and improvements to the ARBS.

The capability impact and need for further remediation will be assessed as an outcome of qualification testing and review of compliance evidence in support of contractual acceptance of milestones for remediation of all non-conformances and improvements to the ARBS.

Red:

N/A

Note

This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Refuelling system technical, integration or performance envelope issues impacting achievement of Milestone 26a (redelivery of the last MRTT aircraft).	Actively monitor system design, development and testing and enforce performance goals. At the acceptance of the first aircraft non-compliances were documented, with rectification action and schedule agreed. Project continues to closely monitor contractor progress for the development, testing and delivery of the rectifications. Select RPT positions in Madrid have been extended to maintain close oversight of contractor activities, and also participation in design reviews, testing, and acceptance activities. **Additional Commonwealth resources have also been transferred to Madrid to support the ARBS program.** United States Air Force (USAF) support is being maintained to provide the CoA with boom refuelling expert knowledge and test support.
Final Design and implementation of Human Machine Interface of systems is not fully effective impacting efficient and safe operation of the aircraft.	Continue to contribute to the Human Engineering Program to provide timely feedback. Actively manage and control Human Machine Interface (HMI) development with Subject Matter Experts to ensure contracted requirements are met. HMI deficiencies at initial acceptance were identified and a remediation plan agreed. Defence Science and Technology Organisation subject matter expert has re-engaged with the project to provide ongoing HMI expertise support.
Lack of operational testing and engineering experience by key stakeholders impacting the design and certification of the final product.	Secure expert support from RAAF and USAF for review of design and testing. Highlight possible short comings to authorities and provide expert oversight of certification process. Involvement of USAF boomers in certification and qualification activities **and the introduction of a Commonwealth contracted expert**. **Airbus Defence and Space** engagement of additional boom refuelling expertise.
Final delivery of a sub-optimal Mission Planning System (MPS) impacting final capability.	Clarification and agreement on a finite set of requirements with **Airbus Defence and Space**. Also liaise with other customers to maintain a common set of requirements across the customer base to assist with maintaining a common configuration. MPS non-compliances for aircraft acceptance have been documented and agreed with a remediation plan for the final capability. The impact of delays to the delivery of the final MPS capability has been mitigated by the availability of an interim MPS suite of applications and other workarounds. The project continues to closely monitor contractor activities for the development, testing and acceptance of the final MPS capability.
In-service technical issues will complicate rectification of acquisition non-compliances due to new problems being identified.	The **in-service** TLS organisations are monitoring technical problems through the use of defect reports**, with defect report summaries** provided to the project office. **Airbus Defence and Space have provided** a holistic consideration of the system problems and ensure acquisition design changes are aware of any impacts. A combined acquisition and TLS Configuration Control Board will be operated until Australian Military Type Certification (AMTC) and Service Release (SR) is

	granted. Project Management Reviews with the contractor under the acquisition program will consider this issue and ensure coordination over both the acquisition and TLS programs.
Delay in the achievement of AMTC and SR.	Monitor progress of Operational Test and Evaluation objectives achievement required to support issue of an AMTC and SR. Liaise closely with the **Australian Defence Force** airworthiness authority secretariat to understand Airworthiness Board requirements and schedule, and with **Airbus Defence and Space** to understand progress on rectification of non-compliances.
Delays in the rectification of Contractual Non – Conformances.	Actively monitor **Airbus Defence and Space** issue of Service Bulletins and completion of outstanding obligations that were agreed as part of each aircraft acceptance process and documented in accordance with the contract.
Delays in the development of Operational Airworthiness assessments.	Review and revise Operational Airworthiness strategy and procedures as necessary to ensure efficiency. Workshop suitable solutions with subject matter experts providing recommendations to the Operational Airworthiness Authority Representative to ensure requirements and schedule are understood and can be achieved.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

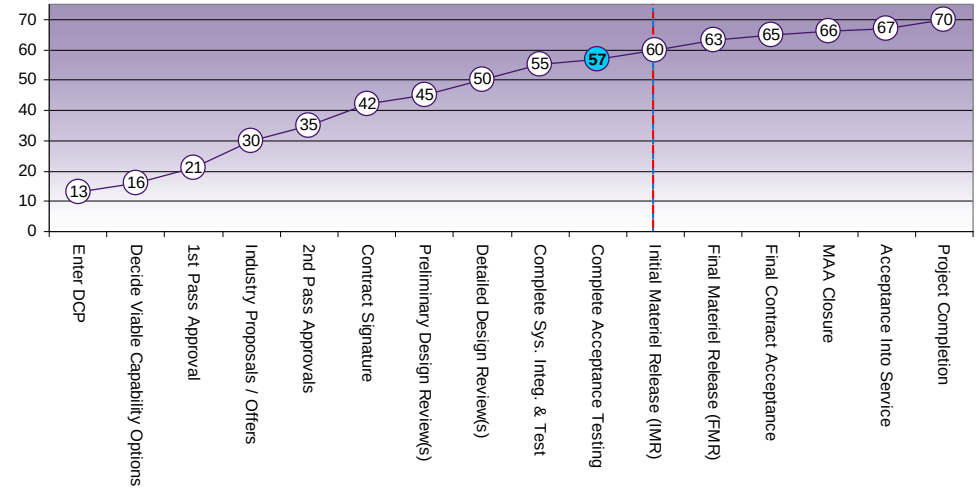
6.2 Major Project Issues

Description	Remedial Action
HMI Program.	The HMI program required **Airbus Defence and Space** to complete key development and test actions with Defence and the Spanish military certification authority, INTA. **Airbus Defence and Space** conducted workshops with Defence to complete the Cockpit Acceptance test procedures and in parallel worked with INTA, to resolve the HMI issues associated with the Flight Warning System (FWS) as identified in the INTA HMI report. The FWS was certified by INTA during October 2010 and an updated certification was provided during April 2011. The FWS will be monitored during the remainder of the acquisition test program and during RAAF in-service operations and Operational Test and Evaluation.
Difficulty in achieving contracted schedule.	Continue to contribute to maintaining a current and robust joint project schedule and foster commitment by both parties to it. Conduct a detailed schedule analysis at each Project Management Review. Commitment by both parties for open and honest communication for the joint management of schedule risks.
Maturity of Mission Planning System.	Detailed sub-system specification **have** been developed and agreed. System performance at initial acceptance has been tested and shortfalls documented and agreed. An interim MPS solution, with workarounds for shortfalls, **was** agreed and implemented. Further development of the MPS will be undertaken under a more robust systems engineering approach.

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	8	8	8	8	9	8	8	57
Complete Acceptance Testing	Project Status	9	7	9	9	9	8	9	60
	Explanation	The project has completed acceptance and hand over to Air Force of four aircraft in a configuration able to support the achievement of an Initial Operational Capability. • **Schedule:** IMR (as defined in accordance with the IMR milestone at section 3.3 of this PDSS) **was** delayed pending approval of the **IMR Report.** • **Cost:** Costs are within the approved Budget with remaining contingency commensurate with residual risks. • **Requirement:** The project requirements have been tested and plans for rectification of non-compliances at initial aircraft acceptance have been agreed. • **Technical Understanding:** Air Force is fully cognisant of the delivered capability and publications for operation and maintenance of the KC-30A tanker capability. • **Operations and Support:** The TLS Contract is operative and the project is transitioning the KC-30A weapon system to Air Force.							



2012-13 DMO MPR Status - - - -

2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
The development and introduction into service of a first-of-type military (aircraft) mission and support system is always harder than it first appears. At contract signature the project appeared a reasonably low risk venture. However, over the course of the project, it became apparent to both the DMO and the contractor that the integration of the fuel delivery systems and military systems on a commercial aircraft introduced many challenges including: software integration issues, underestimation of developmental and certification testing schedule. As a result, a higher effort for a greater period of time was required by the DMO to support the program.	First of Type Equipment
Technical (design) maturity assessment: a tender definition activity was undertaken following selection of the preferred supplier and prior to contract negotiations. However, due to time constraints and the breadth of review activities, it was not possible to conduct a comprehensive technical review and maturity assessment. As a consequence, an aggressive system design schedule was agreed that subsequently proved difficult to achieve due to lower design maturity - and hence higher development effort - on some systems. The additional development effort was accommodated under the change to a two-phased conversion and test process. In hindsight, once it became apparent that Australia was the lead customer for the A330 MRTT, a more robust design maturity assessment should have been undertaken under a funded design development process prior to contract award.	First of Type Equipment Schedule Management
Whilst this project preceded improvements in the capability definition documents (Operational Concept Document, Function and Performance Specification and Test Concept Description), the intent of these documents was included in tender documentation and refined during contract negotiation for inclusion in the Acquisition Contract. The Contractor's internal requirements management process did not adequately support a robust process for customer clarification of the operational intent leading to protracted development and rework. There is a need to ensure that a robust process exists to achieve a common understanding of derived requirements and operational intent, and that it is agreed in the early stages of the project life-cycle.	Requirements Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	AVM Colin Thorne **(Aug 13)** **AVM Leigh Gordon (Aug 13–current)**
Program Manager	**AVM Chris Deeble (Sep 13–Feb 14)**
Branch Head	AIRCDRE Robert Lawson **(to Jan 14)** **AIRCDRE Philip Tammen (Jan 14–current)**
Project Director	Mr Ewan Ward **(to Jan 14)** **Mr Luke Brown (Jan 14–current)**
Project Manager	Mr Cameron Stewart **(to Jan 14)** **Mr Grant Cameron (Jan 14–current)**

Project Data Summary Sheet[199]

Project Name	**GUIDED MISSILE FRIGATE UPGRADE IMPLEMENTATION**
Project Number	**SEA 1390 Phase 2.1**
First Year Reported in the MPR	2007-08
Capability Type	Upgrade
Acquisition Type	**Developmental**
Service	Royal Australian Navy
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Jun 99
Total Approved Budget (Current)	**$1,452.6m**
2013-14 Budget	**$18.4m**
Project Stage	Final Contract Acceptance
Complexity	ACAT **IV**

Section 1 – Project Summary

1.1 Project Description

This project seeks to regain a comparative regional maritime capability by upgrading four (originally six) *Adelaide* Class Fast Frigate Guided (FFGs), and to ensure that they remain effective and supportable until their removal from service between 2015 and 2021. Royal Australian Navy (RAN) FFGs are a derivative of the United States (US) Navy *Oliver Hazard Perry* FFG-7 class Guided Missile Frigates. Each FFG is receiving an improved Anti-Ship Missile Defence system; an On Board Training System; an Electronic Support System; an upgraded Underwater Warfare System (UWS), upgraded diesel generators and other ship systems. The upgrade project is also establishing a shore-based Operator and Team Trainer system and a Warfare System Support Centre (WSSC).

1.2 Current Status

Cost Performance

In-year

As at 30 June 2014 project SEA 1390 Phase 2.1 has expended **$13.5m** against a planned budget of **$18.4m, the underspend is attributed to delays in the delivery of C-Pearl equipment, depot level spares and NIXIE.**

Project Financial Assurance Statement

As at 30 June 2014 project SEA 1390 Phase 2.1 has reviewed the project's approved scope and budget for those elements required to be delivered by the Defence Materiel Organisation (DMO). Having reviewed the current financial contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete the agreed scope.

199 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Contingency Statement

The project has applied contingency in the financial year primarily for the treatment of the resources risk identified in Section 6.1 on the absence of dedicated project resources.

Schedule Performance

In June 2006 a Deed of Settlement and Release was agreed between the Commonwealth and the Prime Contractor (Thales Australia Ltd) that amended the FFG Upgrade Contract reducing the scope of the contract from six to four upgraded FFGs (in line with the Government's decision in November 2003 to remove two ships from service prior to upgrade) and re-align the master schedule to account for significant delay to the original schedule. A subsequent Contract Close Out Deed was executed in June 2010 that specified Thales Australia's remaining obligations under the Contract to be performed by 28 February 2011. Thales Australia did meet all of its final obligations as agreed by February 2011 and the FFG Upgrade Prime Contract was formally completed 2 March 2011.

On 28 June 2012, after a period of Navy Test and Evaluation (commencing at Initial Operational Release (IOR) in January 2010 and concluding September 2011), Chief of Navy (CN) endorsed the upgraded FFG capability for Operational Release (OR) excluding the **Torpedo Defence System** (TDS), Le Scut Anti Submarine Warfare (ASW) Decoy and the Mine and Obstacle Avoidance System (MOAS) components of the UWS. An operational limitation has been placed on the Electronic Support (ES) System Long Range Chaff Rocket (LRCR), PIRATE Infra Red Decoy and the Electro-Optical Tracking System (EOTS) that has not precluded the OR of these systems.

To address the TDS capability shortfall CN endorsed the proposal to roll-out a Defence Science and Technology Organisation (DSTO) developed passive sonar system utilising the PANORAMA processor in operation with the Albatross Towed Array**.** This proposal was assessed as meeting the UWS TDS requirements of SEA 1390 Phase 2.1 and will allow progression of the closure of project SEA 1390 Phase 2.1 but will result in a further delay in achieving the Final Materiel Release (FMR) which is now forecast for **December 2015** and closure of the Materiel Acquisition Agreement (MAA) which is now forecast for **June 2016. As a result, both FMR and FOC are 48 months behind schedule in accordance with MAA signed 28 June 2011 and a new MAA is being processed.**

Materiel Capability Delivery Performance

All four FFGs have received their upgraded equipment. Under the provisions of a Deed of Amendment constituted between the Commonwealth and Thales Australia in November 2008, Contractual Acceptance of HMAS *Sydney* and *Darwin* was achieved in November 2008, and HMAS *Melbourne* in December 2008. Following closure of open software problem reports, Final Acceptance of FFG Upgrade Software occurred May 2009 in accordance with the Deed. HMAS *Newcastle*, the last FFG to enter the program, achieved Provisional Acceptance by the DMO and was handed back to Navy in May 2009 prior to achieving Contractual Acceptance in September 2009. Since acceptance all four HMA Ships *Sydney*, *Melbourne*, *Darwin* and *Newcastle* have been in operation with Navy. The Team Trainer also achieved acceptance in September 2009 and the WSSC achieved acceptance in December 2009.

Tactical Data Information Link, LINK 16, functionality testing was achieved in August 2008 and assessed suitable for operational use under waiver. The first 'live' LINK 16 Data Link to be established by a RAN unit was achieved in January 2009 between HMAS *Melbourne* and various US Navy units.

A three phased 'incremental' approach for IOR and OR was agreed by the DMO and Navy as the most pragmatic means by which to bring the FFG class to full operational employment. Phase 3 was achieved in January 2010 and IOR by Navy for the FFG Class has been achieved except the TDS and by association, the Le Scut decoy system Mitigation for the current torpedo defence capability for FFGs has included the installation of an underwater active decoy system (NIXIE) in HMA Ships *Melbourne* and *Newcastle* in 2011, and *Darwin* in 2012. In addition, the DSTO was engaged to further Navy's understanding of the demands of the FFG for torpedo defence in various operational environments.

A Naval Operational Test and Evaluation (NOTE) period was conducted in September 2010 for the UWS capability. Issues were identified with the availability and serviceability of the UWS, the human machine interface and operator experience. Remediation of these deficiencies have been undertaken and a further period of testing of the UWS capability, including experimentation with the TDS in September 2011 and subsequent analysis of trial results was conducted.

Similarly, an extensive five week NOTE period to baseline the upgraded FFG Air Warfare capability was conducted in quarter 4 of 2010, and again in June 2011 with HMAS *Sydney* undertaking the combined Acceptance Test and Operational Test and Evaluation (OT&E) live-fire events for the Standard Missile (SM-2) test program at the US Navy Pacific Range Facility (Hawaii). System performance for anti-ship missile detection during the combined test and evaluation period was **satisfactory**.

On 28 June 2012 CN endorsed the upgraded FFG capability for OR excluding the TDS, Le Scut (rejected at IOR) and MOAS elements of the UWS, and placed an operational caveat on ES, LRCR, PIRATE Decoy and EOTS. Rectification and follow-on test and evaluation mandated for upgraded systems under caveat has not precluded OR of these systems. CN had deferred a decision on MOAS OR subject to a further period of NOTE. **CN Decision on 10 June 2014 was to support the OR of MOAS on FFGs as an obstacle avoidance sonar.**

The use of PANORAMA in conjunction with the ALBATROSS towed array and existing ASW system has proven to provide a successful TDS in trials conducted to date on the FFGs and is the Navy directed solution, having been endorsed by CN as being suitable to provide the TDS capability excluded at OR in June 2012.

It is expected that a contract will be signed July 2014 for PANORAMA with a completion date of December 2015.

Note

The capability assessments by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The project's implementation phase commenced in June 1999, when the Prime Contract with Australian Defence Industry (now Thales Australia) was signed. The contract afforded Thales total contract performance responsibility and sole responsibility for the upgrade of each FFG. The role of the Systems Program Office (SPO) in relation to the technical aspects of the upgrade was generally limited to reviewing and commenting upon the activities proposed to be conducted by the prime contractor.

As a result of the contractor taking substantially longer than the original schedule, the project was re-baselined in April 2004 and again in May 2006. The re-baselining deferred the delivery of all FFGs with the last ship being deferred by four and a half years.

In November 2003 the Government determined that the Guided Missile Frigate fleet would be reduced from six to four ships with the two oldest FFGs to be removed from service, prior to their planned upgrade and life extension. In mid-2006 the prime contract was changed with scope reduced from six to four ships (oldest FFGs, HMA Ships *Adelaide* and *Canberra* not upgraded); settlement of delay claims, changes to the master schedule and milestones, and changes to provisional acceptance processes of upgraded ships from the prime contractor all contributed to the delays. The financial impact of this global settlement was reflected by a reduction in prime contract price of $40m. This recognised that the engineering development investment and six ship sets of equipment were not affected by the reduction in the number of upgraded ships from six to four.

Subsequent difficulties with compliance led the Commonwealth to refuse approval of the contractor's test procedures. In April 2005 Thales elected to proceed 'at its own risk' with a test and trial regime outside of the contractual terms. The contractor saw this as the only feasible approach to completing the project.

The complexity of the program was initially underestimated. The performance specifications were not formalised and agreed before contract signature and this impacted the delivery and agreement of the offered capability and development of the test program.

Nonetheless, significant progress resulted in the achievement of contractual acceptance of all four FFGs and facilitated the decision by the CN to approve IOR of this capability and begin planning for its operational employment. All four FFGs were offered for IOR in November 2009 and CN endorsed the IOR in January 2010 with a caveat on the TDS and by association, the Le Scut torpedo decoy (as the effectiveness of the decoy is dependent upon information provided by the torpedo detection and classification system). Also, the Government agreed to remove the FFG Upgrade Project from the list of Projects of Concern as the issues and problems that had made it a Project of Concern were remediated sufficiently that a path to completion was clearly defined.

The RAN has inducted the FFGs into a formal program of NOTE to fully characterise the performance of the ships in a variety of contemporary operational environments. This Test and Evaluation program also supported the tuning, configuration and augmentation of the systems in ships deploying into operational areas to ensure that they have the best available capability to meet the threats in those regions. HMAS *Sydney* as lead ship for this program completed testing in the third quarter 2010 and second quarter of 2011. NOTE concluded in the fourth quarter of 2011.

Uniqueness

Complex and extensive weapon, sensor, combat, and command and control systems upgrades were required to be integrated into an Australian developed combat data system architecture. The integration work included the world's first FFG installation of a Vertical Launching System for firing Evolved Sea Sparrow Missiles (ESSM) and Mk 92 Mod 12 Fire Control System into the *Adelaide* class FFG.

The FFG upgrade project included the development of the Australian Distributed Architecture Combat System (ADACS) software containing over one million source lines of newly developed computer code. The ADACS software was developed in conjunction with electronic system hardware development and integration, increasing technical complexity. The ADACS processes and displays radar, sonar and electronic support system data, assisted by a new Australian developed Radar Integrated Automatic Detection and Tracking system.

Major Risks and Issues

The absence of dedicated project resources is a risk to timely project completion and closure.

Other Current Sub-Projects

SEA 1390 Phase 4A: Purchase of the Mk698 Test Set for logistic support and all up round depot level maintenance of the SM-2 Missile at Defence Establishment Orchard Hills, Sydney.

SEA 1390 Phase 4B: Acquire and integrate the SM-2 into four RAN *Adelaide* Class FFGs at the Mid-Course Guidance standard, and acquisition of Initial Ship Outfit and Inventory Stock missiles.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Dec 97	Original Approved		1,266.0	1
Nov 98	Real Variation – Budgetary Adjustments	(0.1)		2
Jul 99	Real Variation – Transfer	(152.6)		3
Aug 04	Real Variation – Budgetary Adjustments	(0.7)		4
Oct 11	Real Variation – Scope Reduction	(66.7)		5
Oct 11	Real Variation – **Real Cost Decrease**	(10.1)		5
			(230.2)	
Jul 10	Price Indexation		230.3	6
Jun 14	Exchange Variation		**186.5**	
Jun 14	**Total Budget**		**1,452.6**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Thales **Australia**	**(1,252.3)**		
	Other Contract Payments / Internal Expenses	**(99.8)**		7
			(1,352.1)	
FY to Jun 14	Other Contract Payments / Internal Expenses	**(13.5)**		**8**
			(13.5)	
Jun 14	**Total Expenditure**		**(1,365.6)**	
Jun 14	**Remaining Budget**		**87.0**	

Notes	
1	This project's original DMO budget amount is that prior to achieving Second Pass Government approval.
2	Overseas travel not required.
3	Transfer to project SEA 1428 Phase 2A for the procurement of ESSM on behalf of SEA 1390 Phase 2.
4	Administrative Savings harvest.
5	Real Cost Decrease: comprising $66.7m for Prime Contract partial termination (reflecting the Government's decision in November 2003 to reduce the FFG fleet from six to four ships) and $10.1m accumulated savings identified at the 2011-12 Portfolio Budget Estimates review for return to the Defence Capability Program.
6	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $228.1m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $2.2m having been applied to the remaining life of the project.
7	Other expenditure comprises: External Service providers (Compucat Research $10.4m and HTR Pty Ltd $0.9m), spares contract ES 3701 ($4.5m), UWS Spares ($2.1m), Test & Trials ($1.7m) Operational Firings ($1.2m), other operating expenditure and other capital expenditure not attributable to the aforementioned prime contract and minor contract expenditure.
8	**Other expenditure to 30 June 2014 of $13.5m comprised of mainly: C-Pearl $6.8m, FMS $4.1m, and Baseline Remediation $1.6m, Depot Level Spares $0.4m, ES-3701 $0.3m, and Marinisation $0.3m.**

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
		(0.7)	FMS	**FMS: Underspend of $0.7m on NIXIE due to savings.**
		(2.8)	Overseas Industry	**Overseas Industry: C-Pearl underspend of $2.8m due to technical difficulties during manufacture in Israel.**
		(1.4)	Local Industry	**Local Industry: $1.4m underspend on depot-level spares due to availability of repairable items.**
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
18.4	**13.5**	**(4.9)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Thales Australia	Jun 99	898.6	**1,252.3**	Variable	DEFPUR 101	1, 2, **3**

Notes

1	The original contract was structured requiring price increases to be agreed at the time for each ships major refit concurrent with Upgrade production. $29.1m of work for initial FFG Upgrade equipment spares were not included in the original contract.
2	The Contract Final Acceptance formally occurred on 2 March 2011 after an extensive contract closure due diligence review and contractor completion of obligations as recorded in a Contract Close Out Deed established 25 June 2010. The final payment under the Thales Upgrade Contract was made in June 2011.
3	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Thales Australia	6	4	Upgraded ships and concurrent refit.	1

Major equipment received and quantities to 30 Jun 14

Four ships have been accepted. Engineering and maintenance arrangements established.

Notes

1	Other items of equipment under this contract include associated support facilities, training devices and spares, as noted in Section 1.1 of the PDSS.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	Completion of all Software Specification Reviews	Aug 00	Aug 00	May 01	9	1
Preliminary Design	Completion of all Preliminary Design Reviews	Oct 00	Oct 00	May 01	7	1
Critical Design	Completion of all Critical Design Reviews	Apr 01	Nov 06	Apr 07	72	1

Notes	
1	Software development and design was delayed due to Thales Australia repatriating the Combat System Design Authority role from Lockheed Martin in early 2001 and implementing the Australian Distributed Architecture Combat System. Thales then elected, as allowed by the Prime Contract, to deliver the contracted capability in three software baselines for technical risk mitigation. Critical Design Review completed to Baseline Build 2 software in December 2006 and to Baseline Build 3 in April 2007.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	HMAS *Sydney*	Dec 02	Sep 05	Sep 05	33	1
	HMAS *Melbourne*	Jul 03	Feb 07	Jun 07	47	1
	HMAS *Darwin*	Feb 04	Feb 08	May 08	51	1
	HMAS *Newcastle*	Jul 04	Feb 09	Feb 09	55	1
Provisional Acceptance	HMAS *Sydney*	May 03	Dec 06	Dec 06	43	1
	HMAS *Melbourne*	Jan 04	Oct 07	Oct 07	45	1
	HMAS *Darwin*	Jul 04	Aug 08	Aug 08	49	1
	HMAS *Newcastle*	Jan 05	Jun 09	May 09	52	1
	Team Trainer	Apr 02	Feb 07	Nov 07	67	1
	Warfare Systems Support Centre	Apr 04	Nov 08	Nov 08	55	1
Acceptance	HMAS *Sydney*	Apr 04	Nov 08	Nov 08	55	1
	HMAS *Melbourne*	Sep 04	Nov 08	Dec 08	51	1
	HMAS *Darwin*	Mar 05	Nov 08	Nov 08	44	1
	HMAS *Newcastle*	Sep 05	Dec 09	Sep 09	48	1
	Team Trainer	Sep 06	Dec 09	Sep 09	36	1
	Warfare Systems Support Centre	Sep 06	Dec 09	Dec 09	39	1
	Contract Final Acceptance	Sep 06	Feb 11	Mar 11	54	1

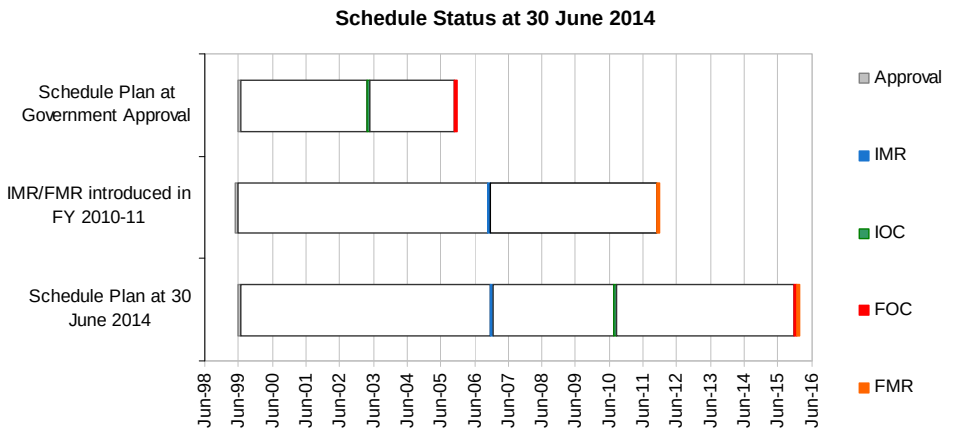
Notes	
1	Schedule delays to this program have resulted from the program complexity being underestimated from the outset. The Prime Contract schedule has been re-baselined on two occasions, April 2004 and May 2006. Further schedule adjustment to project end date has not been required with the Contract formally closed in March 2011.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Dec 06	N/A	
Initial Operational Release				
HMAS *Sydney*	May 03	Jan 10	79	1
HMAS *Melbourne*	Jan 04	Jan 10	71	
HMAS *Darwin*	Jul 04	Jan 10	65	
HMAS *Newcastle*	Jan 05	Jan 10	60	
Initial Operational Capability (IOC)	N/A	Aug 10	N/A	2
Operational Release				
HMAS *Sydney*	Jul 04	Jun 12	95	3
HMAS *Melbourne*	Dec 04	Jun 12	90	
HMAS *Darwin*	Jun 05	Jun 12	84	
HMAS *Newcastle*	Dec 05	Jun 12	78	
Final Materiel Release (FMR)	Dec 11	**Dec 15**	**48**	4
Final Operational Capability (FOC)	Dec 11	**Dec 15**	**48**	5

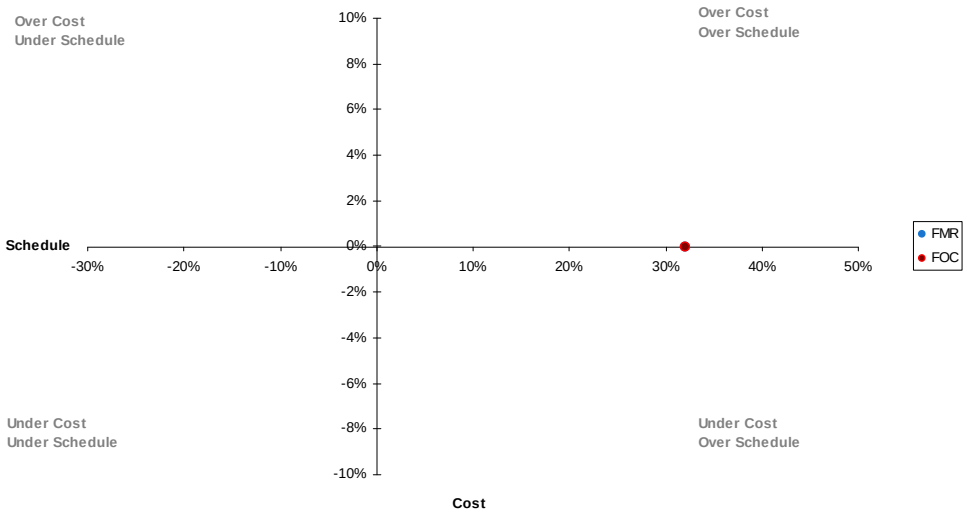
Notes	
1	A three phased 'incremental' approach IOR was agreed by the DMO and Navy as the most pragmatic means by which to bring the FFG class to operational employment. The first three FFGs were at IOR Phase 1 (Maritime Interception Operations) in April 2009 and Phase 2 (Anti-Ship Missile Defence) in October 2009. All four FFGs achieved IOR third and final phase UWS when CN endorsed the complete upgraded capability (excluding the TDS) to proceed to a program of NOTE in January 2010. The TDS and by association, the Le Scut torpedo decoy (as the effectiveness of the decoy is dependent upon information provided by the torpedo detection and classification system) were rejected as unlikely to achieve operational viability. To meet the operational preparedness requirements of the rejected TDS, the acquisition of an underwater active decoy system (AN/SLQ-25C, NIXIE) was initiated and, in consideration of the remaining service life of the ships of the class, installed in HMA Ships *Melbourne* and *Newcastle* being the final two ships to be removed from service.
2	As a result of a revision to the original MAA, the project now has an endorsed IOC which has been disclosed accordingly.
3	On 28 June 2012 CN endorsed the upgraded FFG capability for OR excluding the TDS and Le Scut (rejected at IOR) and MOAS elements of the UWS, and placing an operational caveat on ES, LRCR, PIRATE Decoy and EOTS. CN has deferred a decision on MOAS OR subject to a further period of NOTE. **CN reached a decision on 10 June 14 to support OR of MOAS on FFGs as an obstacle avoidance sonar.** Rectification and follow-on test and evaluation mandated for upgraded systems under caveat has not precluded OR of these systems.
4	FMR is nominally considered prior to Contract Final Acceptance from the Prime Contractor. The FFG Upgrade Prime Contract Final Acceptance occurred 2 March 2011. The Navy Capability Manager has not yet endorsed FMR for the FFG Upgrade Project so this event has been aligned to the conclusion of NOTE activities and the achievement of OR/FOC included under a revision to the original MAA approved in June 2011. CN has endorsed OR of the upgraded FFG capability that excluded UWS and imposed an operational limitation on ES and some elements of Air Area Defence (AAD). Revised FMR date has been based upon the anticipated implementation period required for the PANORAMA TDS solution. **The FMR/FOC dates have moved to 2015, an extension to the dates previously anticipated, due to delays obtaining approval for the PANORAMA solution.**

5	FOC as indicated in the MAA is aligned to OR of the upgraded FFG capability. The upgraded FFG capability has achieved conditional OR that excluded UWS and limited operation of the ES and other AAD systems. Revised FOC has been based upon the anticipated implementation period required for the PANORAMA TDS solution.



Section 4 – Project Cost and Schedule Status

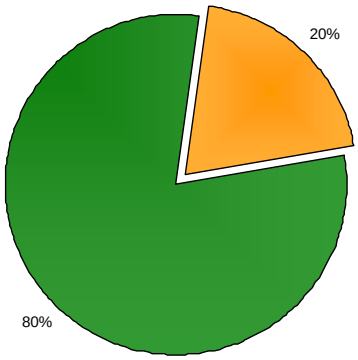
4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance



Green:

The project is currently meeting the capability requirements as expressed in the MAA with the exception of items excluded for OR as stated in the Amber narrative below.

Amber:

Capability and FMR is flagged amber as the final capability to be delivered is uncertain at this time. Navy intend to pursue the torpedo defence and mine/obstacle avoidance capabilities as originally scoped in the Project Detailed Operational Requirement. Navy has assessed a DSTO developed passive sonar system in operation with the Albatross Towed Array as meeting TDS requirements. Acquisition. **A contract will be signed early July 2014 for acquisition and installation. CN reached a decision on 10 June 2014 to support OR of MOAS on FFGs as an obstacle avoidance sonar.**

Red:

N/A

Note

This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
The absence of dedicated project resources is a risk to timely project completion and closure.	Contracted support is being utilised to supplement the permanent workforce whilst the imposed restriction on DMO recruitment remains. **A long term combat system in-service support contract has now been signed from which resources can be utilised to assist with project closure.**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

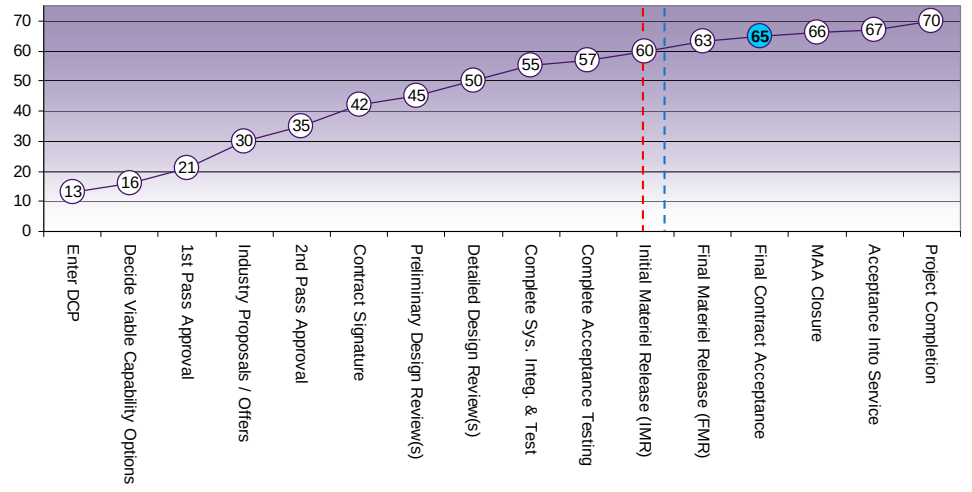
6.2 Major Project Issues

Description	Remedial Action
For OR, the TDS integration and performance may not be met and is primarily associated with system grooming and population of supporting libraries.	The acquisition and installation requirement for an underwater active decoy system was initiated for HMA Ships *Melbourne*, *Newcastle*, **and *Darwin*** to satisfy operational preparedness requirements but with due regard to the remaining service life of the ships of the class. Navy OT&E of the UWS completed September 2011 and full analysis of the results have been finalised. CN approved the upgraded FFGs for OR on 28 June 2012 excluding the TDS Albatross Towed Array and Le Scut ASW Decoy rejected at IOR. Combined use of PANORAMA, ALBATROSS Tail and NIXIE decoy has been endorsed by CN as a suitable directed solution to achieve adequate TDS capability. **A contract will be signed early July 2014 for acquisition and installation.**
For OR, the MOAS performance may not be met.	**CN reached a decision on 10 June 2014 to support OR of MOAS on FFGs as an obstacle avoidance sonar.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	10	9	10	9	9	9	9	65
Final Contract Acceptance	Project Status	5	8	9	10	10	**9**	9	**60**
	Explanation	• **Schedule and Requirement: Upgraded FFGs endorsed for OR 28 June 2012. OR excluded the Underwater Warfare System (TDS, Le Scut, MOAS and passive component of the HMS). Operational caveat (vide RANTEAA FFG OCS) for ES, LRCR, PIRATE IR decoy, EOTS and MOAS. Way forward for all issues has been resolved. Actions remaining include full implementation of PANORAMA to address TDS deficiencies.** • **Cost:** The Project Office is confident that the project will be delivered within the approved budget. • **Technical Understanding: Technical understanding of PANORAMA is strong.** • **Technical Difficulty:** Technical solution design/integration contract acceptance tested and OT&E (completed September 2011) by Navy. Analysis and report presented to, and endorsed by CN for OR (proven) in June 2012. The endorsement of the Navy Acceptance Certificate (TI338) by CN in June 2012 allocates responsibility to Navy to ensure equipment employment is within known constraints.							



2012-13 DMO MPR Status - - - -

2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Requirements and specifications must be well defined and agreed before contract signature. Where detailed specifications cannot be defined fully prior to contract signature, such as when systems definition and new design work must be undertaken within a developmental project phase, then the end capability requirements and priorities must be well defined and agreed.	Requirements Management
A fundamental issue to consider at the time of capability and project definition is how the capability should be acquired. If the project is developmental, then consideration should be given to methods other than a fixed price contract for achieving the capability. Contracts should include appropriate clauses that recognise the complexities of verifying and validating a software development project. Multi platform upgrades should allow for implementation and testing/acceptance of the first platform without committing to a full class upgrade of all platforms. Conducting an upgrade of an existing capability concurrent with scheduled maintenance availability requires very detailed planning and careful consideration of the supporting contract clauses.	Contract Management Schedule Management First of Type Equipment
Procurements that include significant change to software-intensive systems and complex system integration have many inherently high-risk activities, which must be analysed and appropriate risk mitigation processes applied. Such risks are often under-estimated in the planning phase.	First of Type Equipment
The contract schedule must be accepted by all parties as realistic and achievable from the outset. Each party must be committed to achievement of the schedule and aware of the consequences of non-achievement, plus any provisions for delay outside the contractor's control. The contract should contain: • milestones which enable the Commonwealth to unambiguously assess Contractor performance from the outset of the Contract; • with the exception of non-recurring engineering effort, payment of all or a substantial part of the contract price should be subject to achievement of clear project milestones; • milestones should reflect delivery of contracted requirements to the Commonwealth, not just reaching intermediate points on the timeline; • milestones which enable use of the equipment and supplies (such as Integrated Logistic System (ILS) and training) should be given similar weight as delivery of the equipment itself; • payment on achievement of milestones should be conditional on achievement of previously scheduled milestones; • payment of milestones should also be tied to remedies under the contract to allow the Commonwealth to seek redress; and • clear entitlements of the Commonwealth to access all contractor project data (including internal workforce planning data) so as to be able to make informed assessments if a milestone is not achieved.	Contract Management
For very large developmental contracts, project managers must ensure that the contractor maintains sufficient focus and resourcing on documenting what is being delivered and how to use it (through ILS, configuration management and training). Milestones must be structured so that the contractor is not tempted to focus on equipment deliverables only. Payment for equipment milestones should be	Contract Management Requirements Management

conditional on achievement of related ILS milestones. The contract should be clear on configuration management requirements of ILS products in an incremental delivery software development project. This should align to milestones and remedies in the contract.	
Objective acceptance criteria are required to ensure there is no scope for dispute as to whether the criteria have been met. Criteria for determining contractual achievement should support those criteria used by Defence for determining achievement by DMO of the measures of effectiveness in the MAA.	Contract Management Requirements Management
Major maritime software development should be incremental and delivery does not have to be aligned with the platform modification program.	First of Type Equipment Requirements Management
Implement a progressive acceptance methodology from the outset for all project data / documentation supplies and requirements acceptance objective quality evidence in order to progressively increase confidence of all stakeholders involved with regard to project outcomes.	Contract Management
Close liaison and communication with Navy stakeholders is required throughout the project life. Navy regulator engagement must be open and transparent from project commencement to FOC so that the Navy Acceptance Certificate (TI338) residual issues/risks are well understood and easily accepted. Where capability delivered falls short of Navy customer initial expectations as agreed in the MAA, the process of securing concessions/agreement is needed to allow efficient and prompt project closure to avoid/limit inefficient use of resources.	Requirements Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble (Acting **to Sep 13**) **Mr Colin Thorne (from Sep 13)**
Division Head	RADM Mark Purcell
Branch Head	CDRE Michael Houghton
Project Director/Manager	CAPT Mona Shindy, RAN

Project Data Summary Sheet[200]

Project Name	**BATTLEFIELD AIRLIFT – CARIBOU REPLACEMENT**
Project Number	**AIR 8000 Phase 2**
First Year Reported in the MPR	2013-14
Capability Type	Replacement
Acquisition Type	MOTS
Service	Royal Australian Air Force
Government 1st Pass Approval	Apr 12
Government 2nd Pass Approval	Apr 12
Total Approved Budget (Current)	$1,289.5m
2013-14 Budget	$146.1m
Project Stage	Contract Signature
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

This project was approved to replace the retired Caribou capability and provide the Australian Defence Force (ADF) with an enhanced intra-theatre and regional airlift capability through acquisition of a fleet of ten new Light Tactical Fixed Wing aircraft. The Government approved solution is acquisition through United States Air Force (USAF) Foreign Military Sales (FMS) of the Alenia Aermacchi built C-27J aircraft modified by L-3 Product Integration Division (PID) to the United States (US) Department of Defense Joint Cargo Aircraft (JCA) C-27J configuration, known as Spartan. The JCA C-27J is a Military Off The Shelf (MOTS) acquisition offering enhanced self protection and interoperability that meets Australian requirements. The aircraft will be operated by 35 Squadron with its Interim Main Operating Base (MOB) at Royal Australian Air Force (RAAF) Base Richmond prior to relocating to the final MOB at RAAF Base Amberley in 2017. Project acquisition includes the ten aircraft, training system, support system materiel elements and three years of initial FMS training and support services needed to meet an In-Service Date (ISD) of first quarter 2015, an Initial Operating Capability (IOC) by the end of 2016 and Full Operating Capability (FOC) by the end of 2017.

1.2 Current Status

Cost Performance

In-year

In-year expenditure of $146.6m resulted in a minor overspend of $0.5m against a budget of $146.1m. This was mainly due to changes to payments against the main FMS case.

Project Financial Assurance Statement

As at 30 June 2014, project AIR 8000 Phase 2 has reviewed the project's approved scope and budget for those elements required to be delivered by the Defence Materiel Organisation (DMO). Having reviewed the current financial, contractual obligations of the DMO for this project, current known risks and estimated future

200 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency funds in the Financial Year.

Schedule Performance

Aircraft production is on schedule to support the first quarter 2015 ISD at RAAF Base Richmond. Establishment of FMS support and training arrangements is under pressure with minimal schedule contingency remaining to support ISD. Sufficient schedule contingency remains to support the end of year 2016 IOC date.

Materiel Capability Delivery Performance

The JCA C-27J is a relatively mature and well tested MOTS product. Notwithstanding, the project office is working through a number of capability baseline considerations identified post-establishment of the FMS Case. These baseline issues are associated with the configuration and certification status of the USAF JCA C-27J program, which were not finalised by the USAF at the time of divestiture.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

A requirement to replace Defence's battlefield airlift capability was first identified in the 1980s. Defence ensured the battlefield airlift capability was maintained via a sustainment commitment to the Caribou until their retirement in 2009 and lease of additional B300 King Air aircraft until suitable replacement platforms and appropriate Defence Capability Plan funding could be allocated.

Government authorised Defence to issue a Letter of Request seeking price and availability information from the USAF for the C-27J on 30 September 2011. The then Minister for Defence and the then Minister for Defence Materiel jointly announced on 19 October 2011 that Government had taken steps to acquire a replacement aircraft for the Caribou transport aircraft under Defence Capability Plan Project AIR 8000 Phase 2. The Ministers also announced that this project would involve consideration of other aircraft that could meet Australia's needs, including the Airbus Military C295 aircraft. Defence dispatched letters to Airbus Military and Raytheon Australia seeking price and availability data on 26 October 2011. On 10 May 2012 Government announced it had approved the purchase of ten C-27J battlefield airlift aircraft via FMS from the US Government to replace the Caribou aircraft, at a total program cost of up to A$1.4 billion.

Alenia Aermacchi manufactures the C-27J Military Industrial Baseline Aircraft configuration which is then flown to the US for modification. L-3 PID, acting as the prime to the US Government, is responsible for post-production integration of US improved mission systems. The design and integration work by L-3 PID enhances the effectiveness of the baseline aircraft, ensuring that the US JCA variant, as offered through the FMS agreement, meets the battlefield airlift capability needed by Defence.

The USAF's potential to divest the C-27J was a known consideration that was factored into the business case presented to and approved by government at project combined First and Second Pass in April 2012. In early 2013 the USAF confirmed its intention to divest their C-27J fleet and accelerated its schedule for withdrawal. Subsequently, in mid 2013 USAF advised that it would not complete Military Type Certification (MTC) and that L-3 PID was, contrary to earlier advice, required by the Air National Guard to vacate the facilities occupied by the C-27J training school located at Robins Air Force Base, Georgia USA. This resulted in a late notice requirement for relocation of the L-3 training school to L-3 facilities in Arlington and Waco Texas, which has resulted in additional pressure on the schedule.

Australian Military Type Certification (AMTC) will leverage heavily on the Federal Aviation Authority civilian certification and USAF work completed at the time of its decision to cease its MTC. Notwithstanding, the USAF decision not to complete MTC has materially increased the effort and schedule risk associated with achieving AMTC. The Commonwealth has secured significant Intellectual Property licensing rights to technical data from Alenia and L-3 PID to aid in AMTC and through-life support of the C-27J.

Uniqueness

The C-27J is a MOTS aircraft acquisition with the following changes to meet Australian requirements: paint scheme; upgraded Radar Warning Receiver; updates to address obsolescence; and upgrade to Mode 5 Identify Friend or Foe system.

The uniqueness of the project lies in the degree of Australian specific contracting effort being conducted by the USAF C-27J FMS Program Office to establish initial FMS training and support services as a result of USAF C-27J divestiture. Generally, FMS leverages off a contemporary US military procurement. Included in this is USAF contracting of US based initial training from L-3 PID utilising the ADF Airworthiness Management System. Historically, the USAF airworthiness management system has been utilised for such training arrangements; however, due to USAF C-27J divestiture, this option is no longer possible and both the USAF and L-3 are unfamiliar with Australian requirements.

Major Risks and Issues

The Government endorsed acquisition strategy accepted a number of risks stemming from, or exacerbated by, the likelihood of USAF C-27J divestiture. Notwithstanding these risks, the benefits of acquiring the USAF JCA configured C-27J via FMS were assessed to outweigh these risks, even if realised, and their likelihood of occurring was taken into account when developing project strategies and plans.

Major project residual risks are as follows:

USAF Divestiture of C-27J. There is a chance that the C-27J capability delivery will be affected by US Government divestiture of their C-27J program leading to an impact on project schedule and cost. The USAF decision to divest of C-27J will remove some opportunities for sustainment and training cost sharing. Currently the project remains within schedule and budget.

Contracting. There is a chance that the contracting processes to establish initial training and support arrangements will take longer than planned, not meet requirements, or be unaffordable. The project is working closely with the stakeholders to mitigate this risk by ensuring requirements are clearly identified and minimised to meet schedule and reduce costs. Although the contracting schedule risk has been increased by the rephrasing of the allocated Approved Major Capital Investment Program project budget and US Government C-27J divestiture and sequestration the project remains within schedule tolerance.

Australian Military Type Certification (AMTC). As a result of the USAF decision to divest of their C-27J fleet and not complete Military Type Certification there is a chance the engineering certification effort required by the project to gain the appropriate Special Flight Permit (SFP) releases needed to support initial training will not be achieved in time. Additional project resources have been applied to this task.

Capability. The project is addressing a number of capability requirements that remain incomplete against the USAF JCA configuration as a result of the USAF decisions to divest. These items are being addressed to meet FOC requirements.

Other Current Sub-Projects

N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Apr 12	Original Approved		1,156.5	
Jun 14	Exchange Variation		133.0	
Jun 14	**Total Budget**		**1,289.5**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – US Government	(263.4)		
	Contract Expenditure – Alenia Aermacchi	(13.6)		
	Other Contract Payments / Internal Expenses	(0.9)		1
			(277.9)	
FY to Jun 14	Contract Expenditure – US Government	(142.8)		
	Other Contract Payments / Internal Expenses	(3.8)		1
			(146.6)	
FY to Jun 14	**Total Expenditure**		**(424.5)**	
Jun 14	**Remaining Budget**		**865.0**	

Notes	
1	Other expenditure comprises: operating expenditure, minor contract expenditure and other capital expenditure not attributed to the listed contracts.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
		6.4	FMS	Year end minor variance against the revised Financial Year 2014–15 Budget Estimates plan was $0.5m. Variance consists of reductions in forecast spend associated with FOREX gains and delays in aircraft production invoicing, spares deliveries and establishment of training and support contracts ($50m) under FMS. However, this reduction was offset by the earlier than planned payment of outstanding FMS Termination Liability ($54m) in the June quarter to meet outstanding US Government FMS contracting risk.
		(0.3)	Overseas Industry	
		(0.7)	Local Industry	
			Brought Forward	
		(0.8)	Cost Savings	
		(3.2)	FOREX Variation	
		(0.9)	Commonwealth Delays	
146.1	146.6	0.5	Total Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government	May 12	882.4	973.3	Reimbursement	FMS	1
Alenia Aermacchi	May 12	62.0	73.1	Firm Price	Modified ASDEFCON (Complex)	1

Notes	
1	Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government	10	10	10 C-27J Aircraft and associated training, training equipment, spares, ground support equipment and initial support.	
Alenia Aermacchi	N/A	N/A	C-27J Intellectual Property and Technical Data	

Major equipment received and quantities to 30 Jun 14
No major equipment received at this time.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	Operational Flight Trainer	TBA	TBA	TBA	TBA	1
	Fuselage Trainer	TBA	TBA	TBA	TBA	1
Preliminary Design	Operational Flight Trainer	TBA	TBA	TBA	TBA	1
	Fuselage Trainer	TBA	TBA	TBA	TBA	1
Critical Design	Operational Flight Trainer	TBA	TBA	TBA	TBA	1
	Fuselage Trainer	TBA	TBA	TBA	TBA	1

Notes	
1	Contracts that will detail the schedule for acquisition of the training devices are progressing towards signature.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Operational Flight Trainer	TBA	TBA	TBA	TBA	1
	Fuselage Trainer	TBA	TBA	TBA	TBA	1
Acceptance	C-27J Aircraft 1 (A34-001)	Jul 14	Jul 14	Jul 14	0	2
	C-27J Aircraft 2 (A34-002)	Sep 14	Sep 14	Sep 14	0	2
	C-27J Aircraft 3 (A34-003)	Nov 14	Nov 14	Nov 14	0	2
	C-27J Aircraft 4 (A34-004)	Feb 15	Feb 15	Mar 15	1	3
	C-27J Aircraft 5 (A34-005)	Aug 15	Aug 15	Oct 15	2	3
	C-27J Aircraft 6 (A34-006)	Oct 15	Aug 15	Feb 16	6	3
	C-27J Aircraft 7 (A34-007)	Dec 15	Dec 15	Mar 16	3	3

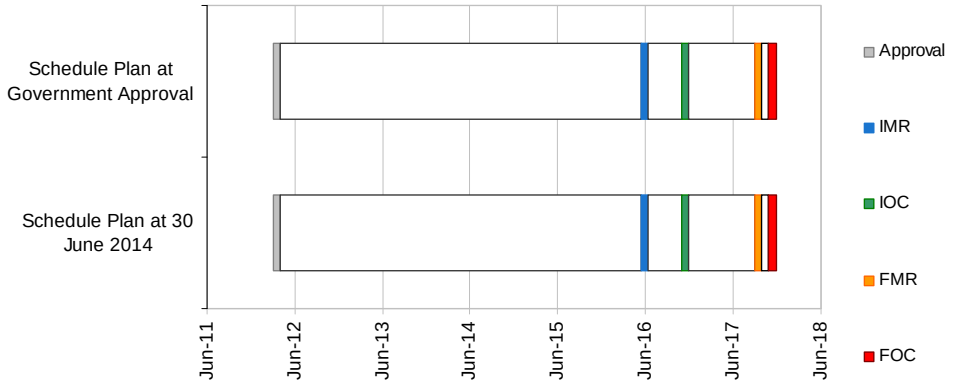
	C-27J Aircraft 8 (A34-008)	Feb 16	Feb 16	Apr 16	2	3
	C-27J Aircraft 9 (A34-009)	Apr 16	Apr 16	May 16	1	3
	C-27J Aircraft 10 (A34-010)	May 16	May 16	Jun 16	1	3
	Operational Flight Trainer	TBA	TBA	TBA	TBA	1
	Fuselage Trainer	TBA	TBA	TBA	TBA	1

Notes	
1	Contracts detailing the schedule for acquisition of the training devices are progressing towards signature.
2	Three Aircraft have completed Alenia production test flight acceptance on schedule and transitioned to L-3 PID for final mission system fit out.
3	Aircraft production remains substantially on schedule as advised by L-3 PID in the Alenia/L-3 production integrated master schedule.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

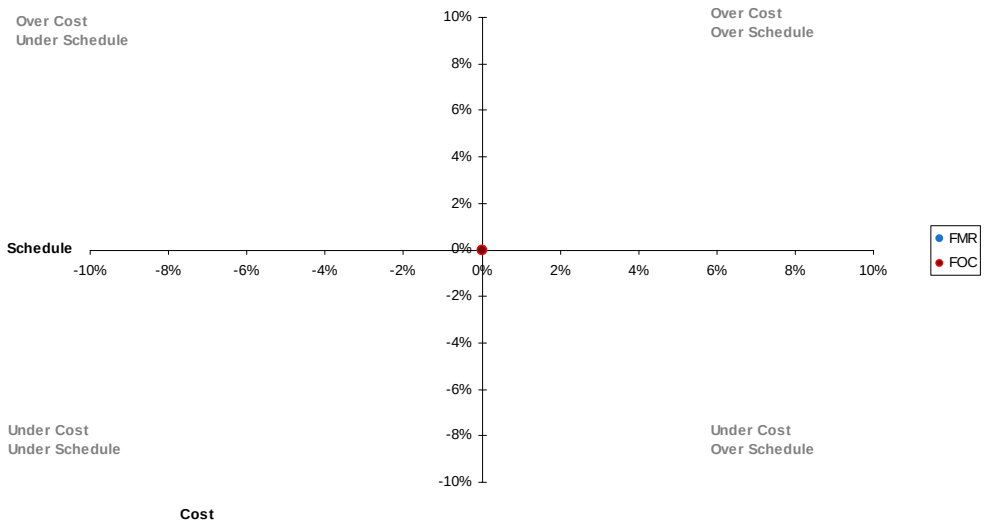
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
In-Service Date (ISD)	Mar 15	Mar 15	0	
Initial Materiel Release (IMR)	Jun 16	Jun 16	0	
Initial Operational Capability (IOC)	Dec 16	Dec 16	0	
Final Materiel Release (FMR)	Oct 17	Oct 17	0	
Final Operational Capability (FOC)	Dec 17	Dec 17	0	

Schedule Status at 30 June 2014



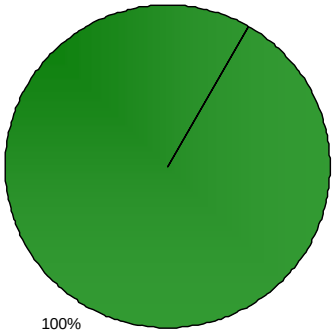
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The Project expects to meet capability materiel requirements as per the Joint Project Directive, Materiel Acquisition Agreement and relevant Technical Regulatory Authority.
	Amber: N/A
	Red: N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
USAF Divestiture of C-27J. There is a chance that the C-27J capability delivery will be affected by US Government Divestiture of their C-27J program leading to an impact on project schedule and cost. The USAF decision to divest of C-27J will remove some opportunities for sustainment and training cost sharing.	The project is working closely with the USAF FMS Program Office to mitigate this risk by ensuring requirements are clearly identified and minimised to meet schedule and costs. Currently the project remains within schedule and budget.
Contracting. There is a chance that the contracting processes to establish initial training and support arrangements will take longer than planned, not meet requirements, or be unaffordable. the project is working closely with the stakeholders to mitigate this risk by ensuring requirements are clearly identified and minimised to meet schedule and reduce costs**.**	The project is working closely with the USAF FMS Program Office to mitigate this risk by ensuring requirements are clearly identified and minimised to meet contracting schedule and reduce costs. Although the contracting schedule risk has been increased by the rephrasing of the allocated Approved Major Capital Investment Program project budget and US Government C-27J divestiture and sequestration the project remains within schedule tolerance.
Capability. The project is addressing a number of capability requirements that remain incomplete against the USAF JCA configuration as a result of the USAF decisions to divest.	The project office has applied additional resources to address these items to meet FOC requirements.
Australian Military Type Certification (AMTC). As a result of the USAF decision to divest of their C-27J fleet and not complete Military Type Certification there is a chance the engineering certification effort required by the project to gain the appropriate SFP releases needed to support initial training will not be achieved in time.	Additional project resources have been applied to this task to meet the timeframe, however residual risk remains with the uncertainties with aircraft certification.
USAF JCA C-27J Capability Baseline. The project has reviewed the JCA C-27J capability baseline and identified a number of known USAF deficiencies. Following confirmation of divestment, USAF subsequently ceased MTC and rectification of a number of these known deficiencies. As a result there is a chance the project will not be able to address these deficiencies within available project budget and schedule, resulting in degraded capability at FOC. Noting prior to divestiture, the USAF was operating the JCA C-27J under a Military Flight Release with broad capability scope and mitigators for the known deficiencies they are not anticipated to be an impediment to achieving ISD or IOC.	A capability baseline confirmation process has been established at One Star / Band One Project Management Stakeholder Group level to address the known deficiencies. The baseline confirmation process will culminate in a plan for addressing all identified deficiencies. Each deficiency will be assessed based on its acceptability 'as is' or importance to capability in order to determine a priority for rectification. Once priorities and costs are determined, available project budget will be allocated on a priority basis. The deficiency rectification plan and associated costings will be completed end of year 2015.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

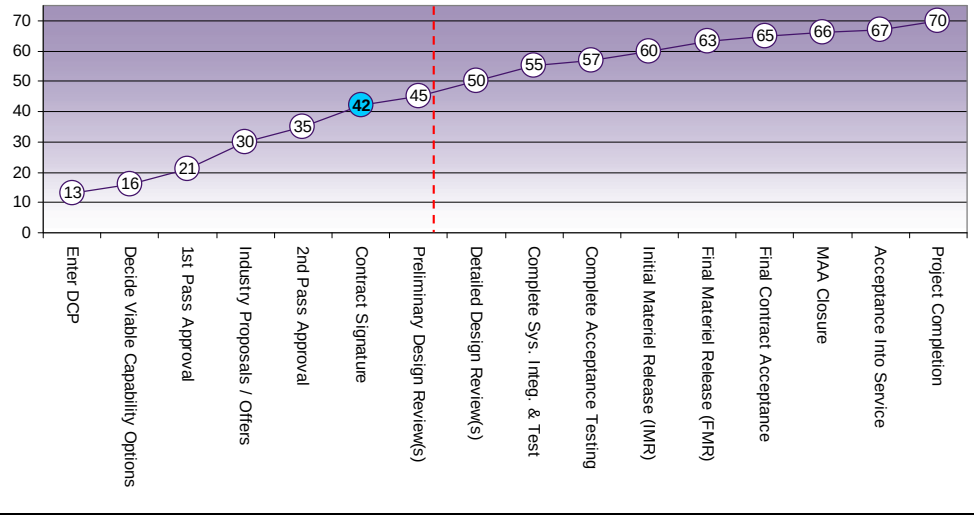
6.2 Major Project Issues

Description	Remedial Action
N/A	N/A

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	6	6	6	6	6	6	6	42
Contract Signature	Project Status	7	6	6	7	7	6	7	46
	Explanation	**Schedule:** Critical path activities understood and remain on schedule. **Technical Understanding:** Mature airframe well understood and in service with other nations. **Technical Difficulty:** Preliminary Design Reviews are confirming the achievability of the requirement. **Operations and Support:** Most elements of the support system have been defined and procurement is underway for long-lead support elements.							



2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
The level of risk and complexity contained in an FMS Letter of Agreement is often understated and poorly understood. Whilst an FMS program for MOTS equipment and associated support affords a number of advantages, the transfer of a significant amount of project and technical management to the US Government implementing agency, and the weak bargaining position of the Commonwealth, increases the project's exposure to technical, schedule and cost risk. For an FMS program the level of Commonwealth contract and financial management involvement and oversight of industry is very low in comparison to that mandated for Direct Commercial Sale contracts, yet both procurement methods confront similar issues. This accords the FMS customer a 'Best Endeavours' approach to business. Adequate Commonwealth participation in key project management and technical oversight activities in the US, as provided for in the Government Combined First and Second Pass submission, is critical to providing the necessary level of project and contract management. In the case of C-27J, divestiture has further accentuated project risk and complexity, increasing the need for ongoing engagement of the USAF FMS program office and L-3 PID to ensure Commonwealth requirements and risks are adequately understood and managed.	Contract Management
The practice of approving projects with staffing to be found from within existing Divisional resourcing can result in 'late to need' or understaffing at critical project planning and execution phases that is counter productive to achieving project outcomes. Further, the recruitment process lead times for candidates not already within the ADF or Australian Public Service can create significant extended vacancies within the Project workforce, with this being exacerbated by the relatively short notice that personnel are obliged to provide for internal transfers. This is exacerbated when the Department imposes a recruiting freeze on the workforce. Whilst outsourced services may be suitable in some instances to mitigate this risk, in such circumstances they are not always available, the most efficient, or affordable, and come with an additional administrative overhead. In particular, rapidly approved projects, such as AIR 8000 Phase 2, which gained combined Government Pass approval, should be priority staffed as outlined in the approved project workforce plan, on which the Materiel Acquisition Agreement schedule was developed.	Resourcing

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	AVM Leigh Gordon
Branch Head	AIRCDRE Phil Tammen
Project Director	GPCAPT Warren Bishop
Project Manager	WGCDR Martin Harris

Project Data Summary Sheet[201]

Project Name	**BUSHMASTER PROTECTED MOBILITY VEHICLE**
Project Number	**LAND 116 Phase 3**
First Year Reported in the MPR	2007-08
Capability Type	Replacement
Acquisition Type	**Australianised MOTS**
Service	Australian Army and Royal Australian Air Force
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Nov 98
Total Approved Budget (Current)	**$1,250.4m**
2013-14 Budget	**$59.4m**
Project Stage	Complete Acceptance Testing
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

This project is to deliver 1,015 vehicles in seven variants; troop, command, mortar, assault pioneer, direct fire weapon, air defence and ambulance. These vehicles will provide protected land mobility to Army units and Royal Australian Air Force Airfield Defence Guards. In addition to the acquisition of the vehicles through the Approved Major Capability Investment Program, a number of enhancements are being made to the vehicles through the Rapid Acquisition process. These enhancements do not form part of the Project LAND 116 Phase 3, but do impinge upon the project. Vehicle production information is represented below:

Production Period (PP)	Quantity	Description
PP1	300	300 vehicles were acquired in six variants.
PP2	144	144 vehicles were acquired in five variants.
PP3	293	293 additional vehicles were acquired in seven variants to meet the medium Protected Vehicles component of LAND 121 Phase 3 Project Overlander.
PP4	70	70 troop variant vehicles were acquired to meet future operation attrition. An additional 31 troop variant vehicles were acquired to replace battle damaged PMVs, which were managed as a funded sustainment activity.
PP5	208	208 vehicles in two variants are being acquired to maintain critical skills at Thales Bendigo site for the possible production of Hawkei. In addition, six troop variant vehicles were acquired and funded by LAND 17 Phase 1A.
Total	**1,015**	

201 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

1.2 Current Status

Cost Performance

In-year

As at 30 June 2014, Financial Year 2013-14 expenditure was $59.4m against the forecast expenditure of $59.4m.

Project Financial Assurance Statement

As at 30 June 2014, project LAND 116 Phase 3 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

All Production Period 1 (PP1), PP2, PP3 **and PP4** vehicle deliveries are now complete. Delivery of the Project's **208 PP5** vehicles commenced in **July 2013 and is scheduled to conclude in June 2016.**

Materiel Capability Delivery Performance

All variants are meeting their required specifications. The prototype for the Air Defence variant was completed by Thales and accepted by the project in October 2010.

The project is in contract with Thales for the Detailed Design of an **External Composite Armour** (ECA) solution. The ECA Detailed Design solution was completed in November 2012. The project entered a contract with Thales Australia for the production of 101 sets of Opaque Armour and 20 sets of Transparent Armour on 21 December 2012. **Delivery occurred in May 2014**.

The PMV Trailer tender response from Thales on 22 May 2009 was evaluated and deemed non-compliant and not value for money. **On 8 July 2013 the** Government **approved the removal of** the trailer capability from the project scope.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The Bushranger Project is being conducted in three phases:

Phase 1 involved the motorisation of the infantry battalions of 6 Brigade, with 268 interim infantry mobility vehicles, based on the in-service Land Rover PERENTIE 4x4 and 6x6 vehicles and the procurement of an additional 25 support vehicles.

Phase 2 consisted of Phase 2A the development of the infantry mobility vehicle specification and the release of an Invitation to Register Interest and Phase 2B the release of a Request for Tender and the trialling and evaluation of successful contender vehicles.

Phase 3 is the full rate production of the protected vehicles. The Production Contract Option was executed on 1 June 1999 with Australian Defence Industries for the supply of 370 Bushmaster vehicles by December 2002. A range of problems emerged with design enhancements, cost, and schedule slip in the contract, shortly after the Production Option was exercised, leading to renegotiation of the Contract in July 2002 for 299 vehicles. This phase has been divided into five separate production periods that reflects the increase over time in the quantity of vehicles being acquired. The Production Periods are as follows:

Production Period One (PP1): During this Production Period 300 vehicles in six variants were acquired; troop, command, mortar, assault pioneer, direct fire weapon and ambulance. This period reflects the final position of the original protected mobility requirement. Defence had contracted for 299 vehicles; however, it then sold 25 vehicles back to Thales for sale to the Netherlands and received 26 vehicles from Thales as consideration.

Production Period Two (PP2): During this Production Period 144 vehicles were acquired in five variants consisting of**:** troop, command, mortar, direct fire weapon and ambulance. This period reflected the

change to the Army's structure under the Enhanced Land Force Phase 1. Defence had contracted for 143 vehicles; however, it then allowed Thales to divert 24 vehicles from the production line for sale to the United Kingdom, thereby delaying delivery to Defence. Defence received one additional vehicle from Thales as consideration.

Production Period Three (PP3): During this Production Period an additional 293 vehicles were acquired to meet the Medium Protected Mobility vehicle component of LAND 121 Phase 3 Project Overlander. This included all six variants and an air defence variant. In addition purpose designed ECA **was** also acquired.

Production Period Four (PP4): In May 2011 the Government announced the acquisition of an additional 101 PMVs to replace 31 battle damaged PMVs and to accommodate future attrition. Project Bushranger **managed** the delivery of all 101 PMVs, however 31 of these PMVs **were** managed as a funded sustainment activity outside of Project Bushranger. As part of this requirement LAND 116 Phase 3 also **procured** 70 MEAO upgrade kits (current standard blast kits as opposed to the improved blast protection). Delivery of the additional 101 PMVs was completed in May 2013.

Production Period Five (PP5): In June 2012 the Government approved the acquisition of a further 214 PMVs to maintain critical skills at Thales Bendigo, which would be required for the possible production of Hawkei. The approval identified that LAND 116 Phase 3 would acquire 50 Command Variants and up to 158 Troop Variants and that LAND 17 Phase 1A would acquire 6 Troop variants.

As a result of operational experience a number of enhancements **were** made to the Bushmaster vehicle to enhance crew survivability. **These** include Protected Weapon Stations, Automatic Fire Suppression Systems and purpose-**designed** Spall Curtains which **were** progressively fitted to vehicles under a Rapid Acquisition Framework. These **were** funded outside of LAND 116 Phase 3.

In December 2007 the Chief of Army redesignated the Bushmaster Infantry Mobility Vehicle as the Bushmaster PMV.

Uniqueness

The Bushmaster PMV has been developed and built in Australia by Thales to meet a niche requirement of Australian forces.

Major Risks and Issues

The Major **risk** for the project **is** the Introduction into Service of an ECA solution. **Specifically the availability of vehicles to allow the fitment of ECA buttons.**

In addition, managing the integration and configuration of the baseline vehicle while incorporating upgrades to meet current operational threats will continue to be **an issue – see section 6 Major Project Issues for more information.**

Other Current Sub-Projects

N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Nov 98	Original Approved		295.0	
Jul 07	Real Variation – Scope	154.8		1
Aug 07	Real Variation – Scope	360.6		2
Oct 11	Real Variation – Scope	103.9		3
Mar 13	Real Variation – Scope	221.2		4
Aug 13	**Real Variation – Scope**	**(7.0)**		5
Jun 14	**Real Variation – Scope**	**(1.3)**		**6**
			832.2	
Jul 10	Price Indexation		124.6	**7**
Jun 14	Exchange Variation		**(1.4)**	
Jun 14	**Total Budget**		**1,250.4**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Thales Australia (Prime)	**(675.5)**		
	Contract Expenditure – Thales Australia (SOTASip)	**(30.2)**		
	Other Contract Payments / Internal Expenses	**(152.3)**		**8**
			(858.0)	
FY to Jun 14	Contract Expenditure – Thales Australia (Prime)	**(54.9)**		
	Other Contract Payments / Internal Expenses	**(4.5)**		**9**
			(59.4)	
Jun 14	**Total Expenditure**		**(917.4)**	
Jun 14	**Remaining Budget**		**333.0**	

Notes	
1	Additional PMV for Enhanced Land Force requirements.
2	Additional PMV for Overlander requirements.
3	Additional PMV to replace Battle Casualty Vehicles.
4	Additional Protected Mobility Vehicles to maintain critical skills.
5	**Removal of trailer requirement and transfer of funds to LAND 121 phase 3B trailers.**
6	**Transfer of funds to Health SPO to support Integrated Logistics Support (ILS) requirements of the PMV Ambulance variant**
7	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $118.9m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $5.7m having been applied to the remaining life of the project.
8	Other expenditure comprises: ILS deliverables (**$59.0m**), ancillary equipment (**$26.9m**), project management and operating expenses (**$15.6m**), ECA (**$13.7m**), Automatic Fire Suppression Kits ($9.4m), SOTAS headsets (**$7.2m**), facilities ($7.1m), test and evaluation ($6.1m), system engineering ($5.6m), Professional Service Providers ($0.9m), travel ($0.7m) and support test equipment ($0.1m).
9	Other expenditure comprises: ECA (**$3.9m**), ILS deliverables (**$0.3m**), project management and operating expenses (**$0.2m**), and ancillary equipment.

2.2 In-year Budget / Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**N/A**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
59.4	**59.4**	**0.0**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Thales Australia	June 99	170.0	**832.6**	Variable	DEF PUR 101	1
Thales Australia (SOTASip)	Feb 09	35.8	**30.2**	Fixed	ASDEFCON Vol 2	

Notes

1	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Thales Australia	370	1,015	Bushmaster Protected Mobility Vehicles	
Thales Australia (SOTASip)	737	737	Communication System	

Major equipment received and quantities to 30 Jun 14

During PP1 300 vehicles in six variants were acquired; troop, command, mortar, assault pioneer, direct fire weapon and ambulance. During PP2, 144 vehicles were acquired in five variants; troop, command, mortar, direct fire weapon and ambulance. During PP3 a further 293 vehicles were acquired in 7 variants. **During** PP4 70 troop **vehicles** were acquired by the Project**, and an** additional **31 troop vehicles were acquired** as a sustainment activity outside of Project Bushranger. In PP5 50 command variants and up to 158 troop variants (plus an additional six being procured by LAND 17 Phase 1A) will be acquired by the project. **At 30 June 2014, 41 command and 43 troop vehicles have been delivered.**

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved/ Forecast	Variance (Months)	Notes
System Requirements	Troop Vehicle	N/A	N/A	Aug 03	N/A	1
	Assault Pioneer Vehicle	N/A	N/A	Oct 06	N/A	
	Command Vehicle	N/A	N/A	Jan 06	N/A	
	Mortar Vehicle	N/A	N/A	Feb 09	N/A	
	Direct Fire Weapon Vehicle	N/A	N/A	Feb 09	N/A	
	Ambulance Vehicle	N/A	N/A	Feb 09	N/A	
	Air Defence Variant	N/A	N/A	Oct 10	N/A	
Preliminary Design	Troop Vehicle	Oct 99	N/A	Oct 99	0	
	Assault Pioneer Vehicle	Nov 99	N/A	Feb 00	3	
	Command Vehicle	Oct 99	N/A	Oct 99	0	
	Mortar Vehicle	May 03	N/A	Mar 03	(2)	
	Direct Fire Weapon Vehicle	May 03	N/A	Mar 03	(2)	
	Ambulance Vehicle	Jul 03	N/A	May 03	(2)	
	Air Defence Variant	April 10	N/A	Dec 09	(4)	
Critical Design	Troop Vehicle System Verification Review	Oct 02	N/A	Sep 02	(1)	
	Assault Pioneer Vehicle Initial Production Vehicle Review	Oct 04	N/A	Dec 06	26	
	Command Vehicle Initial Production Vehicle Review	Oct 04	N/A	Mar 06	17	
	Mortar Vehicle Initial Production Vehicle Review	Apr 06	N/A	May 07	13	
	Direct Fire Weapon Vehicle Initial Production Vehicle Review	Apr 06	N/A	Apr 07	12	
	Ambulance Vehicle System Verification Review	Oct 05	N/A	Feb 07	16	
	Air Defence Variant Initial Production Vehicle Review	Sep 11	N/A	Aug 11	(1)	

Notes	
1	Initial testing of the first variant revealed a number of deficiencies against the specification that required rectification and design changes prior to acceptance and production. This had a consequential effect on the system and design review progress for the subsequent variants. As a result additional testing was required which impacted on completing critical design review and contractor test and evaluation.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Troop Vehicle	Jun 04	N/A	Dec 04	6	1
	Command Vehicle	Sep 04	N/A	Mar 06	18	
	Assault Pioneer Vehicle	Oct 04	N/A	Dec 06	26	
	Mortar Vehicle	Apr 06	N/A	May 07	13	
	Direct Fire Weapon Vehicle	Apr 06	N/A	Apr 07	12	
	Ambulance Vehicle	Aug 07	N/A	Feb 08	6	
	Air Defence Vehicle	Sep 11	N/A	Jul 11	(2)	
Acceptance	All PP1 vehicles except Ambulance	Jun 06	N/A	Jul 07	13	
	PP1 – Ambulance	Jul 07	N/A	May 08	10	
	Troop Vehicle	May 06	N/A	Jun 09	37	
	Command Vehicle	Jul 06	N/A	Jun 09	35	
	Assault Pioneer Vehicle	Jan 07	N/A	Jun 09	29	
	Mortar Vehicle	May 07	N/A	Jun 09	25	
	Direct Fire Weapon Vehicle	Mar 07	N/A	Jun 09	27	
	Ambulance Vehicle	Jul 07	N/A	Jun 09	23	
	Air Defence Vehicle	Apr 12	N/A	Apr 12	0	

Notes	
1	Additional reviews and testing requirements impacted the ability of Thales to conduct Production Acceptance Testing and Evaluation in the original timeframe. The situation was also impacted by the priority to support vehicles deployed on operations. Technical issues that resulted in design changes impacted on the ability to finalise Production and Acceptance Testing and Evaluation.

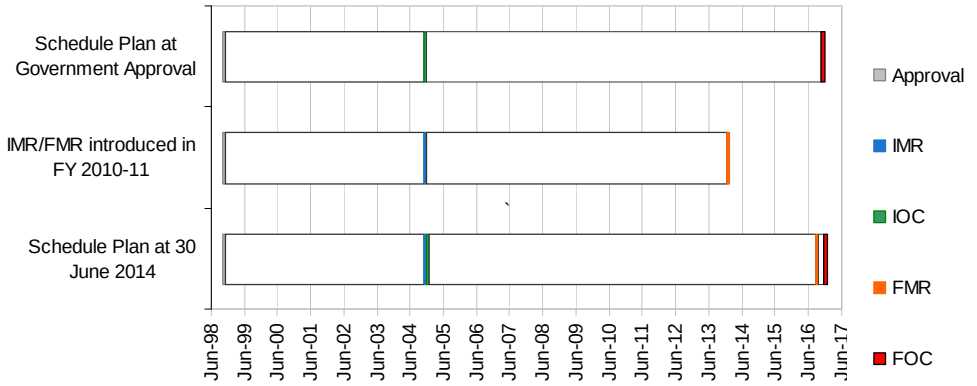
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Dec 04	N/A	1
Initial Operational Capability (IOC) - PP1	N/A	Dec 04	N/A	2
Final Operational Capability (FOC) - PP1	Oct 07	Nov 10	37	3
Initial Operational Capability (IOC) - PP2	Jul 08	Nov 08	4	4
Final Operational Capability (FOC) - PP2	Apr 09	Nov 10	19	5
Initial Operational Capability (IOC) - PP3	Oct 11	Oct 11	0	6
Final Operational Capability (FOC) - PP3	Apr 12	Mar 13	11	7
Initial Operational Capability (IOC) - PP4	Jul 12	Jul 12	0	8
Initial Operational Capability (IOC) – PP5	Dec 13	**Nov 13**	**(1)**	9
Final Operational Capability (FOC) - PP4	Apr 14	**Nov 13**	**(5)**	10
Final Materiel Release (FMR)	**Sep 16**	Sep 16	**0**	11
Final Operational Capability (FOC) – PP5	Dec 16	Dec 16	0	**12**

Notes	
1	IMR was achieved in December 2004 when commencement of delivery of full rate of production for Production Period 1 occurred.
2	IOC was achieved in December 2004 when commencement of delivery of full rate of production for

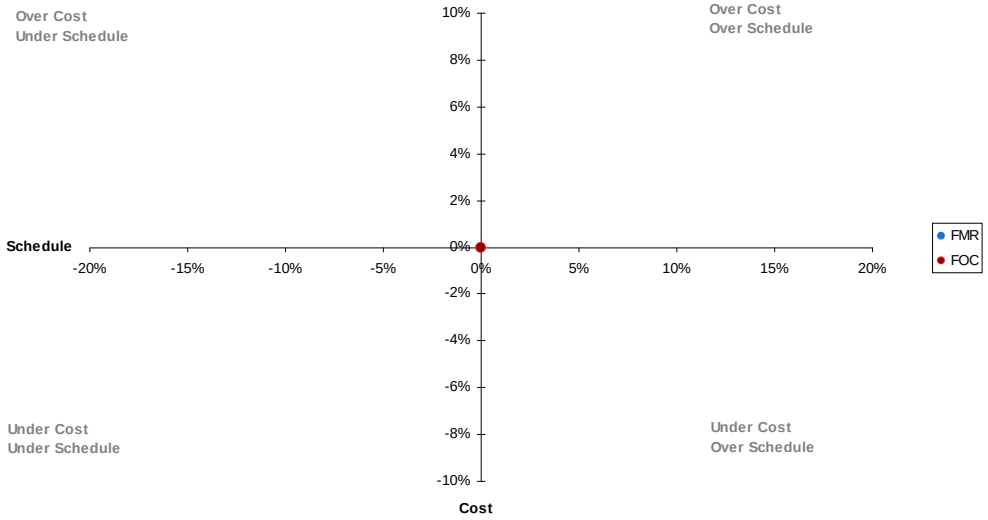
	Production Period 1 occurred.
3	Delays in the acquisition and installation of communications harness equipment (SOTASip) resulted in revised FOC dates for PP1 (Ambulance Variant only) and PP2, as vehicles were being retrofitted before issue to Army.
4	This was due to the restructure of Army under Enhanced Land Force not fully completed and the unavailability of the communications harness. Army have accepted the initial vehicles without the communications capability.
5	Delays in the acquisition and installation of communications harness equipment (SOTASip) resulted in revised FOC dates for PP1 (Ambulance Variant only) and PP2, as vehicles were being retrofitted before issue to Army.
6	DMO no longer tracks multiple IOCs due to a change in policy.
7	This variance was due to clarification of the requirements in reaching FOC. FOC was achieved when the final subset of PP3 vehicles was operationally employed by Army.
8	IOC **was** achieved when the first subset of LAND 116 PP4 vehicles was operationally employed by Army.
9	IOC **was** achieved when the first subset of LAND 116 PP5 vehicles **was** employed by Army.
10	FOC **was** achieved when the final subset of PP4 vehicles **was** operationally employed by Army.
11	Completion of delivery of supplies listed in the Projects MAA at section 4 – Supplies, to the Customer. **Change to original planned date** is due to creation of additional production period.
12	**FOC will be achieved when the final subset of PP5 vehicles will be operationally employed by Army.**

Schedule Status at 30 June 2014



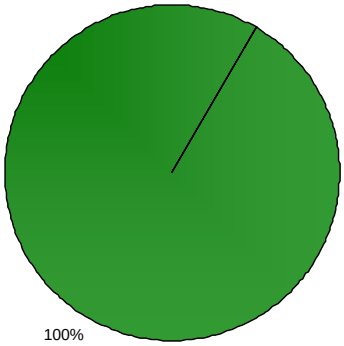
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The Project is currently meeting capability requirements as expressed in the suite of Capability Definition Documentation and in accordance with the requirements of the relevant Technical Regulatory Authorities.
	Amber: N/A
	Red: N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that fitment of the ECA buttons to the PMV will be affected by vehicle availability impacting on the Project's scheduled completion date.	Liaise with Contractor and Army to establish fitment priorities and schedule.
There is a chance that the availability of vehicles will affect the installation of SOTAS to vehicles leading to an impact on schedule.	Conduct additional fitment of SOTAS utilising the support services contract. Critically manage the rollout out SOTAS in accordance with the Capability Managers priorities. **This risk has been retired. All SOTAS systems have been installed.**
There is a chance that funding will not be available in Financial Year 2013-14 to cover any schedule slip in ECA hardware ($3.6m) from Financial Year 2012-13 leading to an impact on schedule and cost.	Liaise with Contractor to closely monitor and control the planned delivery schedule. **This risk has been retired. ECA contract has been established and fully funded for all deliverables to be achieved as scheduled in 2013-14.**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	**N/A**

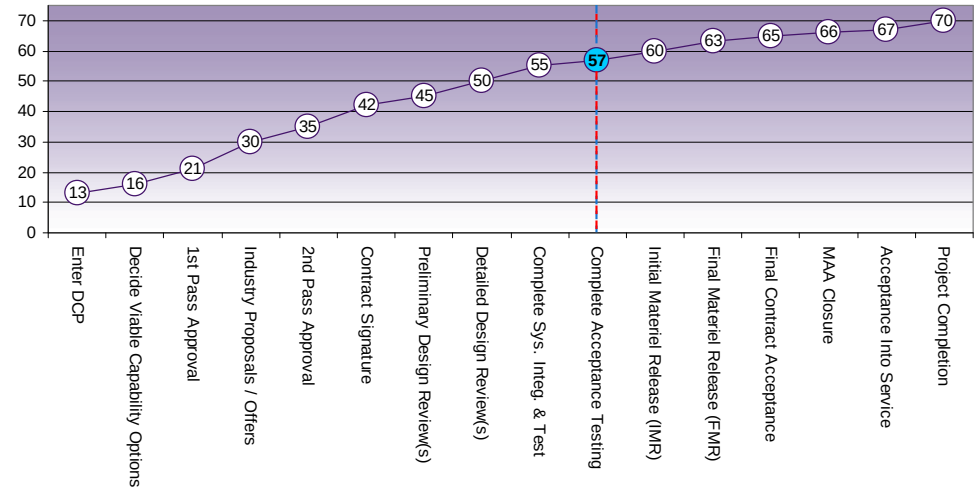
6.2 Major Project Issues

Description	Remedial Action
There is a backlog of engineering changes due to the Commonwealth and Thales reprioritising engineering effort to higher priority operationally focused tasks. This backlog needs to be addressed in order to baseline the PMVs configuration.	The application of a more managed approach and the commitment of additional resources by the Commonwealth and Thales in an effort to reduce the backlog.
Issuing of PMVs to the Army has been impacted by the availability of communications harnesses.	The SOTASip communications harness and headsets are currently being introduced into service. **This issue has been retired. All SOTAS harnesses have been procured and delivered.**
The PMV is not able to be certified for towing as per the value for money guidelines. This has an impact on the PP3 requirement to procure a PMV trailer.	It will be recommended to Government that the trailer and towing requirement be removed from the project scope. **This issue has been retired. Due to the removal of trailers from the project on 8 July 2013, the sustained towing requirement was also removed from the project.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	8	8	8	8	9	8	8	57
Complete Acceptance Testing	Project Status	8	8	8	8	9	8	8	57
	Explanation	The maturity score has not changed as it is now based on PP5 which includes acceptance testing.							



2012-13 DMO MPR Status - - - - 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
In the early planning phases of the project, the operational concept and functional performance requirements were not clearly defined, making it difficult to understand and undertake appropriate cost-capability trade-offs.	Requirements Management
Cost Estimating – there was a lack of industry capability to provide adequate cost estimates and inability by Defence to evaluate the validity of the cost data.	Contract Management
Testing program – significant contingency planning should be conducted for compliance testing of a new capability.	First of Type Equipment

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble **(Acting to Aug 13)** **Mr Colin Thorne (Aug 13–current)**
Division Head	MAJGEN Paul McLachlan
Branch Head	BRIG David Shields **(to Sep 13)** **Mr Robert Lumley (Acting Sep 13 to Mar 14)** **BRIG Cameron Purdey (Mar 14–current)**
Program Director	Mr James Palmer **(to Aug 13)** **Mr Luke Crampton (Acting Aug 13–current)**
Project Manager	Mr Steven Brown

Project Data Summary Sheet[202]

Project Name	**OVERLANDER VEHICLES**
Project Number	**LAND 121 Phase 3A**
First Year Reported in the MPR	2012-13 2009-10 (as Phase 3)
Capability Type	Replacement
Acquisition Type	**Australianised MOTS**
Service	Australian Army
Government 1st Pass Approval	Jun 04 – Phase 3 Aug 11 – Phase 5A Dec 11 – Phase 3A
Government 2nd Pass Approval	Aug 07 – Phase 3 Aug 11 – Phase 5A Dec 11 – Phase 3A
Total Approved Budget (Current)	**$1,020.5m**
2013-14 Budget	**$220.2m**
Project Stage	**Initial Materiel Release**
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

In December 2011, Government approved the splitting of LAND 121 Phase 3 into two projects: LAND 121 Phase 3A – Lightweight and Light Capability (LLC) (incorporating the approved Phase 5A); and LAND 121 Phase 3B – Medium and Heavy Capability (MHC).

LAND 121 Phase 3A will deliver **2,268** lightweight (4x4) and light (6x6) Mercedes-Benz Geländewagen (G-Wagons) and 1,799 matching Haulmark trailers that were intended to be delivered under LAND 121 Phases 3 and 5A. **This quantity includes 122 General Maintenance Vehicles (GMV) being acquired on behalf of LAND 121 Phase 3B**. Phase 3A will replace approximately two thirds of the current Land Rover 4x4 and 6x6 vehicle fleets that have been in service since the mid-1980s (the remainder to be replaced under Phase 4). The new G-Wagons will be used primarily for tactical training, but will also be available to support humanitarian assistance or disaster relief operations, and to help secure Australia's coastline.

1.2 Current Status

Cost Performance

In-year

As at **30 June 2014**, Financial Year **2013-14** expenditure was **$222.4m** against the forecast expenditure of **$220.2m. The end of Financial Year variation of $2.2m over the Latest Plan is mainly due to additional prime contract vehicle and trailer payments.**

Project Financial Assurance Statement

As at 30 June 2014, project LAND 121 Phase 3A has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current financial and contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO

202 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency funds in the financial year.

Schedule Performance

Between July 2012 and June **2016, 2,268** G-Wagons are scheduled to be rolled out to units throughout Australia. The roll-out of 1,799 Haulmark trailers is scheduled to take place between July 2012 and mid-2016.

Following the pre-delivery work conducted under Phase 3, the roll-out began on 2 July 2012 with the delivery of 20 G-Wagons and 18 trailers to the 7th Brigade in Brisbane. The roll-out is proceeding at a rate of around **50** vehicles and 30 trailers per month; as of **30 June 2014**, **1,204** G-Wagons and **802** trailers had been delivered to Australian Defence Force (ADF) units.

The Initial Materiel Release (IMR) milestone **was** achieved **May 2014**. The Final Materiel Release (FMR) milestone **will be impacted due to delay to the Ambulance and Command Post Mobile modules detailed below**.

Materiel Capability Delivery Performance

The Project **expects to meet** capability requirements as expressed in the Materiel Acquisition Agreement (MAA) and in accordance with the requirements of the relevant Technical Regulatory Authorities. As of **30 June 2014** the Contractors have delivered **1,844** production vehicles and **1,269** production trailers to the project.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Project LAND 121 is a multi-phased Project to provide the ADF with the Field Vehicles, Modules and Trailers (FVM&T) and associated support systems to meet ADF mobility requirements including logistic distribution, command and liaison, casualty evacuation, troop lift, and the provision of mobility to specialist assets such as command shelters and communications terminals.

At the time government approved LAND 121 Phase 3 the ADF's FVM&T fleet **consisted** of some 7,300 vehicles and 3,700 trailers acquired progressively from 1959. By 2008, 98% of the current assets had exceeded their life of type. The fleet is increasingly costly to maintain, repair and operate. Furthermore, an increased operational tempo from 1999 has compounded the challenges.

LAND 121 Phase 3 was approved in August 2007 to acquire 1,187 Mercedes-Benz G-Wagons, and 973 matching trailers from Haulmark Trailers (Australia). In August 2011, Government approved the acquisition of an additional 959 G-Wagons and 826 trailers under LAND 121 Phase 5A via the contracts negotiated for Phase 3.

Phase 3 was also intended to acquire medium and heavy FVM&T; however, **the Commonwealth withdrew from negotiations with the preferred tenderer and** a tender resubmission process was initiated in December 2008. In December 2011, Defence announced negotiations **would commence with the preferred tenderers,** Rheinmetall MAN Military Vehicles Australia for the vehicle and module requirements and with Haulmark Trailers Australia for the MHC trailer requirements.

In a related decision at the same time, Government approved the splitting of LAND 121 Phase 3 into two projects: LAND 121 Phase 3A for the LLC approved under Phase 3 and amalgamating this with the additional scope approved under Phase 5A; and LAND 121 Phase 3B to progress the Phase 3 MHC scope elements along with the planned (but unapproved) Phase 5B scope (additional MHC).

This decision effectively closed Phase 3 and amounted combined pass approval for the new Phase 3A and an 'interim pass' approval for the new Phase 3B. The December 2011 approval allowed the continuation of contracted activities toward the LLC acquisition and the ongoing negotiations for the MHC contracts for Phase 3B. Phase 3B was required to seek a supplementary second pass approval following contract negotiations.

The Phase 3A LLC Contract Amendments were executed in January 2012 and Phase 3B achieved **supplementary** second pass approval in July 2013.

Uniqueness

LAND 121 Phase 3A is to roll-out the FVM&T capability to multiple locations throughout Australia. This presents a unique logistic challenge requiring a robust Support System to achieve stated availability requirements at the lowest life cycle cost.

Major Risks and Issues

Integration of Command, Control, Communication, Computer and Intelligence systems.

Defence has confirmed the functional capability required for the Command Post Mobile module, which has alleviated the previous reported risk of affordability issues. Redesign and testing will continue through until mid 2015, with production anticipated to commence in late 2015. There is a residual chance that the LLC Command Post Mobile modules will be affected by complexity of finalising design, manufacture and/or approaching the market.

Air transportability

Defence has successfully validated for all G-Wagon variants (excluding Command Post Mobile, Ambulance and Canine):

- **external lift (under a CH-47 Chinook helicopter); and**
- **internal lift (in a RAAF C-130 Hercules transport), including trailers.**

Validation of the remaining variants, including trailers, will progress in accordance with Defence priorities and platform availability. The residual risk is assessed as low.

Ambulance variant

The Ambulance variant risks, previously reported (climate control system performance and stretcher loading height), have been mitigated. Redesign and testing will continue throughout 2014, with production anticipated to commence in 2015.

Corrosion Protection

There is a chance that through-life support costs of the G-Wagon Family of Vehicles (FoV) will be affected by the requirement to reapply corrosion protection leading to an impact on cost and supportability. Because the vehicle Original Equipment Manufacturer (OEM) has recently advised that the cavity wax needs to be reapplied at 12 months from delivery and the corrosion protection Under Body Sealant (UBS) wax needs constant reapplication from use and wash of vehicle. The DMO is investigating contractual remedies for cavity wax and the technical impact of not reapplying UBS.

Other Current Sub-Projects

LAND 121 Phase 3B will provide the ADF with a range of protected and unprotected medium and heavy vehicles which, along with their matched trailers, will provide payloads of between four and seventy tonnes for a range of logistics functions including vehicle recovery, freight, bulk liquid distribution and personnel carriage.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
LAND 75 Battle Management System	LAND 75 Phase 3.4 will deliver a Battle Management System (BMS) to **approximately** 1,000 vehicles and 1,500 soldiers, enabling increased situational awareness to every Commander in the Battle Group. **The BMS delivered by LAND 75 Phase 3.4 in combination with the combat radio system from JP 2072 Phase 1 is known as the Battle Group and Below Command Control and Communications system (BGC3).**	LAND 121 is dependant on LAND 75 for the **installation** of BMS **kits** into the G-Wagon.
JP 2072 Battlespace Communications	JP 2072 is a multi-phased project to progressively define and acquire an integrated Battlespace Communications System for the ADF's land elements including Army land forces, RAAF air field defence, expeditionary combat support units and Royal Australian Navy landing parties.	LAND 121 Phase 3A is dependant on JP 2072 for the **provision** of radios **to be included into the BGC3 G-Wagon kits**.

LAND 121 Phase 3B Overlander Vehicles (Medium and Heavy Vehicles and Trailers)	**Refer above.**	**LAND 121 Phase 3B is dependant on LAND 121 Phase 3A for the delivery of 122 GMV and matching trailers and 16 Line Laying Modules (to be fitted to extant Phase 3A vehicles).**

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Dec 11	At Original Approval (Phase 3 Project Budget prior to split into 3A and 3B)		3,237.7	1
Jun 12	Exchange Variation		(66.5)	
Jun 12	Budget as at 30 Jun 2012		3,171.2	
Jul 12	Real Variation – Scope	362.7		2
Jul 12	Real Variation – Scope (Transfer of funds to 3B)	(2,549.2)		3
			(2,186.5)	
Jun 14	Exchange Variation		**35.8**	
Jun 14	**Total Budget**		**1,020.5**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Mercedes-Benz Australia/Pacific Pty Ltd (Acquisition)	**(271.5)**		
	Contract Expenditure – Haulmark (Aust) Pty Ltd (Acquisition)	**(37.9)**		
	Contract Expenditure – Mercedes-Benz Australia/Pacific Pty Ltd (Support)	**(3.1)**		
	Contract Expenditure – Haulmark (Aust) Pty Ltd (Support)	**(3.0)**		
	Other Contract Payments / Internal Expenses	**(70.9)**		4
			(386.4)	
FY to Jun 14	Contract Expenditure – Mercedes-Benz Australia/Pacific Pty Ltd (Acquisition)	**(177.1)**		
	Contract Expenditure – Haulmark (Aust) Pty Ltd (Acquisition)	**(21.6)**		
	Contract Expenditure – Haulmark (Aust) Pty Ltd (Support)	**(0.2)**		
	Other Contract Payments / Internal Expenses	**(23.5)**		5
			(222.4)	
Jun 14	**Total Expenditure**		**(608.8)**	
Jun 14	**Remaining Budget**		**411.7**	

Notes	
1	Phase 3 project budget prior to the split into Phase 3A and Phase 3B.
2	Additional scope from LAND 121 Phase 5A.
3	Removal of Medium/Heavy Capability scope to LAND 121 Phase 3B.

4	Other expenditure comprises Phase 3A **Outsourced Services,** Contractors and Consultants (**$14.0m**), Salaries (**$13.8m**), and (**$25.9m)** for other Project Office costs not associated with the prime contracts. Also includes $17.2m for expenditure on Medium and Heavy Capability activities for Phase 3B that could not be recorded as being against Phase 3B due to financial system and reporting constraints.
5	Other expenditure comprises: Outsourced Services (**$4.7m**), **Salaries** (**$3.2m**) and other project office costs not associated with the prime contracts (**$15.6m**).

2.2 In-year Budget Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The end of financial year variation of $2.2m over the Latest Plan is mainly due to additional prime contract vehicle and trailer payments.**
			Overseas Industry	
			Local Industry	
		2.2	Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
220.2	**222.4**	**2.2**	Total Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Mercedes Benz Australia Pacific Pty Ltd	Oct 08	321.8	**608.2**	Variable	ASDEFCON	**1, 2**
Mercedes Benz Australia Pacific Pty Ltd	Oct 08	45.1	**45.6**	Variable	ASDEFCON	**2**
Haulmark Trailers (Australia) Pty Ltd	Apr 10	42.0	**76.3**	Variable	ASDEFCON	**2**
Haulmark Trailers (Australia) Pty Ltd	Apr 10	22.2	**23.0**	Variable	ASDEFCON	**2**

Notes

1	**Note that the Mercedes Benz Australia Pacific Pty Ltd Contract Price at 30 June 2014 above includes $26.6m for GMV commitment. This item is being procured by LAND 121 Phase 3A, on behalf of the LAND 121 Phase 3B project which is funding the GMV, in accordance with the LAND 121 Phase 3B Second Pass Government Approval in July 2013.**
2	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Mercedes Benz Australia Pacific Pty Ltd	1,187	**2,268**	Vehicles with associated modules	**1**
Mercedes Benz Australia Pacific Pty Ltd	N/A	N/A	Support Contract for vehicles and modules	
Haulmark Trailers (Australia) Pty Ltd	979	1,799	Production Trailers	
Haulmark Trailers (Australia) Pty Ltd	N/A	N/A	Support Contract for Trailers	

Major equipment received and quantities to 30 Jun 14

- All design reviews completed under Phase 3.
- Seven of the eight mission system variants (exception being Ambulance) have completed Production Readiness Review.
- 13 prototypes delivered.

- **1,844** production vehicles delivered to the project by the Contractor.
- **1,269** production trailers delivered to the project by the Contractor.

Notes	
1	The quantity figures being communicated publically exclude modules and prototypes. **An additional 122 vehicles are being acquired as GMV on behalf of LAND 121 Phase 3B.**

Section 3 – Schedule Performance

3.1 Design Review Progress

Design reviews were completed under LAND 121 Phase 3.

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Preliminary Design	Trucks	Apr 09	N/A	Jun 09	2	1
	Modules	Mar 09	N/A	Mar 09	0	
	Trailers	Oct 10	N/A	Oct 10	0	
Critical Design	Trucks	Jun 10	N/A	Jun 10	0	
	Modules	Jul 10	N/A	Oct 11	15	2, 3
	Trays and Trailers	Mar 11	N/A	Aug 11	5	2

Notes	
1	Vehicle Preliminary Design occurred as planned from 22 April 2009 to 6 May 2009, however, exit was unable to be granted until 12 June 2009 when the Commonwealth was satisfied with the way ahead for issues identified during the review.
2	Critical Design Review variance was due to a change in specification by the Commonwealth.
3	All work on the Personnel/Cargo Restraint System (PCRS) Module ceased post Critical Design following advice from Capability Development Group (CDG) that removed the requirement for a PCRS Module. CDG recommended the acquisition of 15 additional Modules (Light Cargo) in lieu of the PCRS module. Army Headquarters and Air Force Headquarters concurred with this change.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Test Readiness Review	Module (Light Ambulance, Cab Chassis)	Oct 10	Jan 12	Feb 12	16	1
	All other Vehicle, Module (except Ambulance) and trailer variants had passed under Phase 3	Jul 11	Dec 11	Dec 11	5	2
	Module (Light CPM)	**Feb 15**	**Feb 15**	**Feb 15**	**0**	**4**
Functional Configuration Audit	Module (Light Ambulance, Cab Chassis)	Apr 11	Aug 12	**Feb 15**	**47**	2
	Tray (Light Surveillance and Reconnaissance)	Feb 11	Sep 12	Nov 12	21	2
	All other vehicles and modules completed under Phase 3	Feb 11	Oct 11	Oct 11	8	2
	Module (Light CPM)	**May 15**	**May 15**	**May 15**	**0**	**4**
Acceptance Verification and Validation	Light and Lightweight Trailers completed under Phase 3	Jul-Oct 11	N/A	Jul-Nov 11	1	3
	Module (Light CPM)	**Feb-May 15**	**Feb-May 15**	**Feb-May 15**	**0**	**4**

Notes	
1	Delayed from originally planned first week of January 2012 to February 2012 due to collective availability and conduct of Surveillance and Reconnaissance User Trial in mid to late January 2012.

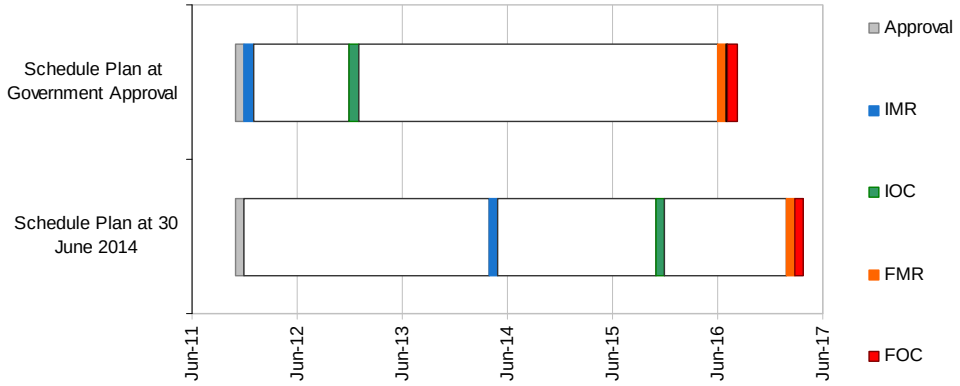
2	Variances are due to specification changes by the Commonwealth.
3	One extra month taken for retesting.
4	**Contractor Test and Evaluation of the CPM was complete in October 2011. This Test and Evaluation phase relates only to Commonwealth re-design and integration.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved / Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Dec 11	**May 14**	**29**	1
Initial Operational Capability (IOC)	Dec 12	Dec 15	36	2
Final Materiel Release (FMR)	May-Jul 16	**Mar 17**	**8**	**3**
Final Operational Capability (FOC)	Mid 16	**Mar 17**	**9**	**3**

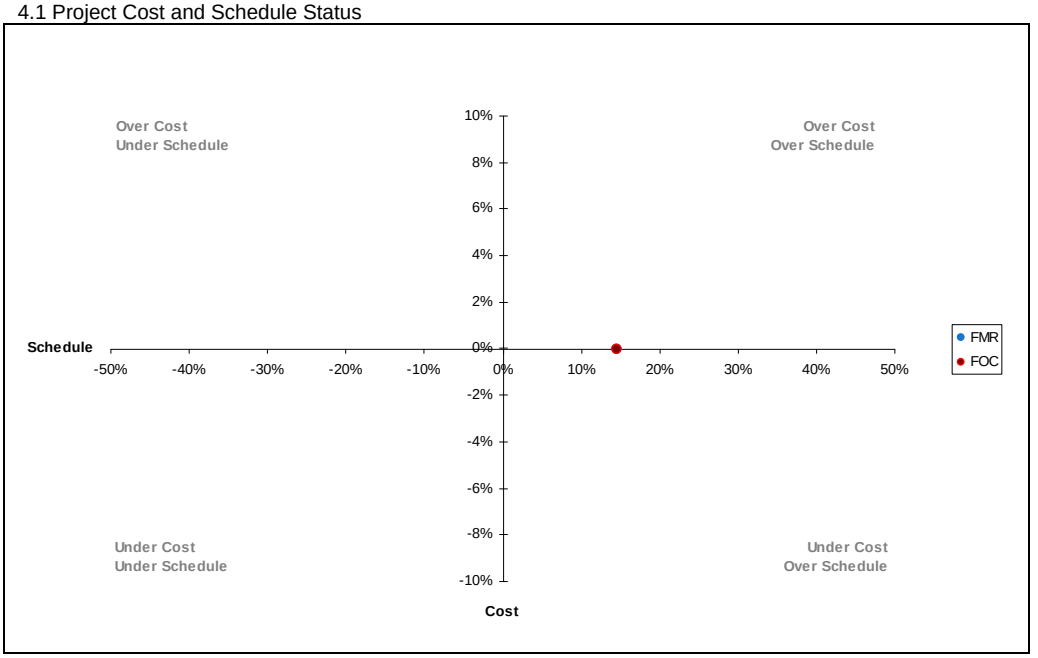
Notes	
1	**December 2011 to June 2012:** Delay to the implementation of the vehicle support system. **July 2012 to May 2014: Delay due to processing of the IMR Report. With Army Headquarters' concurrence the main roll-out of vehicles, modules and trailers commenced in July 2012.**
2	Delays due to the development required for module components.
3	**Variance due to delay imposed by complexity of finalising design and manufacture of the CPM.**

Schedule Status at 30 June 2014



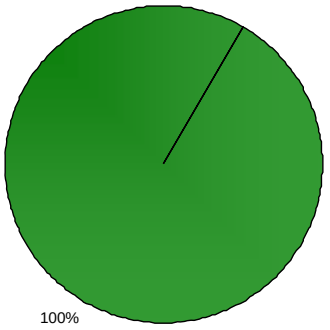
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The Project is currently meeting capability requirements as expressed in the MAA and in accordance with the requirements of the relevant Technical Regulatory Authorities.
	Amber: N/A
	Red: N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessment and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
A number of factors have the potential to impact on the LLC vehicle cost, schedule and capability requirements. These include: • Delivery of **the Ambulance module** according with specifications; • Introduction into Service; • Integration of new capabilities.	The LLC project team continue to work with the relevant stakeholders to initiate methods to minimise the effect and costs of these risks. These methods include: • Constant interface with Army and Joint Logistic Units; • Constant interface with the Prime Contractor; • Involvement of subject matter experts; and • Continual review of risks and issues. **As a result, the risk to deliver the Ambulance module according to specifications has been downgraded to medium, while the Introduction into Service risk has been moved to Section 6.2.**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
There is a chance that through-life support costs of the G-Wagon FoV will be affected by the requirement to reapply corrosion protection leading to an impact on cost and supportability. Because the vehicle OEM has recently advised that the cavity wax needs to be reapplied at 12 months from delivery and the corrosion protection UBS wax needs constant reapplication from use and wash of vehicle.	**The DMO is investigating contractual remedies for cavity wax and the technical impact of not reapplying UBS.**

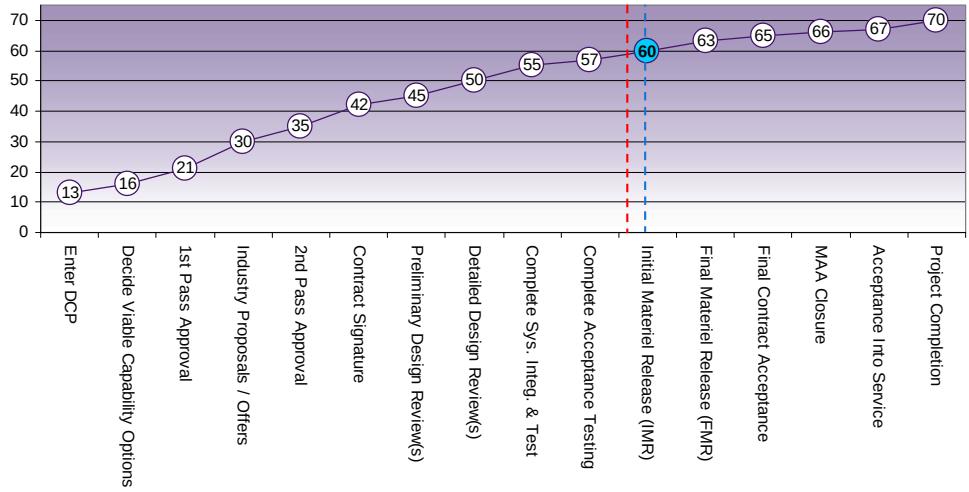
6.2 Major Project Issues

Description	Remedial Action
A number of factors have had an impact on the LLC vehicle cost, schedule and capability requirements. These include: • Maturity of platforms design and outcomes from testing and evaluation; • Delivery of the **Surveillance and Reconnaissance system** according to specifications; and • **An increase to the Introduction into Service cost.**	These issues **are being** managed by the project through the redirection of internal resources and constant interface with the Prime Contractor to deliver an optimised product to the ADF. **As a result the issues regarding maturity of platform design and the Surveillance and Reconnaissance system have been resolved.** **The issue regarding the cost increase for Introduction into Service has been accepted and will be funded, subject to final approval, by access to contingency.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	10	**8**	**8**	**8**	**9**	**8**	9	**60**
Initial Materiel Release	Project Status	**9**	7	**8**	9	8	8	9	**58**
	Explanation	• **Schedule: Due to revised forecast for FMR. IMR has been achieved.** • **Cost:** Cost is tracking within Project Contingency. There are still some risks which are being managed. • **Technical Understanding: Knowledge necessary to operate and support the solution has been transferred.** • **Technical Difficulty:** Verification and Validation and Operation Test and Evaluation has commenced but is not yet complete.							



2012-13 DMO MPR Status - - - - 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
To avoid costly and time consuming Contract Change Proposals, due to requirement variations, it is critical that Defence stakeholders provide clarity in terms of the Operational Concept Document and Functional Performance Specification.	Requirements Management
The time required to negotiate contracts for the LAND 121 project is a significant driver of the schedule.	Contract Management Requirements Management
When the organisation is under pressure to compress schedule so as to hasten the delivery of capability to the war-fighter, key decisions must be taken in light of potential impact on the ability of the project to achieve this aim.	Schedule Management Resourcing
It is important to ensure the early involvement of Army Logistics Training Centre (ALTC) staff in the development of the Training requirement. This includes reviewing the **relevant contract** template and clauses pertaining to training and participation in preliminary meetings to the Initial Training Conference. Suggest preliminary brief by ALTC for them to define their expectations, and 'fit' to contractual requirements.	Resourcing
The effort involved with the vehicle/trailer interface (and any other interface with the prime equipment - eg wheels, required payload, etc) should not be underestimated even for apparently simple equipments. The early formation of interface working groups is important.	Requirements Management
Significant time and effort may be saved if critical items of Support and Test Equipment identified during source evaluation are secured concurrently with the prime system acquisition, when Commonwealth negotiation power is greatest.	**Contract Management**
Strategic Relationship Boards, or similar forums for senior management of the Commonwealth and the Prime Contractor to meet on a regular basis, are useful mechanisms that should be seriously considered across other major projects. Pitched at Director General and Managing Director level, these board meetings have real potential to resolve issues in a more timely and effective way than contract level discussions, particularly in the in-contract management phase.	**Contract Management**

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble **(Acting to Aug 13)** **Mr Colin Thorne (Aug 13–current)**
Division Head	MAJGEN Paul McLachlan
Branch Head	BRIG Nagy Sorial **(to May 14)** **BRIG Haydn Kohl (Jun 14–current)**
Project Director	Mr Ken Butler
Project Manager	**Mr Geoff Fallon (Acting)**

Project Data Summary Sheet[203]

Project Name	**NEXT GENERATION SATCOM CAPABILITY**
Project Number	**JP 2008 Phase 4**
First Year Reported in the MPR	2009-10
Capability Type	New
Acquisition Type	**MOTS**
Service	Joint Services
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Sep 07
Total Approved Budget (Current)	**$869.3m**
2013-14 budget	**$39.5m**
Project Stage	**Final Materiel Release**
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

The JP 2008 Phase 4 project seeks to deliver high priority components of the next generation (NEXTGEN) satellite communication (SATCOM) system that will support the Australian Defence Force (ADF) from 2008 onwards. The NEXTGEN SATCOM system will introduce a flexible and sustainable SATCOM capability that supports a network centric ADF operating independently or as part of a coalition.

1.2 Current Status

Cost Performance

In-year

The end of financial year variation of $16.9m is primarily due to an underspend against Foreign Industry and realised cost savings under the Wideband Global SATCOM (WGS) program and multiple planned activities being moved to Financial Year 2014-15.

Project Financial Assurance Statement

As at 30 June 2014, project JP 2008 Phase 4 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

The milestones achieved so far include: WGS System Service Initial Operational Capability (IOC); Interim

203 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Anchor Capability (backhaul); Situational Awareness Tools & Infrastructure training; and WGS Training for ADF personnel. The Interim Anchoring System (IAS) has achieved Materiel Release (MR) 3 and 4, and has been fully operational as of December 2012. May 2013 saw the successful launch of WGS5 **which subsequently became operational in December 2013. WGS6 successfully launched in August 2013 and became operational in February 2014. FMR was achieved June 2014.** No change is anticipated to the Project Completion Date.

Materiel Capability Delivery Performance

The **six WGS** satellites are meeting their operational requirements. **The** placement of Australian equipment in US satellite anchor stations (offshore anchoring) situated in Hawaii and Landstuhl (Germany) **complements Australian based anchoring established under other JP 2008 projects. The Australian onshore and offshore anchoring systems are** currently in operational use.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

In 2007 the Australian Government considered a range of options to deliver a wideband satellite communications capability for the ADF. The US had an approved program for a five wideband satellite constellation, and in early 2007 offered the Commonwealth the opportunity of partnering in the program on the basis that the Commonwealth would fund the production of a sixth WGS satellite in return for a share of the services provided by the expanded constellation of six WGS Satellites (which is approximately 10 per cent of the overall program).

Negotiations of the WGS Memorandum of Understanding (MOU) between the Commonwealth and the US Government began in March 2007, and in September 2007 the JP 2008 Phase 4 project received combined First and Second Pass Government Approval for the procurement of the ADF's NEXTGEN SATCOM capability.

The WGS MOU was signed in November 2007 at the Australian Embassy in Washington DC enabling the US Government to exercise the contract option for WGS6 on 1 December 2007.

WGS1 with a footprint over the Pacific Ocean and Australia has been operational since early 2008, with progressive launches culminating with the sixth satellite (WGS6) becoming operational in **2014**.

Outside the MOU, the project **has delivered** interim anchoring capability **through a contract with The Bridge Network (TBN)** to provide access to the WGS satellite constellation from Australia's eastern and western seaboards. This **was** achieved through the delivery of ground stations in Western Australia and at HMAS Harman in the Australian Capital Territory. Complementing the onshore anchoring capability is an offshore anchoring capability that is operational in Hawaii and Germany.

The project is also managing the provision of training of ADF personnel to operate the WGS system through a Foreign Military Sales (FMS) Case with the US Government to enable ADF personnel to operate the WGS system as part of the integrated US Wideband Satellite Communications Operations Centres (WSOC).

Uniqueness

The uniqueness of this project in the main relates to the acquisition strategy that governs the ADF's access to this satellite communications technology.

The WGS space segment component of the project will be delivered by the Commonwealth's participation in the US WGS program under a dependable undertaking. Under this arrangement the US Government will manage the contract with Boeing for all satellite production including WGS6, which is being funded by Australia. The acquisition of the WGS constellation is governed by two contracts, Block I for satellites WGS1, WGS2 and WGS3, and Block II for satellites WGS4, WGS5 and WGS6.

Although the agreement with the US Government is through a joint production operations and support MOU, none of the WGS satellites and associated supplies will be owned by the Commonwealth. **Under the terms of the MOU, the Commonwealth has no legal relationship with the satellite provider (Boeing), and receives only limited insight into the program constrained by pre-existing commercial terms within the MOU and International Traffic in Arms Regulations**. Nevertheless, benefits of this capability are realised through access to a six satellite constellation and the embedding of ADF personnel within the WSOC, which in effect allows the ADF to gain further WGS operational knowledge and realise the full capability potential of the WGS system.

The steady-state provision of services **are occurring now that WGS1-6 are** operational under the existing MOU.

The MOU agreement between the Commonwealth and US Government invokes the 'Exchange of Notes constituting an Agreement between the Government of the United States of America and the Government of Australia Concerning Certain Mutual Defence Commitments' (known as the Chapeau Defence Agreement) concerning liability and use and disclosure of information.

Major Risks and Issues

As the project is nearing completion there are no major risks or issues outstanding.

Other Current Sub-Projects

JP 2008 Ph 3F ADF SATCOM Terrestrial Enhancements: This project will provide the mature Australian western seaboard anchoring capability for the WGS constellation.

JP 2008 Ph 5A Indian Ocean Region UHF SATCOM: This project will provide the ADF with twenty 25kHz UHF SATCOM channels on an Intelsat satellite to provide coverage of the Indian Ocean Region.

JP 2008 Phase 3E Advanced SATCOM Terrestrial Infrastructure System: This project provides the supporting ground infrastructure for Satellite Communications including UHF, X and Ka band communication services

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Sep 07	Original Approved		884.9	
Jul 10	Price Indexation		132.4	1
Jun 14	Exchange Variation		**(148.0)**	
Jun 14	**Total Budget**		**869.3**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – WGS MOU	**(502.4)**		**2**
	Contract Expenditure – TBN	**(9.6)**		**3**
	Other Contract Payments / Internal Expenses	**(30.9)**		4
			(542.9)	
FY to Jun 14	Contract Expenditure – WGS MOU	**(19.1)**		
	Contract Expenditure – TBN	**(0.8)**		
	Other Contract Payments / Internal Expenses	**(2.7)**		4
			(22.6)	
Jun 14	**Total Expenditure**		**(565.5)**	
Jun 14	**Remaining Budget**		**303.8**	

Notes	
1	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $107.3m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $25.1m having been applied to the remaining life of the project.

2	**With the classification of WGS as a Financial Lease, all costs that are incurred as part of the MOU need to form part of the lease value. Due to this, amounts that are a direct result of the MOU of $0.5m have been moved from Other Contract Payments / Internal Expenses to the WGS MOU expenditure.**
3	**The previous contract expenditure for TBN to 30 June 2013 has been revised downward by $3.3m due to advice during Financial Year 2013-14 that ad-hoc provisions do not form part of the contract value, and the ad-hoc amount has been added to Other Contract Payments / Internal Expenses.**
4	Other expenditure comprises: operating expenditure, other minor capital expenditure not attributable to the aforementioned top two contracts and minor contract expenditure **such as Engineering and Logistics Support of $0.5m, and Operations and Maintenance Support of $0.4m**.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Phase 4 has underspent due to a delay in billing by the USA and realised cost savings in production under the WGS Program. The remaining underspend relates to activities that have been moved to Financial Year 2014-15 including WGS Integration, engineering outsourced services, certification campaign support and Embedded Workforce and Operating Expenses that could not be expended.**
		(1.4)	Overseas Industry	
			Local Industry	
			Brought Forward	
		(13.9)	Cost Savings	
			FOREX Variation	
		(1.6)	Commonwealth Delays	
39.5	**22.6**	**(16.9)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government	Nov 07	866.2	**798.1**	Firm	MOU Agreement	**1, 3**
The Bridge Network	Nov 08	11.2	**16.3**	Firm	ASDEFCON (Complex)	**2, 3**

Notes

1	**The WGS MOU contract contains sustainment funding capped at an amount of $102.0m (USD) which is covered under the Materiel Sustainment Agreement and not related to the activities of JP 2008 Phase 4. The MOU will move to full sustainment on 1 July 2014.**
2	**The TBN contract includes $10.4m acquisition and $5.9m sustainment.**
3	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government	1	1	WGS6	**1**
The Bridge Network	2	2	Ground Station	**2**

Major equipment received and quantities to 30 Jun 13

Six WGS satellites **have** successfully launched and **are** in operation.

Notes

1	The MOU will provide access to a constellation of six satellites; however, Australia's contribution is limited to funding the production of WGS6 and associated supplies.
2	The quantity of two Ground Stations comprises single separate ground stations on the eastern and western seaboard.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Design	WGS6 and WGS Constellation	N/A	N/A	N/A	N/A	1
Mission System	Interim Anchoring Mission System Review	Dec 08	N/A	Nov 09	11	2

Notes	
1	The MOU construct does not provide the project with insight into the design review process or design data. A Monthly Status Report is provided to the Commonwealth detailing only summary high level progress status.
2	The Interim Anchoring Mission System Review (MSR) delay was attributed to the unfamiliarity of the contractor with Defence contract requirements in relation to documentation and process. Through a contracted requirement, the Contractor experienced difficulties in meeting the quality requirements of the contract resulting in a requirement for re-work to be performed by the contractor. MSR was essentially a combined Preliminary Design Review, System Requirement Review and Critical Design Review that was expected to span three days.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
US Government Acceptance	WGS6	Nov 13	N/A	**Dec 13**	**1**	**1**
System Integration	WGS6	Sep 11	N/A	Sep 11	0	
Test Readiness Review	IAS – East	Jul 09	N/A	Jun 11	23	2
	IAS – West	Jul 09	N/A	Mar 10	8	2
Acceptance	IAS – East	Sep 09	N/A	Dec 12	39	3, 4
	IAS – West	Sep 09	N/A	Aug 10	11	5

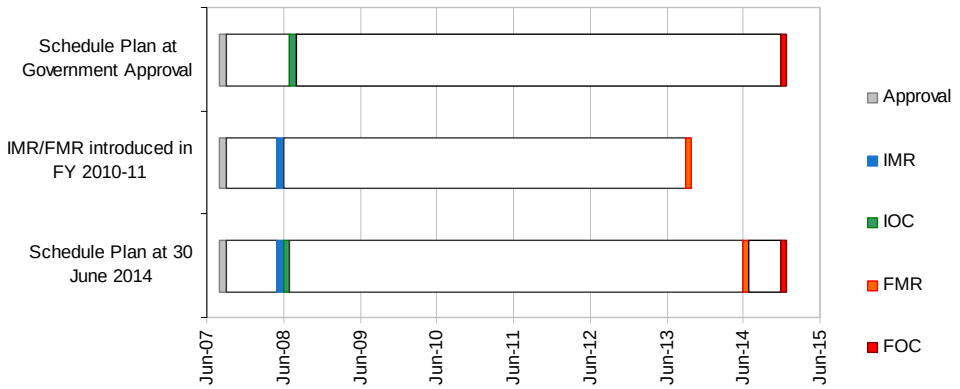
Notes	
1	**A delay to the launch and acceptance of WGS5 caused a flow on effect to the US Government launch and acceptance of WGS6.**
2	Test Readiness Review (TRR) and Acceptance milestones for the IAS slipped. This was primarily due to the determination that the configuration of both Anchor Stations was sufficiently different to warrant a secondary certification event for IAS – East. The achievement of IAS – East TRR involved a more extensive and demanding level of engineering process than originally anticipated by the project office and required modification of the Interim Anchoring contract to reflect increases in test scope.
3	Delays to IAS – East Acceptance occurred initially to delays in WGS certification and Engineering Change Proposal (ECP). This was then compounded by Commonwealths delay due to engineering workforce issues. Further to this there were delays in activating a maintenance support contractor in the East.
4	Acceptance of IAS – East required ECP approval and subsequent contractor work was rebaselined in March 2012. IAS-East achieved material release and is fully operational.
5	IAS – West Acceptance occurred 11 months beyond the original planned date because the Acceptance Test Report was late due to delays associated with the issue of the WGS Certification, letter of certification and report. Several contractor generated reiterations required prior to Verification Cross Reference Matrix and Acceptance Test Report acceptance, were also delayed.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
WGS – Initial Materiel Release (IMR)	N/A	Jun 08	N/A	
WGS Service Initial Operational Capability (IOC)	Aug 08	Jun 08	(2)	1
MR2 – Hawaii & Germany offshore/Backhaul Anchoring Stations released to Chief Information Officer Group for operational use	Nov 09	Nov 09	0	
MR3 – AUST IAS-West	Nov 10	Nov 10	0	
MR4 – AUST IAS-East	Apr 11 – Jun 11	Dec 12	18	2
MR5 – Activation of 104E Slot	Mar 12 – May 12	Jul 12	2	3
Final Materiel Release (FMR) US Airforce acceptance of WGS6	Jul 13 – Sep 13	**Jun 14**	**9**	**4**
Final Operational Capability (FOC) Operational acceptance of WGS6	Oct 14 – Dec 14	Dec 14	0	

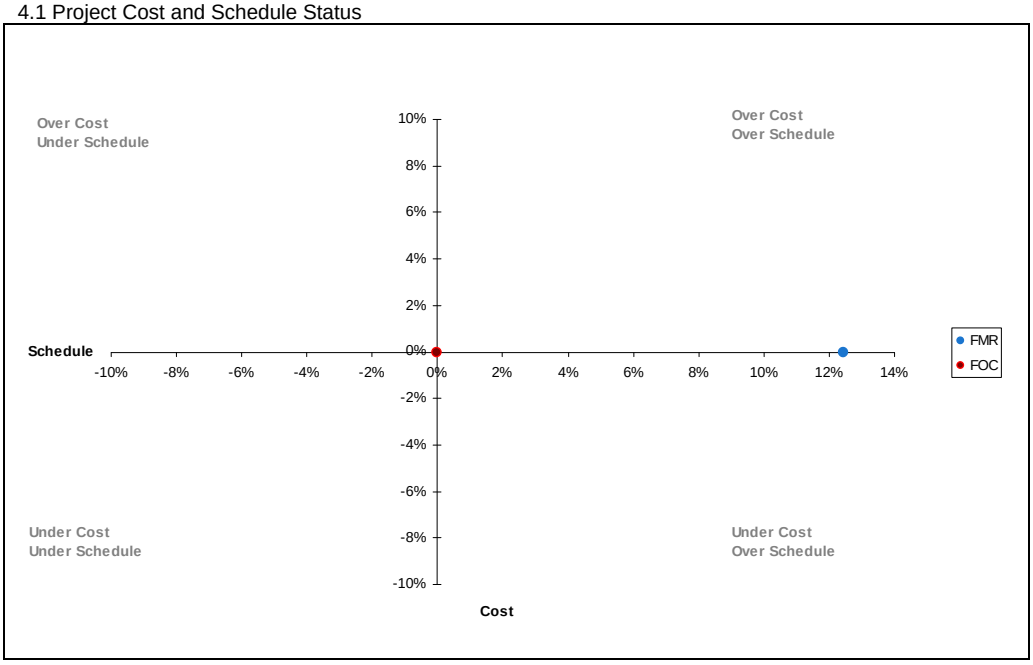
Notes	
1	Achieved ahead of schedule upon activation of WGS1.
2	Delays to IAS – East acceptance have occurred due initially to delays in WGS certification and ECPs, this was then compounded by Commonwealths delay due to engineering workforce issues. Further to this there have been delays in activating a maintenance support contractor in the East. Combined MR 3 and 4 achieved in December 2012 and system has been released and is operational.
3	WGS4 Activated East Indian Ocean Region slot as advised by US.
4	**Variance occurred due to delay in WGS 6 launch, operational release and internal process delays.**

Schedule Status at 30 June 2014



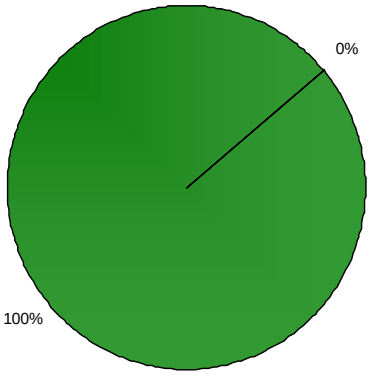
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** Technical performance of WGS **1**-6 is tracking well against the US Government's program. The **Interim and** Offshore anchoring **systems are fully operational** and delivering capability to the ADF. **FMR was achieved in June 2014.** **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
N/A	N/A
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

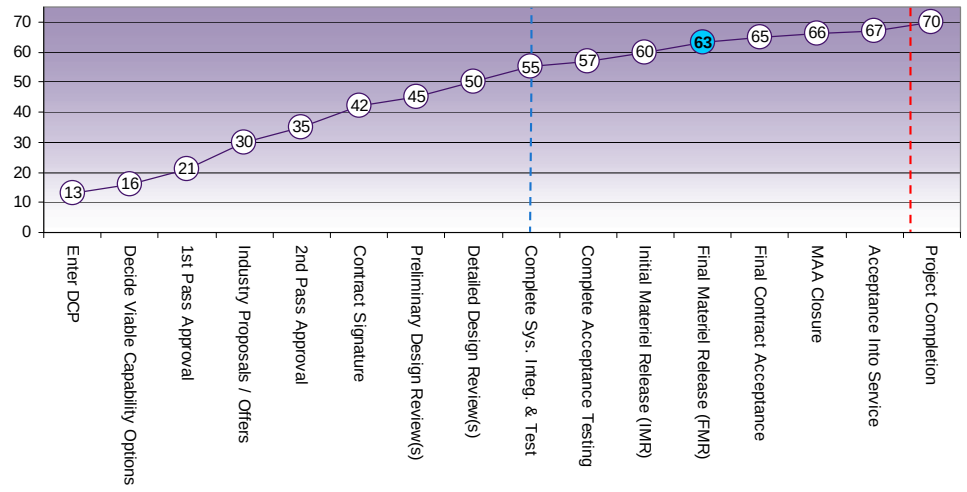
6.2 Major Project Issues

Description	Remedial Action
N/A	**N/A**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	**10**	**9**	9	9	**9**	8	**9**	**63**
Final Materiel Release	Project Status	**10**	**10**	**10**	**10**	**10**	**10**	**9**	**69**
	Explanation	• **Cost, Requirement, Technical Understanding, Technical Difficulty, and Commercial: Project will move to full sustainment on 1 July 2014.**							



2012-13 DMO MPR Status - - - - 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
The DMO needs to work closely with Australian Small to Medium Enterprise (SME) companies to ensure the SME resourcing effort and engineering demands in executing Defence contracts is not underestimated.	Resourcing
Considerable acceleration of the acquisition cycle for the WGS program **necessitated** a strengthening of the governance process to ensure lines of authority and responsibility **were** clear in the definition of business need and option analysis.	Governance
Participation in face to face financial working groups bi-annually resulted in significant financial savings under the WGS MOU. The cost associated with overseas travel **was** far outweighed by the financial savings and clarity of financial projections.	**Contract Management**

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward
Branch Head	Mr Ivan Zlabur **(to Oct 13)** **Ms Myra Sefton (Oct 13–current)**
Project Director	Mr Greg McKinnon
Project Manager	**Mr Peter Concannon**

Project Data Summary Sheet[204]

Project Name	**ANZAC ANTI-SHIP MISSILE DEFENCE**
Project Number	**SEA 1448 Phase 2B**
First Year Reported in the MPR	2009-10
Capability Type	Upgrade
Acquisition Type	**Developmental**
Service	Royal Australian Navy
Government 1st Pass Approval	Nov 03
Government 2nd Pass Approval	Sep 05
Total Approved Budget (Current)	**$678.4m**
2013-14 Budget	**$71.6m**
Project Stage	**Initial Materiel Release**
Complexity	ACAT I

Section 1 – Project Summary

1.1 Project Description

The Anti-Ship Missile Defence (ASMD) upgrade SEA 1448 Phase 2 project will provide the ANZAC Class Frigates with an enhanced level of self-defence against modern anti-ship missiles.

There are two sub-phases of SEA 1448 Phase 2. Phase 2B of the ASMD Project, will introduce an indigenous, leading edge technology, phased array radar (CEAFAR) and missile illuminator (CEAMOUNT) collectively referred to as the Phased Array Radar (PAR) System. The PAR System delivers enhanced target detection and tracking that allows Evolved Sea Sparrow Missiles to engage multiple targets simultaneously. A new dual ship-set I-Band Navigation radar will coincidentally be provided under this Phase to replace the navigation function performed by the Target Indication Radar, at the same time replacing the obsolescent Krupp Atlas 9600.

1.2 Current Status

This Project **had** been a Project of Concern since June 2008, but was removed in November 2011 as part of the Real Cost Increase (RCI) decision made by Government in November 2011.

Cost Performance

In-year

Current in year performance indicates **spending is in line with budget; with a minor** underspend of **$0.8m.**

Project Financial Assurance Statement

As at 30 June 2014, project SEA 1448 Phase 2B has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual

204 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

Based on the revised acquisition strategy approved by Government in July 2009, the systems being delivered in Phase 2B are currently on schedule. With the RCI for Phase 2B approved for the follow on ships 2-8 in November 2011, there is **now** a 55 month variance to the original approvals for this phase of the project. During **2013-14**, schedule has continued to be maintained, with recent activities including the successful completion of Stage 2 **Operational Testing & Evaluation (OT&E)** on HMAS *Perth*. The second ship to undergo the ASMD upgrade, **HMAS *Arunta*, has completed the ASMD upgrade, with Materiel Release (MR) scheduled for October 2014**. **The third ship to undergo the ASMD upgrade, HMAS *ANZAC* is also progressing on schedule, as is the fourth ship HMAS *Warramunga*. All documentation to support IOC has been delivered to Navy.**

Materiel Capability Delivery Performance

Initial Materiel Release (IMR) was claimed for Stage 1 Capability on HMAS *Perth* on 24 June 2011. The Chief of Navy formally provided Initial Operational Release (IOR) for ASMD upgrade capability delivered to HMAS *Perth* and its associated support systems in 16 August 2011. The Project **has now completed OT&E for the final Stage 2 capability. IOC is anticipated in third quarter of 2014.**

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The need for an ASMD capability in the Royal Australian Navy's (RAN) surface fleet was first foreshadowed in the 2000 Defence White Paper.

SEA 1448 Phase 2B is the final Phase of the ANZAC ASMD Program, where the addition to the Class of the phased array radar technology is being undertaken by the Australian Company CEA Technologies and the overall integration into the ANZAC Class is being performed by the ANZAC Alliance (Commonwealth plus BAE Systems (previously Tenix) and Saab Systems).

SEA 1448 Phase 2B was approved by Government in September 2005. SEA 1448 Phases 2A (the initial phase of the ASMD Project which is procuring the combat management system hardware and the infra-red search and track capability) and 2B are being managed as a confederated ASMD Project due to their common systems engineering disciplines, schedules and risks. Due to its leading edge and developmental technology, Phase 2B, **was considered to be** a high risk phase. Originally planned for installation into all eight ANZAC Class ships under a single contract, a further review in 2007 of the technical risks associated with the introduction of the leading edge radar led Government in August 2009 to revise the acquisition strategy to a single ship installation. This strategy allows the project to prove this capability at sea before seeking Government approval to commence installation into subsequent ships. The lead ship, HMAS *Perth,* successfully underwent acceptance testing between October 2010 and June 2011 with the Chief of Navy accepting IOR in August 2011.

Uniqueness

The phased array radar component of the ASMD Project is highly developmental and has not previously been fielded in this form before, although the system components are fourth generation derivatives of fielded CEA systems. The RAN is the first to operate a ship with the Australian designed and manufactured CEA Technologies low power active PAR System.

Major Risks and Issues

The major risks and issues for SEA 1448 Phase 2B **are**:

- Integration of highly technical systems within a single ship platform.
- Managing additional engineering changes required to be incorporated into the platform during an ASMD upgrade period.
- **With multiple ships now in the ASMD program, managing the demands of competing resources across complex activities.**

Other Current Sub-Projects

SEA 1448 Phase 2A – This initial phase of the ASMD Project is to upgrade all eight of the ANZAC Class Ship's existing ANZAC Class Combat Management Systems (CMS) and fire control systems, and install an Infra-Red Search and Track (IRST) System which will provide improved detection of low level aircraft and anti-ship missiles when the ship is close to land.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
SEA 1448 Phase 2A	**Anti-Ship Missile Defence**	**Refer above**

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Sep 05	Original Approved		248.8	
Mar 06	Real Variation – Transfers	155.4		1
May 06	Real Variation – Transfers	(6.7)		2
Nov 11	Real Variation – Scope	214.7		3
			363.4	
Jul 10	Price Indexation		76.1	4
Jun 14	Exchange Variation		**(9.9)**	
Jun 14	**Total Budget**		**678.4**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – CEA Technologies (PAR Production)	**(141.0)**		5
	Contract Expenditure – SAAB Systems Pty Ltd	**(75.7)**		**6**
	Contract Expenditure – CEA Technologies (P3 Contract)	**(57.6)**		**6,** 7
	Contract Expenditure – BAE Systems Australia (First of Class)	**(60.4)**		**6**
	Contract Expenditure – BAE Systems Australia (Follow On (FON))	**(25.8)**		**6**
	Contract Expenditure – ICWI Membership	**(15.9)**		
	Other Contract Payments / Internal Expenses	**(28.8)**		**6,** 8
			(405.2)	
FY to Jun 14	Contract Expenditure – BAE Systems Australia (Follow On (FON))	**(40.9)**		
	Contract Expenditure – CEA Technologies (PAR Production)	**(15.7)**		5
	Contract Expenditure – ICWI Membership	**(3.8)**		
	Contract Expenditure – SAAB Systems Pty Ltd	**(1.9)**		
	Contract Expenditure – BAE Systems Australia (First of Class)	**(0.4)**		
	Other Contract Payments / Internal Expenses	**(8.1)**		**9**
			(70.8)	
Jun 14	**Total Expenditure**		**(476.0)**	
Jun 14	**Remaining Budget**		**202.4**	

Notes	
1	$155.4m transferred from SEA 1448 Phase 2A after Government agreed that initial Very Short Range Air Defence (VSRAD) was to be replaced with the PAR System from CEA.
2	Transfer to DSTO (Maritime Operations Division) for phased array radar risk mitigation activities in line with original Government approval in September 2005.

3	RCI of $214.7m approved for the follow on ships 2-8 in November 2011.
4	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $71m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $5.1m having been applied to the remaining life of the project.
5	This is the production contract for the delivery of the first PAR System into HMAS *Perth* (lead ship). Following the approval of an RCI in November 2011, options were exercised to increase the scope to the remaining seven ships and spare system. In order to manage acquisition obsolescence of phased array radar components and retention of the strategic workforce related to the phased array radar, this contract also included forward component buys.
6	**The amounts for each contract differ slightly from prior year due to a re-validation of Life To Date expenditure between Phase 2A, Phase 2B and sustainment funding streams.**
7	(P3 = Preliminary Phased Array Radar Program); This contract was officially closed in April 2010 and was aimed at development and initial production of the first PAR System.
8	Other expenditure comprises: operating expenditure, short term contractors, consultants and other capital expenditure not attributable to the aforementioned top five contracts and minor contract expenditure.
9	**Other expenditure comprises: $7.4m for Supersonic Targets used for testing and $0.7m for other minor contract expenditure.**

2.2 In-year Budget/Estimate Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Spend for this financial year has equated to an underspend of $0.8m; this is primarily a result of complex material management.**
			Overseas Industry	
		(0.8)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
71.6	**70.8**	**(0.8)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
BAE Systems Australia (First of Class)	Jul 05	2.1	**61.9**	Variable	Alliance	**1, 2**
SAAB Systems Pty Ltd	Jul 05	3.1	**77.7**	Variable	Alliance	**1, 2**
CEA Technologies P3 Contract	Dec 05	8.9	**57.6**	Variable	ASDEFCON	**1, 2**
CEA Technologies PAR Production Contact	Dec 08	16.0	**184.5**	Variable	ASDEFCON	**1, 2**
BAE Systems Australia (FON)	Jan 12	164.9	**162.0**	Variable	Alliance	**1, 2**

Notes	
1	**The amounts for each contract differ slightly from prior year due to a re-validation of contract values between Phase 2A, Phase 2B and sustainment funding streams.**

2	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
BAE Systems Australia	0	2	Research and Development and Ship 1 system	
SAAB Systems Pty Ltd	0	2	Research and Development and Ship 1 system.	
CEA Technologies P3 Contract	1	2	Phased array radar developmental systems	1
CEA Technologies PAR Production Contact	1	9	PAR Systems for Ship 1 - 8 and spare system	2
BAE Systems Australia	7	7	Ships 2-8 Installation	

Major equipment received and quantities to 30 Jun 14

Equipment has been delivered into store and is being appropriately maintained until required by Phase 2B for its installation. Installation has been completed for First Of Class ship, HMAS *Perth*, **and HMAS Arunta**. **Equipment continues to be installed on HMAS *ANZAC* and HMAS *Warramunga***.

Notes

1	(P3 = Preliminary Phased Array Radar Program); This contract was officially closed in April 2010 and was aimed at development and initial production of the first PAR System.
2	This is the production contract for the delivery of the first PAR System into HMAS *Perth* (lead ship). Following the approval of an RCI in November 2011, options were exercised to increase the scope to the remaining seven ships and spare system. In order to manage acquisition obsolescence of phased array radar components and retention of the strategic workforce related to the phased array radar, this contract also included forward component buys.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	Mk3E Combat Management System/Phased Array Radar – Stage 1 (Requirements Review)	Mar 06	N/A	May 06	2	1
	Mk3E Combat Management System – Stage 2 (Requirements Review)	N/A	N/A	Aug 09	N/A	1
	Mk3E Combat Management System/Phased Array Radar – Stage 1 (Functional Review)	Jun 06	N/A	Aug 06	2	1
Preliminary Design	Mk3E Combat Management System/Phased Array Radar Preliminary Design Review	Dec 06	N/A	Aug 07	8	1
	ASMD Shore Facilities (HMAS *Stirling*)	N/A	N/A	Aug 08	N/A	
Critical Design	Mk3E Combat Management System (Phased Array Radar integration) - Stage 1 Critical Design Review – Part 2	Dec 07	N/A	Aug 08	8	1
	Mk3E Combat Management System - Stage 2 Critical Design Review	Nov 10	Sep 11	Sep 11	10	2
	ASMD Shore Facilities (HMAS *Stirling*)	N/A	N/A	Dec 08	N/A	
	Phased Array Radar	Oct 07	N/A	Oct 07	0	

Notes	
1	Variance in design reviews is directly related to the change of acquisition strategy (movement from an eight ship program to a single ship program) or delay in initial contract award for phased array radar system.
2	Variance in Stage 2 Critical Design Review (CDR) date was as a result of delays in finalising Defence's requirements in the Software update. This was completed in April 2011 with CDR appropriately rescheduled. There is no impact to final Stage 2 software release date.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Test Readiness Review	HMAS *Perth* with upgraded ASMD System (Mk3E Combat Management System/Phased Array Radar System/Navigation Radar System - Harbour Phase)	Dec 08	Aug 10	Aug 10	20	1
Acceptance (Initial Operational Capability)	HMAS *Perth* with upgraded ASMD System (Mk3E Combat Management System/Navigation Radar System)	Dec 09	Nov 13	**Sep 14**	**57**	2

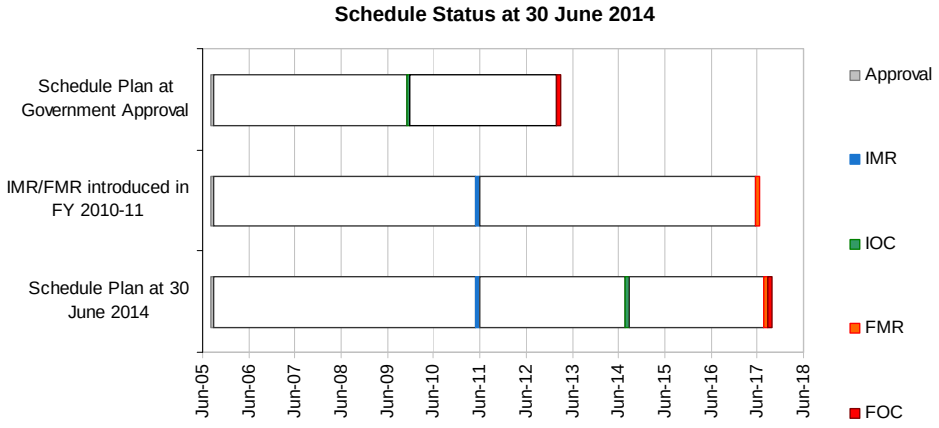
Notes	
1	Variance in both the test readiness review and acceptance of the first upgraded ASMD ship is directly related to the change of acquisition strategy and movement from an eight ship program to a single ship program.

2	Initially the variance in the acceptance of the first upgraded ASMD ship **was** directly related to the change of acquisition strategy and movement from an eight ship program to a single ship program. As part of the RCI process it was agreed by Navy, Capability Development Group and DMO to move Initial Operational Capability (IOC) until after PAR had been proven against Supersonic Targets. **IOC documentation has been submitted to Navy and is currently under review by regulators.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

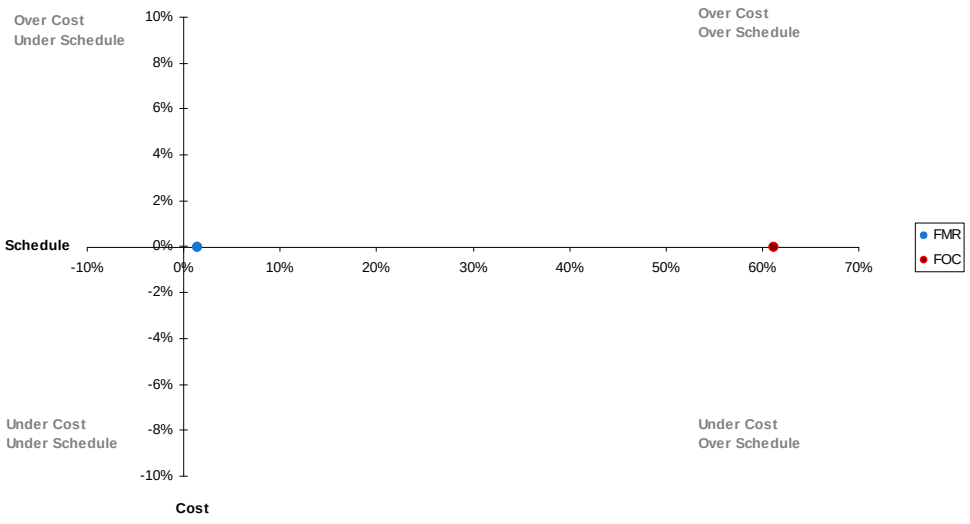
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Jun 11	N/A	1
Initial Operational Capability (IOC)	Dec 09	**Sep 14**	**57**	2
Final Materiel Release (FMR)	Jul 17	Sep 17	2	3
Final Operational Capability (FOC)	Mar 13	Oct 17	55	4

Notes	
1	N/A
2	Variance is directly linked to updated Materiel Acquisition Agreement which moved IOC until after PAR System had been proven against Supersonic Targets. **All IOC documentation has been submitted to Navy for processing.**
3	Variance is due to approval of ships 2-8 by Government.
4	Variance is directly linked to the change of acquisition strategy - movement from a one plus seven ship program to an eight ship program.



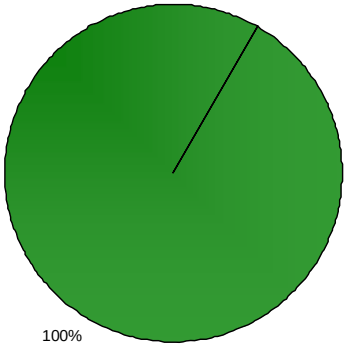
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** Based on lead ship (HMAS *Perth*) **achieving** IOR in August 2011 **and the successful completion of OT&E in August 2013,** the Project is meeting capability requirements as expressed in the suite of Capability Definition Documentation and in accordance with the requirements of the relevant Technical Regulatory Authorities. **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that the phased array radar will not meet the required functional performance specifications and its integration complexity into the upgraded ANZAC Combat Management System may be underestimated.	Project has developed a Confidence Level Demonstration Program that has been actively demonstrating the functional performance of the phased array radar since November 2007 utilising a land based test site that has been established at the CEA premises (Fyshwick, ACT). These tests continue to provide evidence that the PAR System is meeting the expected functional performance specifications and is able to integrate with the upgraded ANZAC Combat Management System. Successful completion of acceptance testing for HMAS *Perth* has seen the Stage 1 capability of the phased array radar technology achieve IOR; however this risk will not be retired until all capability is realised, following the Stage 2 software upgrade in late 2013. **Stage 2 capability OT&E in late 2013 confirmed the functional performance of the radar has been achieved.** **This risk will be retired when IOC is achieved.**
There is a chance that with the significant change in the technology levels being delivered under the ASMD upgrade, stakeholder expectations may not be achieved.	Continuous engagement and education of stakeholders regarding the capability that will be delivered. In addition, a series of practical exercises for RAN operations crews in a specially built land based test site that simulates an upgraded ANZAC Ship operations room and all of the new systems being installed. **Stage 2 capability OT&E in late 2013 confirmed that the capability meets all stakeholders expectations.** **This risk will be retired when IOC is achieved.**
There is a risk that indices used in the prime contract, particularly labour rates, may exceed current predictions.	This risk is currently considered manageable, but is being monitored closely by the project. Commonwealth to work with industry to manage impacts of increased costs flow-on from increases in labour and overhead costs for all contracts associated with ASMD.
There is a chance of an inability to resource the ASMD Project correctly (includes availability, conflicts, personnel, training and quality (CoA, CEA, ANZAC IMS, Industry, Test and Trials).	Planning of resource profiles against known constraints and schedules using close liaison with Navy through ANZAC Systems Program Office (SPO), and with our key industry participants.
There is a chance of unplanned work being activated during an ASMD upgrade period such as emergent work arising from planned ASMD installation activities, other maintenance activities and unplanned work scheduled during the ASMD installation work period.	The project and ANZAC SPO engineering group are actively managing the introduction of additional work packages into the ASMD upgrade period, with priority on maintaining the approved ASMD schedule.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	**N/A**

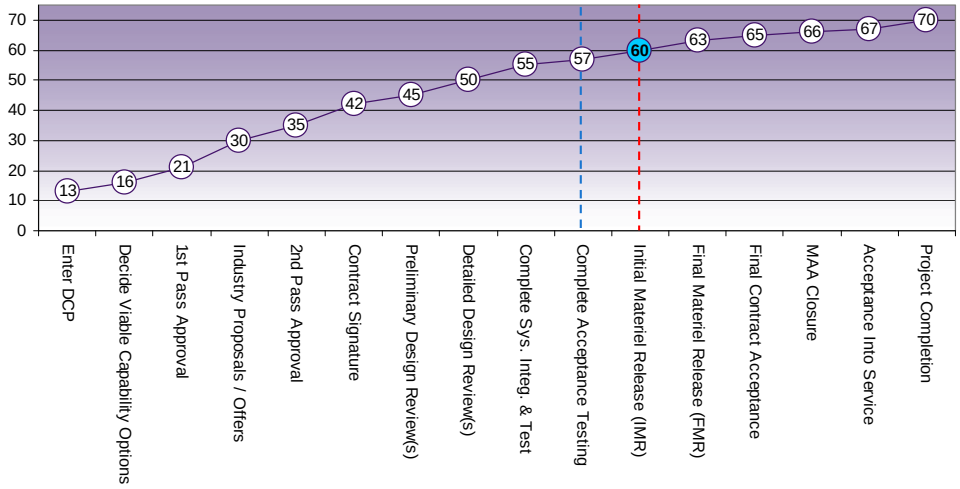
6.2 Major Project Issues

Description	Remedial Action
N/A	N/A

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	**10**	8	8	8	9	8	**9**	**60**
Initial Materiel Release	Project Status	**8**	8	9	**9**	9	8	**9**	**60**
	Explanation	• **Schedule: Schedule is mature and there remains a further six ships to upgrade.** • **Requirement: Based on the recent completion of OT&E, the requirements of Phase 2B are clearly understood.** • **Technical Understanding: Successful OT&E completed in August 2013.**							



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Ensure that technically complex developmental projects that have high levels of risk as part of the new system or integration of the new system into existing systems, demands that a prototype (lead platform) be agreed up-front and used for proving the capability before agreeing to additional platforms.	First of Type Equipment
Adequate communication between, and engagement of, critical stakeholders to ensure that a common understanding of Project status is maintained.	Governance

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble (Acting to Jul 13) **Mr Colin Thorne (Aug 13–current)**
Division Head	RADM Mark Purcell, **RAN**
Branch Head	CDRE Michael Houghton, RAN
Project Director/Manager	Mr Mark Simmonds

Project Data Summary Sheet[205]

Project Name	**ADDITIONAL MEDIUM LIFT HELICOPTERS**
Project Number	**AIR 9000 Phase 5C**
First Year Reported in the MPR	2010-11
Capability Type	Replacement
Acquisition Type	**MOTS**
Service	Australian Army
Government 1st Pass Approval	Sep 07
Government 2nd Pass Approval	Feb 10
Total Approved Budget (Current)	**$617.2m**
2013-14 Budget	**$147.9m**
Project Stage	Detailed Design Review
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

This project seeks to replace the extant Australian Defence Force (ADF) Medium Lift Helicopter capability of CH-47D Chinook helicopters with seven new modernised CH-47F Chinook helicopters, two Transportable Flight Proficiency Simulators (TFPS) and associated supporting systems.

1.2 Current Status

Cost Performance

In-year

The end of year variance is due to exchange rate gains of approximately $2.3m made on the June 2014 Foreign Military Sales (FMS) payment.

Project Financial Assurance Statement

As at 30 June 2014, Project AIR 9000 Phase 5C has reviewed the project's approved scope and budget, for those elements required to be delivered by the DMO. Having reviewed the current financial contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has applied contingency in the financial year primarily for the treatment of the workforce and facility risks listed in section 6. The project will write back some of this drawdown during the next Estimates activity to reflect a reduction in the cost of the main FMS Case AT-B-UDK.

205 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

The Project successfully achieved Government Second Pass approval on schedule in February 2010. Shortly thereafter and ahead of schedule, a FMS case was signed with the United States (US) Government in March 2010.

Due to a Project budget re-phasing in 2012 and changes to the aircraft production schedule by the US Army, the Project schedule has undergone a complete rebaselining activity **with the Capability Manager**. This activity is now complete with minor changes forecast for capability milestones. **Final** Capability Manager endorsement of **the** revised **schedule** is currently being sought.

The project accepted the first TFPS from the US Army in April 2014. The device has been installed into a temporary facility at the 5th Aviation Regiment, RAAF Townsville and will be used to prepare for the delivery of the first aircraft in April 2015.

Materiel Capability Delivery Performance

The CH-47F Chinook helicopter being acquired is a Military-Off-The-Shelf (MOTS) procurement of a US specification CH-47F Chinook, with only minimal essential ADF unique modifications. The CH-47F Chinook has been employed operationally by the US Army for over **six** years and the capability has achieved outstanding results in Iraq and in particular the Afghanistan theatre, where its hot and high altitude performance are unmatched by any other rotary wing aircraft. The ADF has yet to take delivery of any aircraft; however, there are currently no impediments to the Project achieving the materiel capability performance requirements.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Support to the extant ADF CH-47D Chinook fleet is heavily leveraged off the US Army and supporting US industrial base. The US Army is currently several years into a program to replace its entire CH-47D fleet with the modernised CH-47F Chinook helicopter. Beyond 2017, adequate in service logistics and training support from the US Army for the ADF CH-47D will no longer be available. Procurement of the CH-47F will ensure the ongoing viability of a Medium Lift Helicopter capability to the ADF.

The ADF CH-47D fleet is small and loss or severe damage of a single aircraft would result in a significant capability loss. The growth in fleet size (to seven) will enhance the robustness of the ADF Medium Lift Helicopter capability.

With the current ADF CH-47D fleet operationally committed in Afghanistan **at time of project approval**, a MOTS procurement strategy via the government-government FMS program, offered the lowest risk capability solution in terms of project cost and schedule.

Following Government Second Pass in February 2010, the Commonwealth signed a FMS case with the US Government in March 2010. The US Army has finalised its contracts with suppliers for the provision of the aircraft and all other supporting systems specified in the FMS case. Boeing is the principal Original Equipment Manufacturer (OEM) for the CH-47F Chinook.

Uniqueness

The CH-47F aircraft sought through the Project is a MOTS US Army specification CH-47F Chinook helicopter. The only production configuration difference with the ADF aircraft is the inclusion of a rotor brake to allow for embarked amphibious operations. The rotor brake is a mature design that has been previously certified on other US Army and international variants of the Chinook.

A minimal number of ADF unique modifications will be installed on the aircraft following delivery. All of these modifications are mature designs which have previously been integrated and certified on the ADF CH-47D Chinook. Integration of these ADF modifications carries very low technical risk due to the high degree of commonality between the CH-47D and CH-47F aircraft.

The CH-47F is a modern digital aircraft. The Common Avionics Architecture System and Digital Automatic Flight Control System are the two most significant upgrades included on the CH-47F Chinook over its predecessor. These systems have been certified by the US Army and Boeing and are currently in service.

The Project includes delivery of two TFPS to provide an organic ADF CH-47F simulator capability. Previous simulator training support for the CH-47D has been provided by the US Army.

The Cargo Helicopter Management Unit (CHMU) is the organisation responsible for acquiring the CH-47F capability. The CHMU is also responsible for the in-service support to the extant CH-47D capability as well as the CH-47F model following transition into service. Having the CHMU as the single acquisition and sustainment organisation provides synergistic benefits due to the high degree of commonality between the CH-47D and CH-47F aircraft.

Major Risks and Issues

The current ADF CH-47D Chinook fleet **completed operations** in Afghanistan on Operation SLIPPER **in 2013 reducing some risk involved with the challenges of** fielding a replacement CH-47F Chinook fleet in parallel with an operational deployment. **There are ongoing resource challenges whilst the CH-47D fleet conducts remediation and there are still transition and capability realisation challenges involved with the transition of aircraft types within the capability.** These challenges are exacerbated by the very small size of this niche capability and disproportionate effects of minor changes within each of the Fundamental Input to Capability elements.

Whilst the FMS program affords a significant number of advantages, delegation of many project management and contracting functions to the US Government, coupled with restrictive communications protocols, provides some management challenges to the ADF Project team for this schedule critical Project.

The facilities program, which seeks to redevelop the operational unit maintenance and training facilities, has continued to delay. Based on the most current schedule, the facilities are likely to be mid way through construction at the time of aircraft delivery and the training complex **was** not available at the time of **the first** simulator delivery. This will pose some significant challenges to the transition and introduction to service effort. **The Parliamentary Standing Committee on Public Works sat on 22 May 2014 with Parliamentary Expediency Motion scheduled for late July 2014; construction should commence in the second half of 2014.**

Other Current Sub-Projects

N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Sep 07	Original Approved		3.4	1
Feb 10	**Government Second Pass Approval**	634.2		
			637.6	
Jul 10	Price Indexation		46.9	2
Jun 14	Exchange Variation		**(67.3)**	
Jun 14	**Total Budget**		**617.2**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – US Government (AT-B-UDK)	(86.7)		
	Contract Expenditure – US Government (AT-B-UGB)	**(7.0)**		
	Contract Expenditure – US Government (AT-B-BAH)	**(2.9)**		
	Other Contract Payments / Internal Expenses	**(4.4)**		3
			(101.0)	
FY to Jun 14	Contract Expenditure – US Government (AT-B-UDK)	**(136.6)**		
	Contract Expenditure – US Government (AT-B-BAH)	**(5.0)**		
	Other Contract Payments / Internal Expenses	**(4.0)**		3
			(145.6)	
Jun 14	**Total Expenditure**		**(246.6)**	
Jun 14	**Remaining Budget**		**370.6**	

Notes	
1	This project's original DMO budget amount is that prior to achieving Second Pass Government Approval.
2	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $16.3m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $30.6m having been applied to the remaining life of the project.
3	Major items of expenditure include development of crashworthy seats, Workforce and Operating expenses, Research and Development costs, office expenses, and travel and training expenses.

2.2 In-year Budget Expenditure/Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Minor FOREX gain on June 2014 FMS payment.**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
		(2.3)	FOREX Variation	
			Commonwealth Delays	
147.9	**145.6**	**(2.3)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government (AT-B-UDK)	Mar 10	513.5	**377.8**	**Reimbursement**	FMS	1, **4**
US Government (AT-B-UGB)	Dec 11	18.0	**19.9**	**Reimbursement**	FMS	2, **4**
US Government (AT-B-BAH)	Jun 13	41.6	**47.2**	**Reimbursement**	FMS	3, **4**

Notes

1	FMS Case AT-B-UDK, Amendment **4**, signed in **May 14**, **has further** reduced the overall case value **due to firm pricing data for aircraft procurement post definitisation of the US Army – Boeing aircraft production contract.**
2	FMS Case AT-B-UGB was created to allow greater management of the aircraft production retrofit activities required to ensure all aircraft are delivered at the same configuration as the final aircraft.
3	FMS Case AT-B-BAH was created through the removal of the spares package from FMS Case AT-B-UDK. The creation of this case provides DMO with greater control over the procurement of spares required for the project.
4	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government (AT-B-UDK)	7	7	CH-47F **aircraft**	1
US Government (AT-B-UGB)	N/A	N/A	CH-47F aircraft production retrofit kits	
US Government (AT-B-BAH)	N/A	N/A	Spare parts package	

Major equipment received and quantities to 30 Jun 14

One Transportable Flight Proficiency Simulator. A quantity of Repairable Items and Spare Parts.

Notes

1	First aircraft delivery is expected in **April** 2015.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System /Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	CH-47F Chinook helicopter	N/A	N/A	N/A	N/A	1
	Rotor Brake	Feb 12	N/A	Apr 12	2	2
	ADF Unique Modifications	Jul 11	N/A	Jul 12	12	3
Preliminary Design	CH-47F Chinook helicopter	N/A	N/A	N/A	N/A	1
	Rotor Brake	Sep 12	N/A	Feb 13	5	2
	ADF Unique Modification	May 13	N/A	**Apr 15**	**23**	3
Critical Design	CH-47F Chinook helicopter	N/A	N/A	N/A	N/A	1
	Rotor Brake	Mar 13	N/A	Jun 13	3	2
	ADF Unique Modifications	Apr 14	N/A	**Jul 15**	**15**	3

Notes	
1	CH-47F Chinook helicopter system requirements and design reviews not required as it is a MOTS aircraft.
2	Rotor brake design has been contracted to Boeing by the US Army. Rotor brake design is a mature design that has been previously certified on other US Army and international Chinook variants. Variance from previous report is associated with changes to aircraft production schedule.
3	All ADF unique modifications except blade fold kit are mature designs that have been previously certified on the ADF CH-47D Chinook. **Variance from previous report is associated with program rescheduling caused by changes to aircraft production schedule. Design reviews for ADF unique modifications are based on those for the Minigun and Crashworthy pilot seat from Preliminary Design Review onwards, as these are assessed as the most important modifications. In addition, the Modification Readiness Review has been used to determine the Critical Design Review (CDR) forecast date, as it is a more mature position in the development cycle.**

3.2 Contractor Test and Evaluation Progress

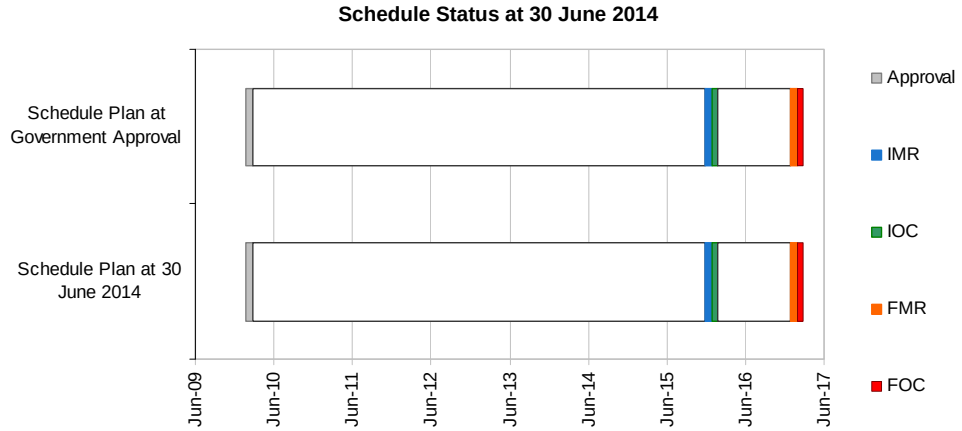
Test and Evaluation	Major System /Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Rotor Brake	Nov 11 – Feb 14	N/A	Jul 14 – Oct 14	8	1
Acceptance	CH-47F Chinook helicopter	Mar 14 – Nov 15	N/A	Mar 15 – Aug 15	(3)	2
	Rotor Brake	Apr 14	N/A	Mar 15	11	1

Notes	
1	Rotor brake acceptance dates are currently estimates only based on information presented by Boeing and US Army at CDR. The variance is due to the delay of the initial aircraft deliveries.
2	ADF acceptance dates provided by US Army. In September 2012 the US Army advised of a change to the aircraft acceptance dates that delayed early deliveries but brought forward later deliveries. US Army acceptance activities with Boeing will occur in the month prior to DMO acceptance.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

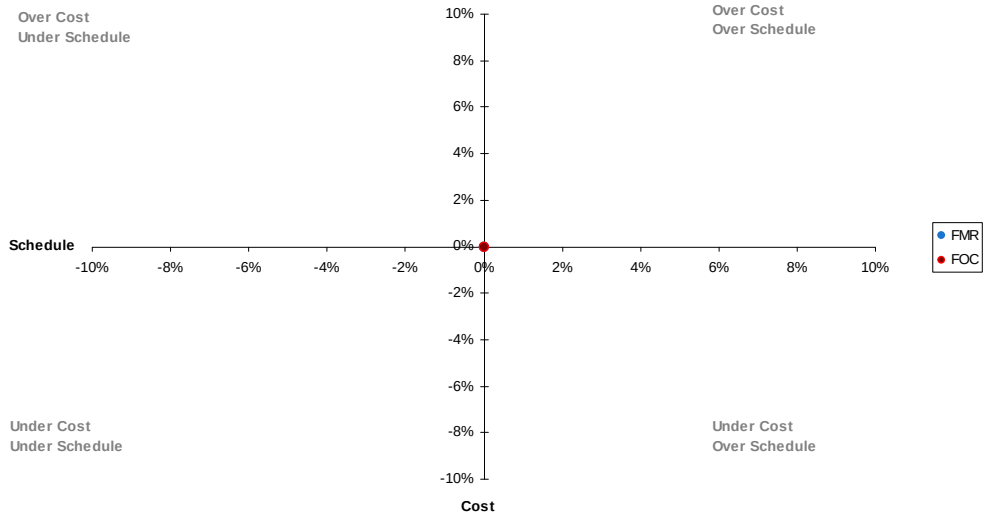
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jan 16	Jan 16	0	
Initial Operational Capability (IOC)	Jan 16	Jan 16	0	
Final Materiel Release (FMR)	Jan 17	Jan 17	0	
Final Operational Capability (FOC)	Jan 17	Jan 17	0	

Notes



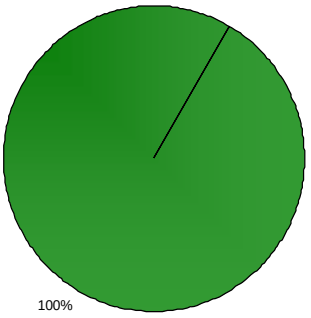
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The Project **expects to meet** capability materiel requirements, as expressed in the Materiel Acquisition Agreement and in accordance with the requirements of the relevant Technical Regulatory Authorities. **Amber:** N/A **Red:** N/A
Note	
This pie chart does not necessarily represent capability achieved. The capability assessment and forecast by DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that the Australian Military Type Certification will be affected by differences / deficiencies in US certification requirements leading to an impact on schedule.	Access to technical data and US Army Subject Matter Experts has been addressed through additional liaison positions, compliance finding visits and Purchase Orders for technical support with OEMs being established. Continue engagement with other countries to leverage off their experience and certification efforts. Maintain configuration commonality with the US Army to prevent ADF unique certification efforts. Continue to engage ADF support agencies to ensure possible issues or testing requirements are identified early. Risk treatment strategies partially effective. Current residual risk remains **medium**.
There is a chance that aircraft delivery will be affected by delays in aircraft production at Boeing leading to an impact on schedule.	Continued liaison with US Army on ADF delivery schedule and configuration requirements until US Army contract 'definitisation' with Boeing **was** completed and production slots **were** secured. Risk treatment strategies **have been** effective, **with ADF production slots confirmed and initial airframes commencing production.** **This risk has been retired.**

There is a chance that the Australian TFPS accreditation will be affected by lack of prior US qualification / certification leading to an impact on schedule.	**This risk has been realised and transferred as an issue. A new risk has been raised (see Emergent Risks) around the risk that the device may not achieve accreditation to enable it to be used for all required training outcomes.**
There is a chance that the ongoing support of the ADF CH-47F will be affected by an inadequate transfer of technology and information leading to an impact on capability.	**Previous** risk treatments are complete. **The establishment of a US Army Aircraft Engineering Directorate employed liaison engineer has increased the efficiency and level of technical exchange requests. Technical support contracts with the major OEM are either in place or close to being executed.** Risk treatment strategies partially effective. Current residual risk remains **medium**.
There is a chance that the project budget will be affected by prime equipment costs exceeding those provided in the Letter of Acceptance leading to an impact on cost.	**Execution of Amendment 4 to FMS Case AT-B-UDK, which reduces the cost of the major items of supply to confirmed prices, has eliminated this risk.** **This risk has been retired.**
There is a chance that the Australian TFPS capability will be affected by a delay in Visual Database (VDb) completion leading to an impact on schedule and capability.	Continued close engagement with US Army on VDb contracting and development. Early and continued engagement with TFPS VDb developers by DMO project team through a program of design reviews. Procurement of an interim VDb solution to enable TFPS qualification and commencement of training. Risk treatment strategies **have been** effective **with two of three databases delivered and the third scheduled for delivery prior to commencement of aircrew training in Australia**. **This risk has been retired.**
There is a chance that the project workforce and resourcing will be inadequate leading to an impact on schedule, cost and reputation.	**Development of a fully** resourced schedule to identify true workforce requirements **is ongoing. The Project will** continue to push for critical Australian Public Service recruitments **and establish a contract** workforce as required to execute **the** Project. Risk treatment strategies partially effective. Current residual risk is **medium**.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
There is a chance that the scope of the Special Flight Permit will be affected by the plan to conduct initial operations using the standard US Army MOTS aircraft prior to the installation of ADF crash protection compliant seating leading to an impact on schedule and capability.	**The project schedule requires initial operations to commence prior to completion of the Australian unique modification program which will install ADF crash protection compliant seating. The Project will obtain staff appropriate airworthiness waivers for risk acceptance in order to complete seat modification which will progress acceptance by US Army.** **Residual risk remains high.**

There is a chance that the training capability outcome for the qualification of the Australian TFPS may be affected by the US Army design standard of the device leading to an impact on project performance and capability.	**ADF TFPS Qualification strategy has been approved and qualification activities have commenced on the first TFPS installed at RAAF Townsville.** **Risk treatment strategies effective. Current residual risk is medium.**

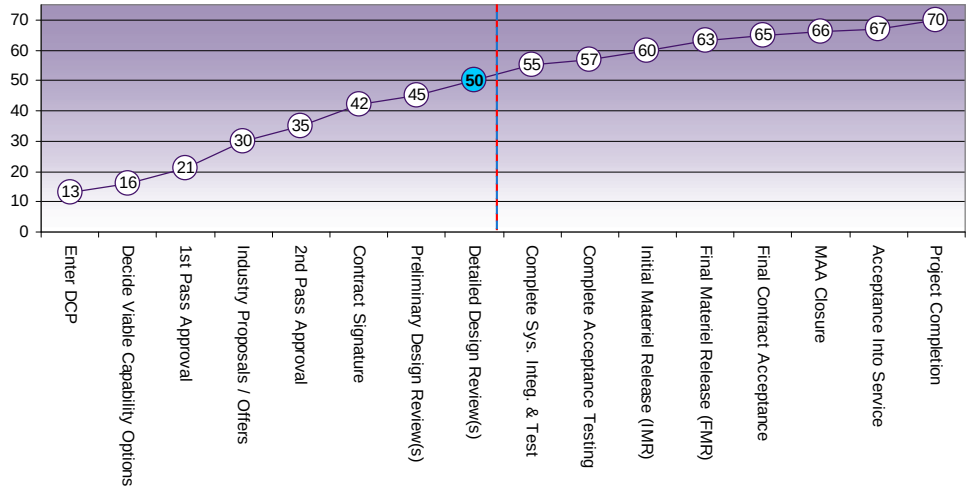
6.2 Major Project Issues

Description	Remedial Action
Inadequate performance in project management of the FMS case by the US Army is currently impacting on cost and schedule for the CH-47F Mission and Support Systems and may also impact on capability and reputation if this issue is not appropriately managed.	Continued performance monitoring of US Army project management efforts by the in country ADF Project Liaison Officer. Increased overseas travel to enable greater level of direct interaction between ADF and US Army. Maintain Resident Project Team, co-located with US Army implementing organisation to provide further oversight. Increased ADF oversight through monthly telecon meeting between Directors, quarterly Interim Program Reviews and establishment of specialist Integrated Product Teams **has been effective**.
Delays to the commencement of the **Parliamentary Standing Committee on Public Works** review and approval process for the construction of maintenance facilities at 5 Aviation Regiment Townsville has resulted in an overlap between CH-47F Introduction into Service and the facilities construction phase. This issue will impact on the efficient and effective Introduction into Service of the CH-47F and may impact the schedule to Initial Operational Capability.	**Parliamentary Standing Committee on Public Works approval provided 22 May 14. Significant work between DMO, Army and Defence Support and Reform Group has developed robust decanting plans to minimise effect of construction on the operational unit and project transition activities. DMO upgrading some existing unit facilities as temporary work areas during the transition and until the facilities program is complete.**
The MOTS TFPS was not accredited by the US Army to, and was not specifically designed to meet, an Australian Defence Force recognised Synthetic Training Device accreditation standard.	**The TFPS Australian VDb program is sufficiently advanced to demonstrate that it will meet Australian requirements. An ADF TFPS Qualification Strategy has been approved and qualification activities have commenced on the first TFPS which was delivered and installed at RAAF Townsville in April 2014.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	7	7	7	8	7	7	7	50
Detailed Design Review	Project Status	8	9	8	7	7	6	7	52
	Explanation	• **Schedule:** Contracts for the manufacture and supply of the aircraft and other major systems have been signed resulting in increased schedule certainty. • **Cost:** FMS commitments have gained significant clarity and almost all associated procurement contracts have been awarded and costs determined. • **Requirement:** System and sub-system design is complete. High confidence that requirement will be satisfied. • **Technical Understanding:** Due to the high similarity between CH-47D and CH-47F model aircraft there is fair to good technical understanding within the project office. There is however a greater complexity within the CH-47F avionics systems, of which, understanding is still being developed. • **Commercial:** US Government project team is in place but currently lacks the resourcing, skills and experience to engender confidence that contract performance will be well managed.							



2012-13 DMO MPR Status - - - - | 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Whilst the FMS program affords a number of advantages, it should be recognised that the transfer of a significant majority of ADF Project Management functions to the US Government implementing agency and the weak bargaining position of the Commonwealth, increases the project's exposure to risk (technical, schedule and cost). The resultant level of risk and complexity is often understated and the level of Commonwealth contract management involvement and oversight is very low in comparison to that mandated for other forms of procurement such as Direct Commercial Sale contracts. The early establishment of a robust project contract management regime between the project office and US Government implementing agency is essential to ensure an adequate level of contract management oversight.	Contract Management
A reasonable presence of project staff in the US is required for large or technically complex FMS procurements to enable the Commonwealth adequate insight, influence and progress reporting of the US Army and major OEM activities. In-country presence is required prior to Government second pass approval, particularly during FMS case development and negotiation.	Resourcing
Project Government approval schedules are independent to, and can be out of sync with military posting cycles. This can create significant extended vacancies within the Project workforce following Government Second Pass approval, including key positions such as Project Director and Project Manager.	Resourcing
The recruitment process lead times for candidates not already within the ADF or Australian Public Service can create significant extended vacancies within the Project workforce.	Resourcing
Where replacement capabilities are sought, significant synergetic benefits can be achieved through combining or co-locating the acquisition project team with the extant in-service support organisation.	Resourcing
Recognition of prior certification of MOTS equipment by other airworthiness and technical regulatory authorities should be maximised where possible in order to minimise technical and schedule risk. Early ADF regulator involvement in the formal recognition process is considered essential.	Off-the-shelf Equipment
Supporting science and technology outcome requirements will continue to evolve throughout the Project. These requirements need to be reviewed and updated regularly to ensure they remain relevant in the dynamic project environment.	Requirements Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	RADM Tony Dalton
Branch Head	BRIG Andrew Mathewson
Project Director	GPCAPT David Scheul
Project Manager	LTCOL Tyron de Boer **(Jul 13–Dec 13)** **MAJ Timothy Baker (Acting Jan 14–Apr 14)** **LTCOL Jeremy King (May 14–current)**

Project Data Summary Sheet[206]

Project Name	**HIGH FREQUENCY MODERNISATION**
Project Number	**JP 2043 Phase 3A**
First Year Reported in the MPR	2007-08
Capability Type	Upgrade
Acquisition Type	**Developmental**
Service	Joint Services
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Aug 96
Total Approved Budget (Current)	$580.1m
2013-14 Budget	**$6.0m**
Project Stage	Complete Acceptance Testing
Complexity	ACAT **III**

Section 1 – Project Summary

1.1 Project Description

The JP 2043 Phase 3A project provides for the procurement of a **Defence** High Frequency (HF) Communications System **(DHFCS)** for Defence long-range communications. The Fixed Network component comprises four HF stations in the Riverina, Townsville, Darwin and North West Cape areas together with primary and backup Network Management Facilities in Canberra. The project was also to provide upgrades to selected Australian Defence Force (ADF) sea, land and air mobile platforms to make them compatible with the capabilities of the network. As a result of the May 2012 Budget decisions, no further mobile platform upgrades will be undertaken under JP 2043 Phase 3A.

The Fixed Network capability has been provided in two major stages, Core and Final. The Core System replaced the prior Navy and Air Force HF systems from November 2004 with the Final System taking over support to ADF operations since October 2009. The Null Steering Signal Enhancement (Nullarbor) capability will continue as programmed along with work to address obsolescence issues resulting from delays to delivery of the Final System.

1.2 Current Status

Cost Performance

In-year

The in-year **overspend was as a result of the early achievement of a Black IT Refresh milestone**.

Project Financial Assurance Statement

As at 30 June 2014, project JP 2043 Phase 3A has reviewed the project's approved scope and budget for

206 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

The project is working with Capability Development Group to implement a revised Materiel Acquisition Agreement (MAA) to remove the remaining mobiles scope from the Project.

Milestones for the delivery of the Nullarbor capability being negotiated all within the current Final Operational Capability (FOC) period. Additionally, work to address obsolescence issues resulting from delays to final acceptance will be completed prior to FOC **in September 2016**.

Materiel Capability Delivery Performance

Capability includes a Core System and the Final DHFCS.

Operators and maintenance personnel report a good degree of satisfaction with the Final Fixed Network System.

Contract negotiations for the Nullarbor capability are complete and a contract with Boeing Defence Australia was signed on 20 June 2014.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The Defence Communications Corporate Plan of May 1991 directed that existing ADF HF networks be rationalised and modernised. Satellite communications is now the primary system for high and medium data rate communication with mobile ADF platforms (Mobiles) such as ships, aircraft and vehicles, however HF provides a secure alternative means of long range communications for Satellite communications fitted platforms and a primary long-range communication capability for platforms not Satellite communications fitted.

The Phase 3A Prime Contract was signed in December 1997 with Boeing Australia (now Boeing Defence Australia).

The Prime Contract has undergone several major amendments and currently provides for the implementation in two stages:

- a Core System (accepted October 2004), to provide an upgraded Fixed Network having a capability no less than that provided by the networks being replaced; and
- a Final System (accepted April 2010) including enhanced features for the upgraded Fixed Network and a Mobiles Upgrade component.

Project approval provided for 87 platforms to be upgraded. The Prime Contract was originally scoped for First-of-Type installations and Upgrade Modification Kits for a total of 56 Platforms. However, amendments made in 2004 reduced the Contract scope to a single First-of-Type Upgrade (CH-47 Chinook helicopter), five HF Upgrade Kits for follow-on Chinook installations, plus two Generic HF Upgrade Systems. The Generic Systems were to be used to demonstrate functional performance and to verify the suitability of System software and hardware components for platform use prior to implementation of Mobiles upgrades. The Chinook platform upgrade was subsequently removed from the prime contract scope due to no aircraft being available for upgrade.

In the Budget of May 2012, the Government directed that elements of the mobiles program not in contract be removed from JP 2043 Phase 3A scope, which reduced the project budget by $91.1m. As a result, only the Blackhawk mobile program continued under JP 2043 Phase 3A; this provided a standard Automatic Link Establishment upgrade to 22 of the 35 Blackhawk mobile platform upgrades.

The Nullarbor capability and work to address obsolescence issues resulting from delays to final acceptance will continue as programmed**.** The Nullarbor package of work has been developed and will be installed and integrated using an independent contract to the Prime Contract. Planned delivery date is by **September 2016**.

Uniqueness

The HF Modernisation Project is **historically** a complex software intensive and high risk project involving geographically diverse sites at five major locations across Australia. Implementation of the Fixed Network has involved civil infrastructure development, electrical power generation and transmission, telecommunications infrastructure extension, communications system hardware and antenna installation. It has involved the engineering disciplines of systems engineering, software development, system design and integration, system test and evaluation.

Because of the complex nature of the project, Integrated Product Development Teams which included contractor and Commonwealth personnel were established. These provided project insight and reduced risk, particularly in the important areas of requirements clarification, systems engineering and acceptance, test and evaluation. The System provided is designed to be one of the most advanced of its type in the world.

Major Risks and Issues

The project is now focused on **delivering** the Nullarbor capability **and addressing DHFCS obsolescence concerns which have resulted from the significant delay in delivery of the Fixed Network Final System**.

Other Current Sub-Projects

N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	**N/A**	**N/A**

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description		$m	Notes
	Project Budget			
Aug 96	Original Approved		505.0	
Jul 98	Real Variation – Transfers	2.3		1
Feb 99	Real Variation – Transfers	0.1		1
Feb 99	Real Variation – Scope	11.0		2
May 02	Real Variation – Transfers	0.9		3
Feb 03	Real Variation – Transfers	(6.1)		4
May 03	Real Variation – Transfers	(2.0)		5
Aug 04	Real Variation – Budgetary Adjustments	(0.2)		6
Aug 05	Real Variation – Budgetary Adjustments	(0.7)		7
May 12	Real Variation – Scope decrease	(91.1)		8
			(85.8)	
Jul 10	Price Indexation		148.1	9
Jun 14	Exchange Variation		**12.8**	
Jun 14	**Total Budget**		580.1	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Boeing Defence Australia	**(359.1)**		
	Other Contract Payments / Internal Expenses	**(82.4)**		10
			(441.5)	
FY to Jun 14	Other Contract Payments / Internal Expenses	**(6.6)**		11
			(6.6)	
Jun 14	**Total Expenditure**		**(448.1)**	
Jun 14	**Remaining Budget**		**132.0**	

Notes	
1	Transfer from other phases of JP 2043.
2	Scope change to include Wideband HF Direction Finding capability.
3	Transfer for installation at Robertson.
4	Transfer to Defence Support and Reform Group as contribution to construction of Defence Network Operations Centre and infrastructure support.
5	Transfer to facilities.
6	Administrative Savings harvest.
7	Skilling Australia's Defence Industry harvest.
8	In the Budget of May 2012, the government directed that elements of the mobiles program not in contract be removed from JP 2043 Phase 3A scope. Implementing the direction in relation to the mobiles program has reduced the project budget by $91.1m.

9	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $139.6m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $8.5m having been applied to the remaining life of the project.
10	Other expenditure comprises $18.1m for Government Furnished Equipment for use by the contractor, $9.0m for Radios and ancillary Radio equipment for issue to users, $7.8m for Harris Radio System, $6.9m attributable to expenditure in DEFMIS, **$2.0m** for Blackhawk Aircraft upgrades, **$1.3m** for Land Mobiles work, **$1.3m for IT Refresh for DHFCS,** $1.2m for Rockwell Collins purchases**,** $0.9m for Land HF Communications System prototype, $0.7m for Nullarbor Phase 3A, **$0.7m** for Blackhawk Simulator **and** $0.6m for Nullarbor Capability. The remaining is attributable to operating expenditure, contractors, consultants, contingency and other capital expenditure not attributable to the aforementioned.
11	Other expenditure comprises: **$2.5m** for IT Refresh for DHFCS, **$2.2m for 10kW Replacement Transmitters, $1.3m for water service replacement at the North West Cape transmit site** and $**0.6m for** other minor contract expenditure.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The $0.6m overspend was as a result of being able to bring forward a Black IT Refresh milestone.**
			Overseas Industry	
			Local Industry	
		0.6	Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
6.0	**6.6**	**0.6**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Boeing Defence Australia	Dec 97	309.6	**359.1**	Variable	DEFPUR 101 v46	1
Boeing Defence Australia	**Jun 14**	**25.7**	**25.7**	**Variable**	**ASDEFCON**	**1**

Note

1	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Boeing Defence Australia	1	1	Defence HF Communications System Core and Final Stages	
Boeing Defence Australia	**1**	**1**	**HF Null Steering and Signal Enhancement (Nullarbor) System**	

Major equipment received and quantities to 30 Jun 14

There was no major equipment received under the Nullarbor contract at 30 June 2014.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	Core System	Apr 98		Jun 98	2	1
	Final Systems (Fixed Network)	Jul 99		Jun 04	59	1
	Mobile Generic (In Contract)	Jul 99		Mar 05	68	1
Preliminary Design	Core System	Nov 98		Jan 00	14	2
	Final Systems (Fixed Network)	Jul 00		Aug 05	61	2
	Mobile Generic (In Contract)	Feb 00		Jul 05	65	2
Critical Design	Core System	Nov 99		Dec 00	13	3
	Final Systems (Fixed Network)	Dec 01		Nov 06	59	3
	Mobile Generic (In Contract)	Dec 02		Nov 06	47	3

Notes	
1	System Requirements Review delayed due to requirements instability which was acknowledged by the June 1999 Deed of Agreement.
2	Preliminary Design Review: Requirements instability & scope changes.
3	Critical Design Review Final Systems and Mobile: Contractor delays with software development and system integration design.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Final System (Fixed Network)	Sep 03		May 08	56	2
Acceptance	Core System	Mar 01		Jun 04	39	1
	DMO Acceptance – Core System	Nov 01		Oct 04	35	1
	Final System (Fixed Network)	Feb 04		Apr 10	74	2
	DMO Acceptance – Final System	May 04		Apr 10	71	2
	Generic Mobiles	Dec 03		Dec 09	72	2

Notes	
1	Core System: Contractor delays with software development and system instability.
2	Final Systems and Mobiles: Contractor delays with software development, resource shortages and technical reviews.

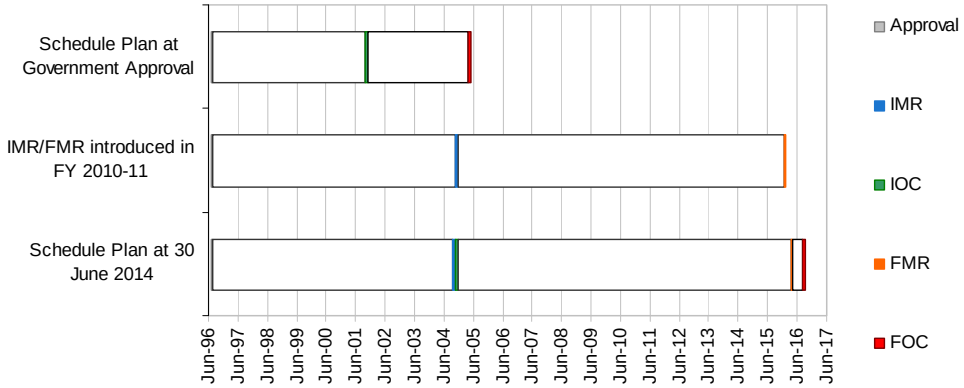
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Nov 04	N/A	
Initial Operational Capability (IOC) – Core System	Nov 01	Nov 04	36	1
IOC – Final System	May 04	Oct 09	65	2
Final Materiel Release (FMR)	Feb 16	Apr 16	2	3
Final Operational Capability (FOC)	May 05	Sep 16	136	4

Notes	
1	Variance due to Contractor delays with software development and system instability. Core System supported operations until IOC of Final System. No formal Operational Release, leading to FOC, was conducted on the Core System.
2	Contractor delays with software development and system instability. Deferral of operational capability.

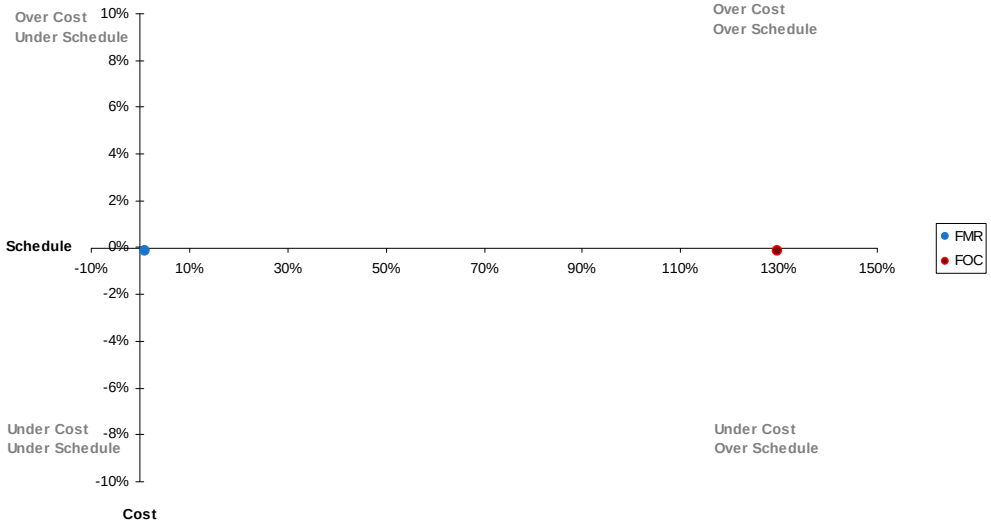
3	The forecast FMR is based upon the current MAA and remains subject to negotiations and date of contract commencement.
4	Delays in IOC led to consequent delays in FOC. The forecast FOC is based upon the current MAA and remains subject to negotiations and date of contract commencement.

Schedule Status at 30 June 2014



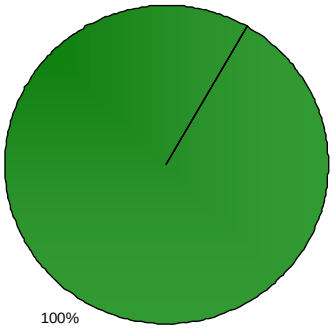
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The Project is currently meeting capability materiel requirements as expressed in the suite of Capability Definition Documentation and in accordance with the requirements of the relevant Technical Regulatory Authorities.
	Amber: N/A
	Red: N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that the system delivered under Nullarbor Phase 4 may not integrate with the **DHFCS** without significant changes to the **DHFCS**.	**A contract was signed with Boeing Defence Australia on 20 June 2014 for the implementation and integration of the Nullarbor capability into the DHFCS. Accordingly, this risk has been closed.**
There is a chance that equipment in the operational DHFCS may become obsolete prior to suitable replacement plans being established, funded and implemented.	**This risk relates to the DHFCS Materiel Sustainment Agreement and therefore has been removed as an acquisition risk.**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
There is a chance that the DHFCS will stop operating in part or full before its current End-of-Life (EOL) of 2019 as hardware may stop operating due to a lack of spares, non availability of repair vendors and increasing equipment failure rates. Further to this, security accreditation may be withdrawn due to system software architecture obsolescence. Realisation of this risk will result in the DHFCS not meeting the ADF HF communication requirements.	**Work has been conducted to identify hardware risk items for ongoing management. Where possible, additional spares have been procured to reduce the probability of this risk being realised. Additionally, A DHFCS EOL White Paper is being compiled to identify system hardware and software changes required to ensure that the DHFCS capability can be maintained until EOL and beyond.**

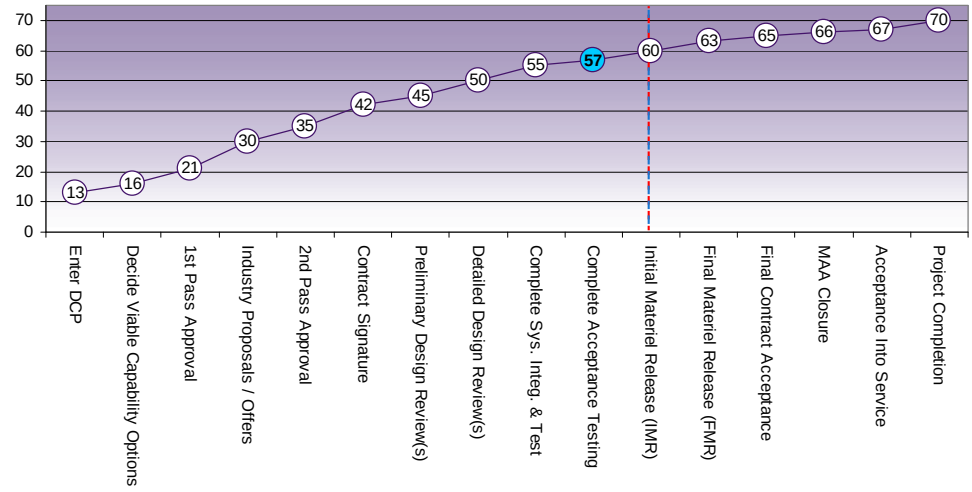
6.2 Major Project Issues

Description	Remedial Action
N/A	N/A

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	8	8	8	8	9	8	8	57
Complete Acceptance Testing	Project Status	8	8	9	9	9	8	9	60
	Explanation	• **Requirement:** The Integration and Test program for the Fixed Network and Generic Mobiles has been successfully completed. • **Technical Understanding:** Final System has been accepted by Defence and has been supporting ADF operations since October 2009. **Current** work is focussed on the Nullarbor capability delivery **with the contract signed in June 2014**. • **Operations and Support:** Core System has been operational and supported since late 2004. Final System is operational and transition to support organisation is currently being addressed.							



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Risks associated with requirements instability, software development and systems engineering were known at the time of contract signature but in the light of subsequent events were clearly not adequately addressed in pre-contract negotiations. The experience underlines the importance of having well-defined and stable requirements at contract award, and of contractors having sound systems engineering and software development processes.	Requirements Management
A proper balance needs to be kept between proper engineering processes and contractor-perceived commercial imperatives to minimise risk that unrealistic technical programs will actually result in delays to the overall schedule.	Contract Management
Accessibility requirements should be agreed, specified and documented early in the contracting process to minimise risk of incurring excusable delays when access to the system to be upgraded is constrained due to operational reasons.	Contract Management Schedule Management
Best practice would suggest that for a capability acquisition that includes significant software development, a contract that allows for both fixed price elements as well as alternative cost structures which include appropriate controls, incentive and penalty models that can be applied to the highly developmental elements involving significant risk, may be appropriate. Milestone payments could be selected for those deliverables that have well defined objectives and the alternative payment method with incremental work packages could be applied to the software aspect of the project. This approach would require strict controls and metrics to limit the risk to the Commonwealth.	Contract Management
Substantial developments in the information technology field over the extended term of the project means that some elements of the system could now be delivered via off-the-shelf solutions or by other contemporary products, rather than attracting extended software development, thereby reducing risk, schedule and possibly cost. The proposed approach for capability development involving substantial software or software systems development over an extended period needs to be considered carefully to enable best use of emerging developments within appropriate risk, schedule and cost constraints.	First of Type Equipment Off-the-Shelf Equipment

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward
Branch Head	Ms Myra Sefton
Project Director	Mr Anthony Burger

Project Data Summary Sheet[207]

Project Name	**BATTLESPACE COMMUNICATIONS SYSTEM**
Project Number	**JP 2072 Phase 2A**
First Year Reported in the MPR	2012-13
Capability Type	Replacement
Acquisition Type	**MOTS**
Service	Joint Services (Army lead)
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Nov 11
Total Approved Budget (Current)	**$460.2m**
2013-14 Budget	**$119.0m**
Project Stage	Acceptance Into Service
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

Joint Project 2072 Battlespace Communications System (Land) (BCS(L)) Phase 2A is delivering Combat Radios and ancillary equipment to replace the Wagtail, Pintail and Raven fleets for the majority of the Land Force. Phase 2A will also establish the mature support system for the new generation Combat and Tactical Data Radios.

1.2 Current Status

Cost Performance

In-year

The project achieved 2.6 per cent ($3.1m) ahead of planned expenditure for this financial year with the acceleration of deliveries of Combat Net Radios and ancillaries to support introduction into service and capability requirements.

Project Financial Assurance Statement

As at 30 June 2014, Project JP 2072 Phase 2A has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

207 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

Contract Signature (Acquisition) was achieved in March 2012. The first delivery of Phase 2A Combat Radios and ancillaries into service was achieved in November 2012. Contract Signature (Support) is now forecast for third quarter 2014. **Initial Materiel Release (IMR) and Initial Operational Capability (IOC) were achieved on 30 April 2014. While the IMR and IOC signatures were delayed by seven months due to the acceptance process, the rollout of the capability to units continues to be achieved in accordance with the agreed schedule.**

Materiel Capability Delivery Performance

The radio equipment and components that form this capability were already introduced into service under JP 2072 Phase 1 as bearers for the Battle Management System **(BMS)**. Phase 2A extends the utility of the radio equipment for dismounted voice communications; rollout **to end users is over 75 per cent complete according to the approved Basis of Issue (the schedule which identifies equipment entitlements by unit).**

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Program Overview

- The overall JP 2072 program, BCS(L), will provide an integrated communications system to support forces deployed in the land environment through a combination of new equipment to replace ageing radio fleets and enhancements/upgrades to current communications systems. Phase 1 provided communication systems for integration into the Battle Group and Below Command, Control and Communications capability being delivered in conjunction with LAND 75 and LAND 125 (the three projects commonly known as LAND 200).

Phase 2A

- Phase 2A is continuing the rollout of products selected during Phase 1 to primarily provide voice services to dismounted users. Phase 2A will also establish a mature support system for ongoing sustainment of the Phases 1 and 2A materiel systems and contribute to ongoing Prime System Integration activities to evolve the BCS(L) design. Investigation and/or market survey activities will be conducted to specify and identify products for potential procurement in future phases.

Acquisition

– The primary objective of Phase 2A is to replace and enhance the existing dismounted voice communications capability currently provided by Wagtail, Pintail and Raven High Frequency (HF) and Ultra High Frequency/Very High Frequency (UHF/VHF) radios for Army, Air Force and Navy units. Phase 2A is also providing equipment for mounted (vehicle) installation and base station (RAAF) however the integration of **mounted equipment into vehicles** is outside the scope of JP 2072.

– To achieve this objective, Phase 2A will maximise commonality and minimise ongoing support costs through delivery of 'more of the same' of the Phase 1 capability including: radios, ancillaries, cryptographic management equipment, load carriage equipment, training and interim support services.

In-Service Support Contract

– Under Phase 1, a three year interim support contract for the support of acquired materiel was executed early 2011. The interim support contract contained provisions for maintenance, training and capability introduction services from both Harris Corporation and Raytheon Australia as the Original Equipment Manufacturers. The mechanism for interim support consists of Field Service Representatives, plus support staff and three facilities in Southern Queensland at Newstead, Pinkenba (Harris) and Amberley (Raytheon). The mature support acquisition strategy aligns with this interim support model due to United States (US) International Trade in Arms Regulations (ITAR) constraints.

– Phase 2A enhanced the contract with Harris Corporation to include management and storage of the increased equipment order. Phase 2A will establish mature support contracts for the ongoing sustainment of the Phases 1 and 2A equipment. Phase 2A will also transition management of the mature support contracts to sustainment by Battlespace Communications Operations Group.

Uniqueness

The radios delivered in Phase 2A are subject to US ITAR restrictions and other handling and management requirements. This has limited the options for sourcing of equipment suppliers; required change to the methodologies for supporting and maintaining equipment; affected the transfer of equipment into country and introduced different end user skills, training and working requirements.

Phase 2A is procuring 'more of the same' radios as originally delivered in Phase 1 and originally defined for interoperability with the BMS. However, the configurations of Phase 2A 'Nodes' or how the equipment will be employed needed to be defined prior to achievement of IOC for the BMS. Changes to the BMS may have follow on effects to the systems being rolled out under JP 2072. Interim support has therefore been set up to handle mass upgrades of equipment in minimal timeframes.

Unlike Phase 1, the equipment being delivered under Phase 2A is mainly for use in a standalone voice communications role, which requires different ancillaries such as load carriage pouches, headsets and battery chargers. Many of these items required amendment/inclusion into existing design acceptance without affecting fundamental design or introducing new risks.

Major Risks and Issues

While the equipment components are already introduced into service, the specific configurations or 'Nodes' for dismounted voice communications roles are still undergoing user requirements validation with Army and RAAF. This is reflected in the capability rollout progressing on schedule while the acceptance process for IMR was delayed. In lieu of a formal design acceptance prior to equipment selection, it is expected that this user validation of the baselined Nodes may result in some reconfiguration (limited within approved scope) to address fitness for purpose considerations.

The project is introducing a high volume of equipment that needs to be sustained in addition to continuing the sustainment of legacy fleets until such time as the legacy fleets are withdrawn. This pressure creates risks to the supportability of legacy, current and future phases by the System Program Office.

Project, corporate and contractor capacity to establish effective Mature Support Contracts prior to expiry of Interim Support contracts remains an issue. The project is actively engaging corporate contracting support services to maintain the activity as a priority for dedicated resources.

Other Current Sub-Projects

JP 2072 Phase 1, BCS(L): The initial phase of the JP 2072 program, this project is delivering communications bearers to the BMS, and enhancing communications for Australian Defence Force Land elements through the development of an holistic battlespace communications architecture for the Land environment.

LAND 2072 Phase 3, BCS(L): This project will introduce into service a digital communication backbone for land based elements of the Australian Defence Force (ADF) and their enabling elements. The capability is aligned with LAND 75 Phase 4 as part of a second tranche of land networking with the capability being a vital function of the BMS. This phase will enhance the digital communications backbone delivered under previous phases, expand the provisioning to additional land forces and ADF elements, and provide a new capability to support the distribution and data management of the land Battlespace. Phase 3 particularly supports Command and Control, Communications and Battlespace awareness across all Land operations. Only Phase 3 Work Package A has achieved Second Pass Approval.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Nov 11	Original Approved		436.4	
Jun 14	Exchange Variation		**23.8**	
Jun 14	**Total Budget**		**460.2**	
	Project Expenditure			
Prior to Jul 13	**Contract Expenditure – Harris Corp – Acquisition**	**(149.7)**		
	Contract Expenditure – Harris Corp – Support	**(6.5)**		
	Other Contract Payments / Internal Expenses	**(1.4)**		1
			(157.6)	
FY to Jun 14	**Contract Expenditure – Harris Corp – Acquisition**	**(89.7)**		
	Contract Expenditure – Harris Corp – Follow on	**(19.2)**		
	Contract Expenditure – Harris Corp – Support	**(4.1)**		
	Other Contract Payments / Internal Expenses	**(9.1)**		1
			(122.1)	
Jun 14	**Total Expenditure**		**(279.7)**	
Jun 14	**Remaining Budget**		**180.5**	

Notes	
1	Other expenditure comprises: travel, introduction into service training expenses, contractor support and JP 2072 Prime Systems Integrator capability studies.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Final deliveries of Combat Net Radios and ancillaries were accelerated to assist with project achieving introduction into service and to meet current capability requirements.**
			Overseas Industry	
			Local Industry	
		3.1	Brought Forward	
			DMO Processes	
			FOREX Variation	
			Commonwealth Delays	
119.0	**122.1**	**3.1**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Harris Corporation **(Acquisition)**	Jan 12	226.3	**239.4**	Firm	ASDEFCON	1, **2**
Harris Corporation **(Support)**	Mar 12	14.6	**15.1**	Firm	ASDEFCON	1, **2**
Harris Corporation (Follow on)	**Oct 12**	**12.2**	**20.3**	**Firm**	**ASDEFCON**	**1, 2**

Notes	
1	The contract with Harris Corporation already established under Phase 1 was utilised to order the Phase 2A supplies. Two key orders were placed under the standing offer provisions of this contract to acquire the Phase 2A equipment and extend the Phase 1 interim support to Phase 2A equipment, including: • Order for acquisition of Phase 2A equipment; • Order for extension of interim support to cover Phase 2A equipment. Harris Corporation utilise US expatriate personnel and an Australian Subsidiary combined to meet requirements; and • **Follow-on orders placed against the same contract with Harris, including Waveform upgrade and ancillaries including radio pouches/backpacks and waterproof variants.**
2	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Harris Corporation	11,638	11,638	Combat Net Radios, ancillaries and interim support.	1

Major equipment received and quantities to 30 Jun 14
11,638 radios (**100** per cent of total Phase 2A radios) comprising: - **9,157** AN/PRC 152 VHF/UHF radios; and - **2,481** AN/PRC 150 HF radios.

Notes	
1	Figures include number of radios and exclude number of ancillary items (e.g. antennas, headsets, batteries etc).

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System /Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	N/A	N/A	N/A	N/A	N/A	1
Preliminary Design	N/A	N/A	N/A	N/A	N/A	1
Critical Design	N/A	N/A	N/A	N/A	N/A	1
Support System Detailed Design	N/A	N/A	N/A	N/A	N/A	1

Notes	
1	As Phase 2A is procuring 'more of the same' radios as originally delivered in Phase 1 there is no design review.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	N/A	N/A	N/A	N/A	N/A	1
Acceptance	N/A	N/A	N/A	N/A	N/A	1

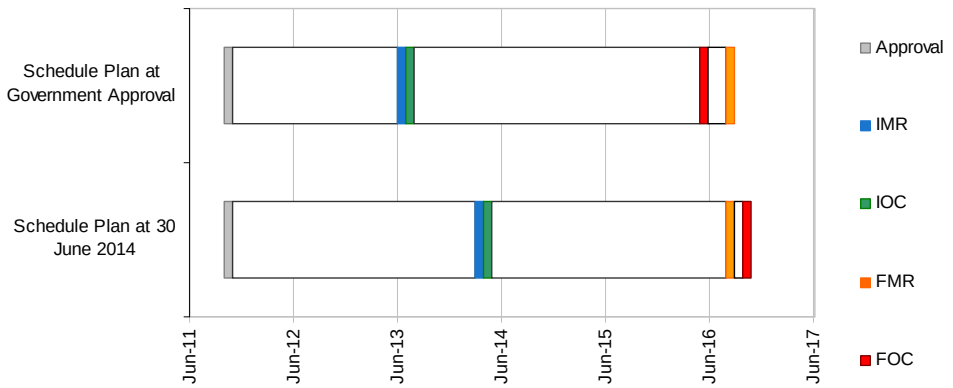
Notes	
1	As Phase 2A is procuring 'more of the same' radios as originally delivered in Phase 1 there is no **contractor** test and evaluation.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jul – Sep 13	**Apr 14**	**7**	1
Initial Operational Capability (IOC)	Jul – Sep 13	**Apr 14**	**7**	**1**
Final Materiel Release (FMR)	Jul – Sep 16	**Aug 16**	**0**	
Final Operational Capability (FOC)	Apr – Jun 16	**Oct 16**	**4**	**2**

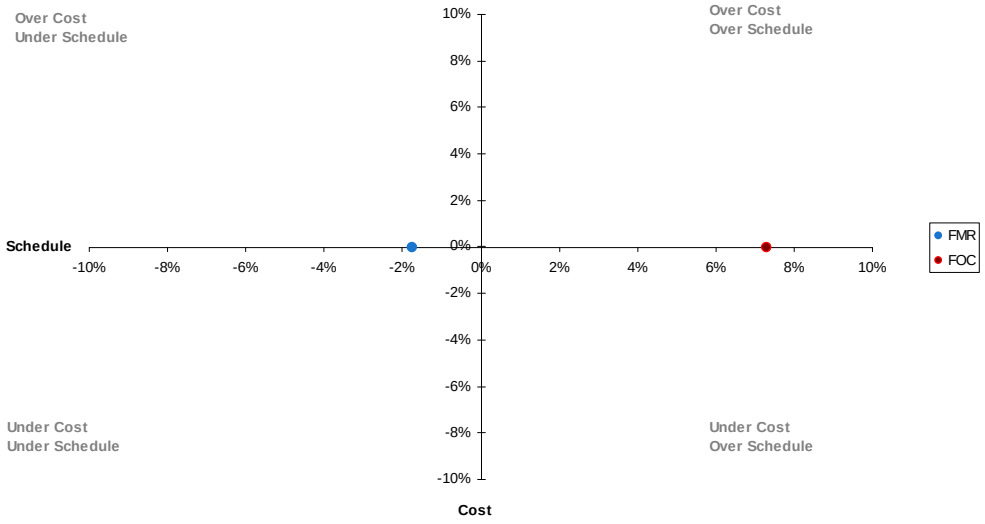
Notes	
1	**Equipment was delivered on schedule to IMR units in March 2013, however Capability Manager declaration of IMR and IOC was delayed by extended user acceptance of supporting documentation.**
2	Forecast date is to the project's best knowledge due to the limited visibility of Capability Manager milestones.

Schedule Status at 30 June 2014



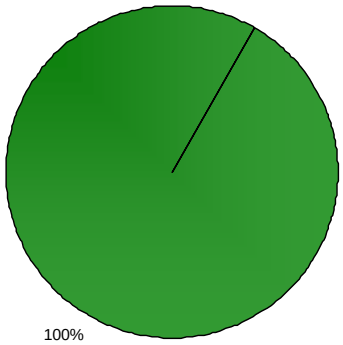
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** Project **is currently meeting** capability requirements as expressed in the Materiel Acquisition Agreement (MAA) and supporting suite of Capability Definition Documentation and in accordance with the requirements of the relevant Technical Regulatory Authorities. **Amber:** N/A **Red:** N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that transition of mature support to the sustainment organisation will be affected by its capacity to accept management of mature support contracts in addition to existing contracts for legacy fleets, leading to an impact on supportability.	Increase ongoing relationship with the sustainment office. Provide JP 2072 resources as far as possible to assist optimal transition to sustainment. Communicate mature support management requirements to ensure new responsibilities understood whilst maintaining legacy contracts.
There is a chance that loss/exit of **key** personnel within JP 2072 program will impact on Phase 2A core responsibilities **due to limited project staffing.**	Introduction Into Service **was delayed** as far as allowable within defined IMR and FMR timeframes to alleviate pressure on Phase 1 and Phase 2A staff (shared resources). JP 2072 Phases 1 and 2A have been consolidated into **a matrix structure** to focus on priorities across the phases. Further delays or inabilities to undertake core functions may result if this risk is not mitigated.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
There is a chance that mature support contracts are not signed in advance of interim support contract expiry dates due to reliance on contractor acceptance and availability of program, contracting and commercial support.	**Interim Support Contract extension documentation being prepared in addition to progressing the draft Mature Support Contracts as an option to be discussed with the Interim Support Contractors if and as required.**
There is a chance that some Nodes need re-configuration to address fitness for purpose and safety considerations as part of Validation and Verification process.	**Engagement with end users to determine intended/actual use and any deficiencies. Army and RAAF user requirements validation workshops to be conducted with essential and desirable change requests documented for either: rectification of the nodes, or submission of enhancements to change approval process.**

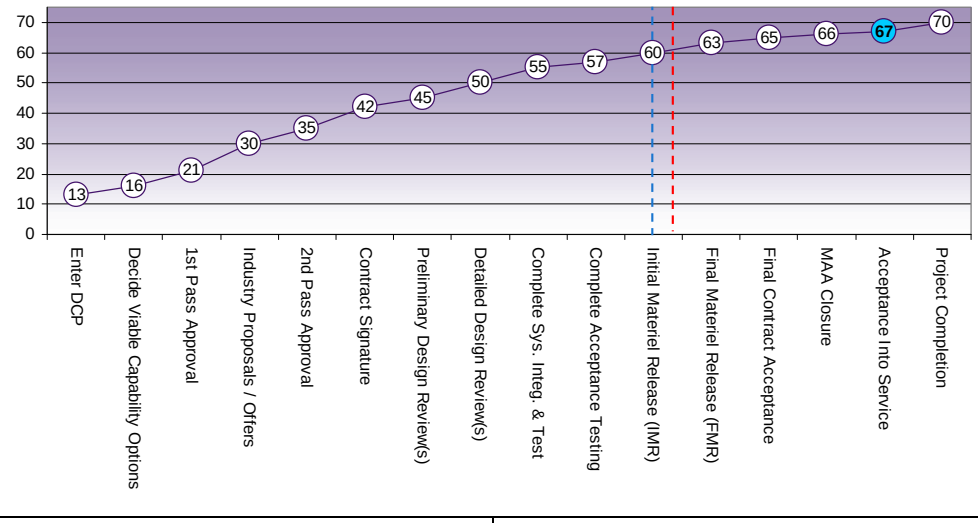
6.2 Major Project Issues

Description	Remedial Action
Combat Net Radio Prime Contractor unable to conduct **MILIS** transactions at the planned rate.	**This issue has been retired due to remote access having been established at the prime contractor's communications logistics centre.**
Preparation of mature support contracts drafting and tendering affected by limited availability of contracting/legal support personnel, impacting on schedule.	**This issue has been downgraded to medium due to increased availability of essential personnel.**
The rollout of equipment as Nodes (that were identified under LAND 200 pre-IOC) have been affected by the absence of formal design acceptance prior to Phase 2A equipment selection and rollout. This was reflected in the delayed declarations of IMR/IOC and risks to the Technical Certification schedule.	**Some ancillaries were withheld from the planned IMR rollout to address issues, however there was no impact on the fundamental function of the capability. Preliminary Design Acceptance was delivered to ensure the safe use of equipment while the user workshops and Nodal Technical Certification process progressed to see the configurations completed. Note that all relevant equipment is already in service as components of other capabilities.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	10	9	10	10	10	9	9	67
Acceptance Into Service	Project Status	9	8	9	9	9	**8**	**9**	**61**
	Explanation	• **Schedule:** Rollout schedule was based on rate of equipment availability however was brought back to minimum MAA requirements due to lack of project resources to process and sustain equipment going into service. • **Cost:** Very well defined however some minor ancillary items and spares **are being finalised**. • **Requirement:** Equipment is essentially 'more of the same' as the first phase however limited concept of operations required additional risk assessment of ancillaries for dismounted voice use. • **Technical Understanding:** Configuration is defined however may be affected by **clarifications of the user requirements for dismounted configurations and** evolution of Battle Management System and relevant capabilities to ensure ongoing interoperability. • **Technical Difficulty:** Is a standalone capability however may be affected by interoperability requirements with relevant capabilities. • **Commercial: Acquisition contracts are in place and the contractor delivering against contracted requirements. Mature Support contracts are in tender and evaluation stages, while interim support is currently provided through the original Acquisition contracts.**							



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
JP 2072 is required to provide extensive support and advice to other projects procuring or integrating communications equipment via JP 2072 contracts. New project approvals need to include adequate resources for integration and support of communications systems within their own platforms. The sustainment organisation will need to be prepared to provide program, engineering and logistics support beyond the completion of JP 2072 phases.	**Resourcing**
Phase 2A delivery of More of the Same equipment required Design Acceptance under Phase 1, which was not achieved. Provisional Design Acceptance was put in place however some minor ancillary equipment defined in the capability baseline was withheld due to fitness for purpose issues. New project approvals should consider the necessary design inputs to ensure they are in place before projects proceed and engineering scope then resourced appropriately.	**Requirements Management**
There was very limited detail on the levels of support agreed or articulated in the Capability Definition Documentation. Adequate support system was therefore not established in time for delivery of materiel. Future phases require the support system better defined prior to approval, and implemented earlier in the project lifecycle.	**Requirements Management**
The contracted Field Service Representative (FSR) teams have provided high quality service that has been well received by users and the Capability Manager. For example, in most cases it is more cost effective to locate/move FSR around to units than to send high volumes of equipment back to the Original Equipment Manufacturer facilities (domestic and international) for repairs or bulk upgrades. FSR have developed from an Introduction Into Service function into an increasing, ongoing support requirement for the foreseeable future.	**Off-The-Shelf Equipment**

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward
Branch Head	Ms Myra Sefton
Project Director	Mr Bob Hutchinson **(Jul 13–Apr 14)** **Mr Peter Henrick (Apr 14–current)**
Project Manager	Mr Steve Wardle

Project Data Summary Sheet[208]

Project Name	**COLLINS REPLACEMENT COMBAT SYSTEM**
Project Number	**SEA 1439 Phase 4A**
First Year Reported in the MPR	2007-08
Capability Type	Upgrade
Acquisition Type	**Australianised MOTS**
Service	Royal Australian Navy
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Sep 02
Total Approved Budget (Current)	**$450.2m**
2013-14 Budget	**$2.4m**
Project Stage	**Initial Materiel Release**
Complexity	ACAT IV

Section 1 – Project Summary

1.1 Project Description

The SEA 1439 Phase 4A Replacement Combat System (RCS) project was established to provide each of the **six** Royal Australian Navy (RAN) Collins Class submarines with an initial installation of the United States (US) Navy (USN) Combat and Weapon Control System, minor improvements to the combat system augmentation sonar, and shore facilities for integration, testing and training. Shore based systems are located at the Submarine Training and Support Centre at HMA Ship *Stirling* (WA) and a reference laboratory in the US at the Naval Undersea Warfare Centre. The project required the development of system commonality between the RAN and USN.

1.2 Current Status

Cost Performance

In-year

This year the variation is **primarily** due to delays **in receiving invoices from** ASC Pty Ltd **and Thales**, **and an underspend by the Joint Project Office.**

Project Financial Assurance Statement

As at 30 June 2014, project SEA 1439 Phase 4A has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

208 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

Project boat installations are consistent with the approved Materiel Acquisition Agreement (MAA) schedule; however, each installation is dependent on the FCD program, consequently completion dates vary according to boat availability. The RCS schedule has also been impacted by emergent work during each submarine docking. The final boat installation is scheduled for completion in 2018, **following the decision to defer the HMA Ship *Collins* Full Cycle Docking (FCD)**, with Final Materiel Release (FMR) **forecast for October 2018 (33 months behind schedule). See also 'Major Risks and Issues'.**

Materiel Capability Delivery Performance

CS04

The RCS baseline installed in HMA Ships *Waller* and *Farncomb* was approved for Initial Operational Release (IOR) by Chief of Navy (CN) in May 2008 and September 2009 respectively. CN subsequently approved Operational Release (OR) of that baseline in December 2009. The capability delivered in HMA Ships *Waller* and *Farncomb* is consistent with that identified in the project **requirement**.

CS05

Installations and Harbour Acceptance Testing for the upgraded combat system baseline installed in HMA Ships *Dechaineux* and *Sheean* are complete. Sonar towed array trials scheduled for HMA **Ships *Dechaineux* and *Sheean*** were completed with OR of the Collins Towed Array Processor (CTAP) being awarded on 20 January 2011. IOR **approval** of the upgraded baseline as installed in HMA Ship *Dechaineux* occurred on 8 March 2011.

CS06

Installation of the upgraded baseline in HMA Ship *Rankin* **was completed in May 2014.** Installation in HMA Ship *Collins* will be completed in conjunction with the FCD program. The project schedule is dependent on the boat FCD program; consequently the completion date may vary.

The remaining project activities include completing OR for the RCS baseline (CS05) and installation of RCS on HMA Ship *Collins*. All further combat system upgrades are being managed by Sustainment.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Explanation

Background

Risks associated with rapid technology change have been treated by adopting a project management strategy that aligns with the US continuous update program and its two-year update cycle.

The standard DMO acquisition approach was adapted to enable the project office to establish itself as prime contractor with a series of Integrated Project Teams working at various levels within DMO and industry. This role has required close collaborative relationships to be formed between the DMO, the USN and industry partners in Australia and the US.

In July 2001 the Minister for Defence terminated the original tender process for the Collins Class RCS.

In September 2002 the Government approved the project based on the procurement of the following off-the-shelf sub-systems:

- the US Combat and Weapon Control sub-system, consisting of the Combat Control System and the Virginia Class Weapons Integration Panel, to be acquired by Foreign Military Sales (FMS);
- minor improvements to the sonar processing solution currently installed in HMA Ships *Sheean* and *Dechaineux* as part of the Combat System Augmentation initiative; and
- other system support infrastructure and project support.

The USN Combat and Weapon Control System is being supplied under an Armaments Cooperative Project (ACP) which provides for system upgrades developed on a bi-annual basis, whereas the Commonwealth is adopting every second baseline with a four year update cycle. The project will provide one system baseline for the first two submarines and later baselines for the remaining four submarines. These initial baselines will be upgraded at some later date as a sustainment activity.

Australian systems are being provided under a combination of contracts. The main Australian contractors include ASC Pty Ltd, Raytheon Australia, Thales Australia and Sonartech Atlas Pty Ltd. Installation is being

undertaken in conjunction with SEA 1429 Phase 2 Heavyweight Torpedo at locations in South Australia and Western Australia. Installation in all submarines is coordinated with the FCD program.

The combat system capability enhancement required a significant change to submarine infrastructure that could only be achieved during a major docking. Furthermore, to ensure the required submarine availability was not impacted adversely and to work within the existing workforce at ASC Pty Ltd, it was necessary to couple the installation program to the existing submarine docking program. Although there are significant benefits in coupling the RCS installation schedule to the submarine docking program, that coupling has dictated the delivery schedule of the RCS capability.

Uniqueness

The Commonwealth has undertaken the functions of a prime systems integrator. This role **required** the Commonwealth project team to manage and coordinate a number of separate contracts and ultimately the integration, installation and testing of the delivered products.

The Project is participating in a Joint Development Program with the USN to introduce hardware and software upgrades for Combat and Weapon Control System and implementing that evolving system baseline into the Collins combat system.

Major Risks and Issues

A major issue associated with the Project includes the introduction of the Coles Review recommendation to change the submarine Usage and Upkeep Cycle. The decision to reschedule the FCD completion date for HMA Ship *Collins* from 2016 to 2018 has resulted in a delay to the completion of the RCS installation program.

A major risk to the Project is the small size of the Project team, which currently consists of one dedicated staff member, and is reliant on branch resources, the engagement of contractors, and existing in-service support personnel for boat installations.

Other Current Sub-Projects

- **SEA 1439 Phase 3 Collins Submarine Platform Systems Improvements: SEA 1439 Phase 3 is a program of upgrades to Collins Class platform systems to improve the Fleet's reliability, sustainability, safety and capability.**
- **SEA 1439 Phase 3.1 Collins Obsolescence Management - Integrated Ship Control Management and Monitoring System Obsolescence: Project scope includes remediating obsolescence of the Integrated Ship Control Management and Monitoring System in the Collins Submarines and shore facilities. Stage One includes purchasing two boat sets and completion of the first installation.**
- **SEA 1439 Phase 4B Weapon and Sensor Enhancement Program: Acquire endorsed supplies to address deficiencies identified in the area of Submarine weapons and sensors.**
- **SEA 1439 Phase 5B1 Communications Mast and Antenna Replacement Class Fit: The project aims to fit five submarines with the communications fit developed and tested under Project SEA 1439 Phase 4B, along with one spare antenna, one spare mast raising equipment and spares.**
- **SEA 1439 Phase RCE3 EHF Covert Communications Capability: Extreme High Frequency (EHF) Covert Communications Capability for a single Collins-class submarine.**

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
SEA 1429 Phase 2 Replacement Heavyweight Torpedo System	To acquire a replacement Heavyweight Torpedo for the COLLINS class submarine to replace the USN Heavyweight Torpedo currently in service with the RAN.	Required to provide Heavyweight Torpedoes compatible with RCS.

SEA 1430 Phase 2A Navigation Display Systems	To provide Electronic Chart Display and Information Systems for the navigation of RAN ships and submarines. The project also delivers Navigation Display Systems to selected command and training shore establishments.	Navigation Display System installed in conjunction with RCS.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Sep 02	Original Approved		455.3	
May 03	Real Variation – Transfer	(0.9)		1
Aug 04	Real Variation – Budgetary Adjustments	(0.8)		2
			(1.7)	
Jul 10	Price Indexation		56.5	3
Jun 14	Exchange Variation		**(59.9)**	
Jun 14	**Total Budget**		**450.2**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Raytheon Australia	**(100.3)**		
	Contract Expenditure – US Government (FMS)	(79.3)		4
	Contract Expenditure – US Government (ACP)	**(59.0)**		5
	Contract Expenditure – Sonartech Atlas	(26.8)		
	Contract Expenditure – Thales Underwater Systems	(26.6)		
	Other Contract Payments / Internal Expenses	**(140.0)**		6
			(432.0)	
FY to Jun 14	Contract Expenditure – Raytheon Australia	**(0.5)**		
	Contract Expenditure – US Government (ACP)	**(0.1)**		
	Other Contract Payments / Internal Expenses	**(1.4)**		7
			(2.0)	
Jun 14	**Total Expenditure**		**(434.0)**	
Jun 14	**Remaining Budget**		**16.2**	

Notes	
1	Transfer to the Defence Science Technology Organisation.
2	Administrative savings harvest.
3	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $55.5m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $1.0 m having been applied to the remaining life of the project.
4	The FMS case value is $79.2m (written back from $143.9m - see Note 1 in Section 2.3 below). The supplies remaining under the FMS case would then be delivered under the ACP.
5	The ACP is the main vehicle for supplying equipment and services for the Combat and Weapon Control hardware and software development.

6	Other expenditure of **$140.0m** includes an amount of **$49.8m** to ASC Pty Ltd for platform design and installation; a total of **$33.1m** on supplies and services provided by other Contractors, and $10.2m to Engineering and Scientific Systems for engineering and testing support. The remaining **$46.9m** of expenditure comprises **for** operating expenditure, consultants and contingency.
7	The amount of **$1.4m** is the ASC Pty Ltd contract. **This includes a credit of $0.2m that was injected into the budget due to the transfer of funds from SEA 1430 Phase 2A to SEA 1439 Phase 4A to cover the platform integration of the Navigation Display System into HMA Ship *Rankin* by ASC.**

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**As of 30 June 2014, the cumulative variation against the budget is $0.4m. This underspend is primarily due to the delay in receiving invoices from ASC and Thales, and an underspend by the Joint Project Office.**
			Overseas Industry	
		(0.4)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
2.4	**2.0**	**(0.4)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government (FMS)	Jun 03	143.9	79.3	Fixed	FMS	**1, 5**
Sonartech Atlas	Jun 03	22.5	35.8	Variable	ASDEFCON Strategic	**4, 5**
Raytheon Australia	Aug 03	53.9	101.7	Variable	ASDEFCON Strategic	**2, 5**
Thales Underwater Systems	Oct 03	22.9	**27.3**	Variable	ASDEFCON Strategic	**5**
US Government (ACP)	Nov 04	**51.8**	**60.6**	Fixed	ACP	3**, 5**

Notes	
1	Included on-going involvement in the Combat and Weapon Control hardware and software development process for the duration of the ACP. The FMS Case valued at $143.9m was written back to $79.2m with the introduction of the ACP.
2	Includes on-going involvement in the Combat and Weapon Control hardware and software development process for the duration of the ACP. This contract also provided for the integration of Electronic Chart Display Information System (ECDIS) master navigation into the combat system at a cost of $2.8m which was not funded by SEA 1439 Phase 4A.
3	**The US Government (ACP) 30 June amount was reported as $121.0m in previous MPRs, however this figure included sources of funding other than SEA 1439 Phase 4A. SEA 1429 Phase 2 and Sustainment were the other contributors to the ACP costs. The Price Base at Signature has also been revised to reflect only SEA 1439 Phase 4A.**
4	**The Sonartech Atlas contract value as at 30 June 2014 includes a Sustainment component of $9.0m.**
5	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government (FMS)	7	7	US Combat and Weapon Control Subsystem	
Sonartech Atlas	4	7	Sonar subsystem equipment	1
Raytheon Australia	7	7	Tactical System sub-systems and components	
Thales Underwater Systems	7	7	Scylla Sonar and associated sub-systems	
US Government (ACP)	7	7	US Combat and Weapon Control Subsystem	

Major equipment received and quantities to 30 Jun 14

Six RCS Ship Sets delivered. Category 5 Sea Acceptance Testing completed. Engineering and maintenance arrangements established.

Notes

1	The RCS project was funded originally for four Submarine Acoustic Transitory Event Processing System units. The in-service support organisation took advantage of an option in the RCS project acquisition contract with Sonartech to replace the ageing Submarine Acoustic Transitory Event Processing System units fitted to the existing submarine combat system. Although the contract value was increased, the additional sets were not funded from project funds.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	Combat System	Nov 04	N/A	Nov 04	0	1
System Design	Combat System	May 05	N/A	May 05	0	1
Preliminary Design	20 Separate sub-systems or major components	Oct 03 – Oct 06	N/A	Nov 03 – Oct 06	1	1
Critical Design	20 Separate sub-systems or major components	Nov 03 – Apr 07	N/A	Nov 03 – Apr 07	0	1, 2

Notes

1	The above data represents rolled up information as the project consists of many subsystems each of which have independent Preliminary Design Review, Critical Design Review or associated activities. Additionally, these system engineering activities were applied across two system baselines. As a result, there were many individual events within each of the above activities where the schedule was allowed to move provided the critical path for the delivery of capability was not impacted adversely. The critical path was based on the FCD program. Although some individual activities were ahead or behind schedule the project has maintained the critical path as defined by the FCD program. In some instances schedule slip has occurred as a result of project management intervention to delay finalisation of sub-system and major component design until the evolving US Combat and Weapon Control system baseline was mature. The project schedule has been re-baselined following significant events. To progress the Preliminary Design Review and Critical Design Review activity ahead of the US system development would have incurred significant impairment cost. Preliminary Design Review and Critical Design Review slip has not impacted capability delivery because of the dependency on the FCD program to install the RCS equipment.
2	Some sub systems or major components have several Critical Design Reviews or US equivalent.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Combat System - System Integration Test Phase 1-6	Jun 06 – Apr 08	N/A	Jun 06 – Apr 08	0	
	Combat System - Harbour Acceptance Trials Stage 1-3	Nov 06 – May 08	N/A	Nov 06 – May 08	0	
	Combat System - Sea Acceptance Trials Stage 1-2	Dec 07 – Jun 08	N/A	Dec 07 – Jun 08	0	
	Category 3 System Integration Testing Combat System CS05.00.01 (TI06/APB06)	Apr 09	N/A	Apr 09	0	
	Category 4 Harbour Acceptance Testing Combat System CS05.00 (TI06/APB06)	Nov 09	N/A	Dec 09	1	1
	Category 3 System Integration Testing Combat System CS05.01 (TI06/APB06)	Jan 09	N/A	Jan 09	0	
	Category 4 Harbour Acceptance Testing Combat System CS05.01 (TI06/APB06)	Feb 10	N/A	Feb 10	0	
	Category 5 Sea Acceptance Trials Combat System CS05.01 (TI06/APB06)	Apr 10	N/A	Aug 10	4	1

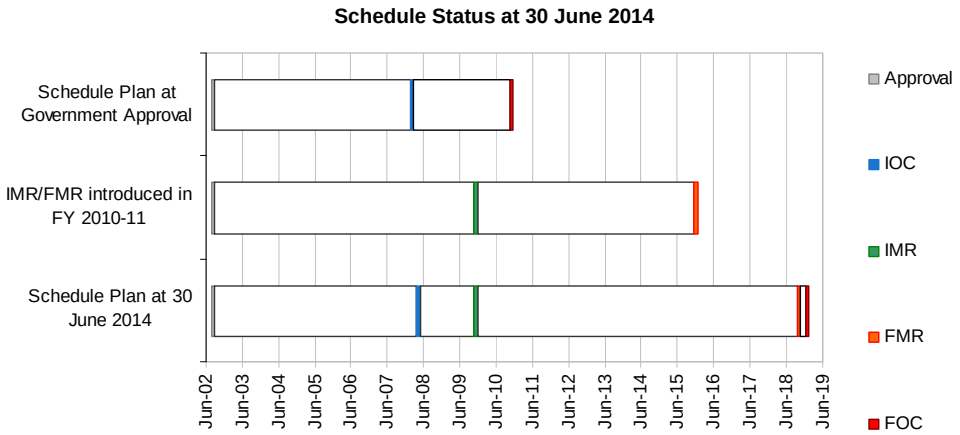
Notes	
1	Combat System CS05.01 baseline Sea Acceptance Trials and associated shore based analysis were completed in August 2010. The variance for testing is due to HMA Ship *Dechaineux's* FCD schedule delays and the need to complete additional testing of the Towed Array (TA) (previously delayed because of non project related equipment malfunction) and the ECDIS. The ECDIS and the TA increased the scope of the subsequent sea trials. Combat System CS05 baseline Sea Acceptance Trial tests were conducted in two stages to account for weather, submarine defects and support vessel defects. In general, the project test and evaluation program was carried out in conjunction with other post docking activities and the planned testing schedule has been impacted to some extent. The outcome of the CS05.01 trials including the ECDIS and TA were successful, with some minor trouble reports noted but not affecting capability. The CS05.01 System Design Certificate was issued 10 September 2010. CS05 Initial Materiel Certification for HMA Ship *Dechaineux* was achieved 22 September 2010. CS05 IOR was awarded by CN on 8 March 2011. OR of the CS04 CTAP was awarded on 20 January 2011. **Additional testing of CS05 (TI06) minor software upgrades were conducted by the Project in 2010 and 2012. All further testing of subsequent combat system upgrades is the responsibility of Sustainment.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Dec 09	N/A	**1**
Initial Operational Capability (IOC)	Mar 08	May 08	2	**1**
Final Materiel Release (FMR)	Jan 16	**Oct 18**	**33**	**2**
Final Operational Capability (FOC)	2010	**Feb 19**	**98**	**3**

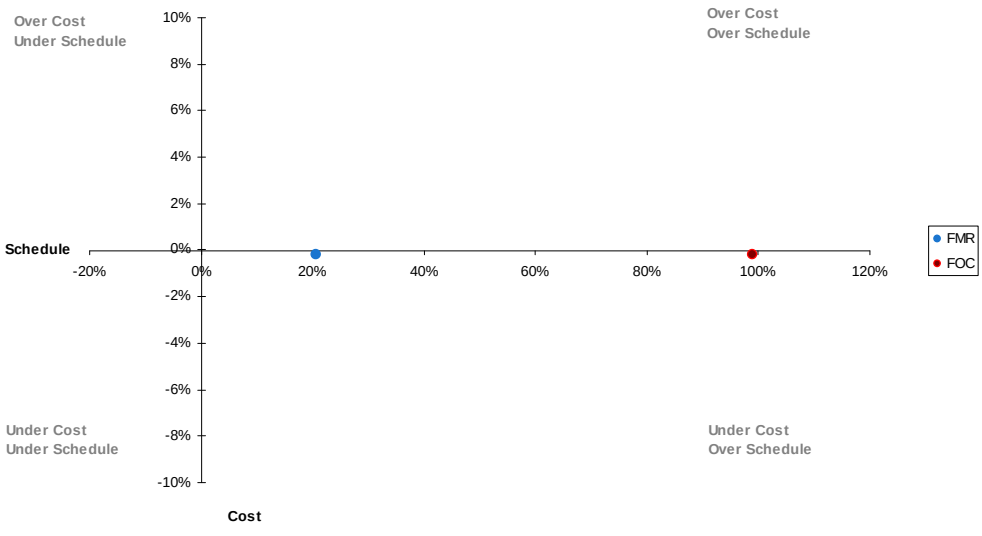
Notes	
1	The RCS baseline (CS04) installed in HMA Ships *Waller* and *Farncomb* was approved for IOR by CN in May 2008 and September 2009 respectively. CN subsequently approved OR of that baseline on 9 December 2009. The capability delivered by the project is consistent with the MAA.

2	FMR date was set at project approval before the submarine FCD program had reached maturity in terms of the length of dockings and impact of emergent work and other capability upgrades. As a result, the RCS installation schedule has been delayed.
3	HMA Ships *Waller* and *Farncomb* have achieved OR and are awaiting confirmation by the Capability Manager that other Fundamental Inputs to Capability are complete. FOC date was set at project approval before the submarine FCD program had reached maturity in terms of the length of dockings and impact of emergent work and other capability upgrades. As a result, the RCS installation schedule has been delayed. The project has been able to recover some schedule following the promulgation of the Integrated Master Schedule. However, there is no opportunity to recover the original schedule. The final installation will be completed in HMA Ship *Collins* in 2018, with FOC currently expected to occur in 2019.



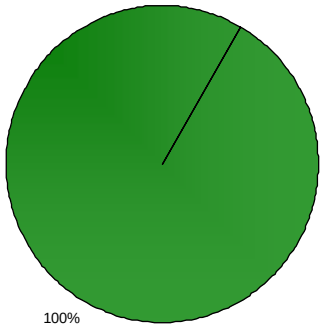
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** **Replacement combat systems are being delivered in accordance with the project's approved scope. CN has approved OR for the combat system baseline installed in HMA Ships *Waller* and *Farncomb* and IOR for the combat system baseline installed in HMA Ships *Dechaineux* and *Sheean*.** **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a risk that delays to the submarine docking program as a result of higher operational priorities or material defects will adversely affect the Project platform integration program creating schedule delays and cost increases.	This risk is being mitigated by: • Active and frequent engagement with RAN, DMO and industry stakeholders to ensure that any proposed changes to planned maintenance activities properly consider the potential impact on project schedule and/or cost. • Through line management, the project team ensures that when considering changes to the Collins Integrated Master Schedule (IMS), committees such as the Sustainment Control Board and the **Project Control** Board are properly informed about potential impact on project schedule and/or cost.
There is a chance that productivity of the project team will be affected by a turnover of key personnel, leading to an impact on cost and schedule.	This risk is being mitigated by: • Recruitment of appropriately skilled staff to fill vacant positions; • Training of staff to maintain requisite skills and knowledge; • Engaging with project stakeholders and Submarine Branch resources to mitigate loss of corporate knowledge; and • Engagement of contractors for specific tasks where expertise is not available in house.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

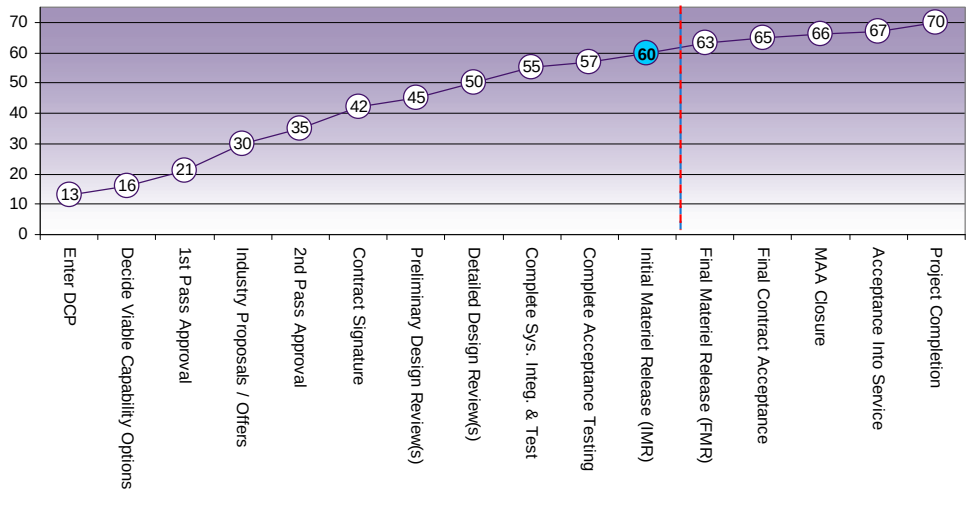
6.2 Major Project Issues

Description	Remedial Action
Uncertainty in the submarine docking cycle and the availability of submarines has impacted the RCS installation schedule.	**Monitor Submarine Availability Group outcomes. The Project Office is not in a position to treat this issue, but is monitoring opportunities to install systems earlier.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	10	**8**	**8**	**8**	**9**	**8**	9	**60**
Initial Materiel Release	Project Status	9	9	9	**9**	9	**8**	9	62
	Explanation	• **Schedule:** The last boat installation for the project to achieve FMR is HMA Ship *Collins*. FCD timings have changed substantially in the past, **including the submarine Usage and Upkeep Cycle changes recommended by the Coles Review**, however with the introduction of a configuration controlled Collins IMS, the project is now confident that schedule will be met. • **Cost: The costs for the remaining project work on HMA Ship *Collins* are known, and the remaining Project budget and contingency is considered adequate to cover any remaining project cost risk.** • **Requirement and Technical Understanding: The CS05 baseline has been at sea on operational boats since 2010.** Transitioning of the final baseline on HMA Ship *Collins* is expected in early 2018.							



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Ensure that adequate staffing is available, in particular if DMO is to be the prime systems integrator.	Resourcing
Ensure that all project dependencies are established before schedule is established.	Schedule Management
Identify all requirements for technical data and technology as early as possible in the project to allow the transfer requests to be administered. US **Government** International Traffic in Arms Regulation can require up to a year to progress.	Requirements Management
Engaging in a joint development project where Australia is the junior partner **and largely dependent on the US Government program** can introduce project management, cost, technology and schedule risk that needs to be addressed.	First of Type Equipment

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Mr David Gould
Division Head	AVM Chris Deeble **(to Sep 13)**
Branch Head	Mr David Cochrane
Project Director	Mr David Connolly **(to Apr 14)** **CMDR Ian Jimmieson (Acting May 14–current)**
Project Manager	Mr Walt Daly **(to Feb 14)** **Mr Alan Levy (Acting Feb 14–current)**

Project Data Summary Sheet[209]

Project Name	**REPLACEMENT HEAVYWEIGHT TORPEDO**
Project Number	**SEA 1429 Phase 2**
First Year Reported in the MPR	2009-10
Capability Type	Replacement
Acquisition Type	**MOTS**
Service	Royal Australian Navy
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Jul 01
Total Approved Budget (Current)	**$426.6m**
2013-14 Budget	**$3.6m**
Project Stage	**Initial Materiel Release**
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

This project is acquiring a Heavyweight Torpedo (HWT) for the **six** Collins Class submarine to replace the United States Navy's (USN) Mk 48 Mod 4 HWT **previously** in service with the Royal Australian Navy (RAN). The torpedo is being supplied by the United States (US) Government under a Memorandum of Understanding (MOU), with work performed by Raytheon US and the US Naval Undersea Warfare Center. The project is also acquiring associated logistic support, weapon system interface equipment, and operational support and test equipment. ASC Pty Ltd is undertaking integration to the Collins Class submarine platform.

1.2 Current Status

Cost Performance

In-year

This year the variation is primarily due to an underspend associated with changes to the Full Cycle Docking (FCD) program.

Project Financial Assurance Statement

As at 30 June 2014, project SEA 1429 Phase 2 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

209 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

The HWT project consists of two separate components to deliver the full HWT capability to the RAN. The first component is the modification of each submarine to accommodate and launch the HWT; the second component is the spiral development of the HWT software.

Boat installations are consistent with the approved Materiel Acquisition Agreement (MAA) schedule; however, each installation is dependent on the FCD program, consequently completion dates vary according to boat availability. The HWT schedule has also been impacted by emergent work, during each submarine docking. As a result of these non project related delays, completion of the submarine modification program has slipped from 2010 to 2018.

Development of the HWT software is progressing to schedule and the Spiral 1 software baseline has achieved Operational Release (OR). **Advanced Processor Build (APB) Spiral 4 OR was approved by Chief of Navy (CN) in March 2014 for operational use.**

The final weapons were delivered to Australia in January 2012.

Materiel Capability Delivery Performance

The replacement HWT with Spiral 1 software and the integration modifications to Collins Class Submarines were approved for OR by the CN on 10 March 2010.

The replacement HWT with APB 4 software was approved for Initial Operational Release (IOR) by CN on 8 March 2011. **APB Spiral 4 OR was approved by CN in March 2014.**

OR is the milestone which represents the In-Service date at which CN is satisfied that the equipment is in all respects ready for operational service.

Platform modifications have been completed in HMA Ship *Waller*, *Farncomb*, *Dechaineux*, *Sheean* **and *Rankin*.** Platform modifications in **HMA Ship** *Collins* will be completed in conjunction with the FCD program. As first of class specific testing was carried out for **HMA Ship** *Waller*, all subsequent testing for platform modifications will be undertaken in conjunction with standard post docking testing.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Project SEA 1429 Phase 1 was approved in December 1997 to investigate the acquisition of an enhanced torpedo capability; including, weapon performance, integration, risk, costs, through-life support, intellectual property and Australian Industry Involvement. In September 1998 the US Government invited the Defence Capability Committee (DCC) to consider pursuing a collaborative development program for the Mk48 Advanced Capability (ADCAP) HWT as the replacement HWT for the RAN. The DCC, although noting the potential benefits, decided against the collaborative program in favour of a competitive tender process.

The solicitation process, which included a Project Definition Study commenced in 1999, but was subsequently abandoned when the Government decided in July 2001 to terminate the competitive tendering process in favour of entering into a cooperative agreement with the US Government.

A Statement of Principles outlining the strategic alliance between the RAN and USN on submarine related issues was signed in Washington DC in September 2001. At the same time, negotiations began with the US Government on a MOU to develop an Armaments Cooperative Project (ACP) for the joint development of the Mk 48 ADCAP HWT.

Under the MOU, the Commonwealth and the US Government joined in a partnership for the cooperative development, production, and through-life support of the Mk 48 ADCAP torpedo. A Joint Project Office was then established in Washington, DC. Development of the Mk 48 ADCAP Common Broadband Advanced Sonar System (CBASS) torpedo **has resulted** in a broadband sonar capability for enhanced target acquisition.

In March 2003, following a Submarine Integration Study, Government approved the scope of the project and delivery of the supplies; including submarine integration with ASC Pty Ltd, a Torpedo Analysis Facility (TAF) at the Defence Science and Technology Organisation (DSTO); and upgrades to the Torpedo Maintenance Facility (TMF). The TAF has been formally transitioned to DSTO. Upgrades to the TMF and the management responsibility for torpedo maintenance, has been transitioned to Navy Guided Weapons System Program Office. A Portable Tracking Range was completed in December 2006 and responsibility formally transitioned to Maritime Ranges System Program Office. The MOU has been extended for a period of ten years to 2019 following successful negotiation with the US Government.

Uniqueness

Commonwealth participation in a Joint Program with the US Government to develop, produce and support the Mk 48 Advanced ADCAP/CBASS torpedo, through an ACP, including evolving capability enhancements, introduced additional complexity to the project. The additional complexity included requiring effective coordination of requirements management, integration, testing, torpedo deliveries and their installation in each boat according to their respective FCD schedule. The performance of the ACP is overseen by an Executive Steering Committee with senior executives from both partners.

Major Risks and Issues

Major challenges associated with the Project **include the revision to the submarine Usage and Upkeep Cycle as recommended by the Coles Review. The decision to reschedule the FCD completion date for HMA Ship *Collins* from 2016 to 2018 has resulted in a delay to the Project FMR and FOC dates.**

Other Current Sub-Projects

N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
SEA 1439 Phase 4A Collins Replacement Combat System	Replacement Combat System	Installation of the Replacement Combat System (RCS) is to be completed on each boat, including modifications for the replacement torpedo, prior to commencement of the torpedo installation program.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Jul 01	Original Approved		238.1	1
May 03	Real Variation – Scope	213.3		
Aug 04	Real Variation – Budgetary Adjustments	(0.2)		2
Sep 04	Real Variation – Transfers	1.0		3
			214.1	
Jul 10	Price Indexation		99.4	4
Jun 14	Exchange Variation		**(125.0)**	
Jun 14	**Total Budget**		**426.6**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – US Government Initial MOU	(194.9)		
	Contract Expenditure – US Government Follow-on MOU	**(34.8)**		
	Other Contract Payments / Internal Expenses	**(69.2)**		5
			(298.9)	
FY to Jun 14	Contract Expenditure – US Government Follow-on MOU	**(1.4)**		
	Other Contract Payments / Internal Expenses	**(1.2)**		6
			(2.6)	
Jun 14	**Total Expenditure**		**(301.5)**	
Jun 14	**Remaining Budget**		**125.1**	

Notes	
1	Heavyweight Torpedoes purchase under the ACP with the US.
2	Administrative Savings Harvest.
3	Transfer from SEA 1429 Phase 1.
4	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $91.5m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $7.9m having been applied to the remaining life of the project.
5	Other expenditure of **$69.2m** includes an amount of **$26.9m** to ASC Pty Ltd for platform design and installation (under the Through Life Support Agreement and **In Service Support Contract**); $10.0m to L3 Nautronics Pty Ltd, $5.0m RCS/MOU USN, **$4.6m** paid to DSTO and $3.2m to FMS Case (AT-P-GZU). The remaining expenditure of **$19.5m** covered sundry operating expenditure.
6	The amount of **$1.2m** is predominantly ASC Pty Ltd contract **expenditure of $0.9m**; with **the remaining $0.3m** being for sundry contractor services and operating expenditure.

2.2 In-year Budget Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**As of 30 June 2014, the total underspend against the budget is $1.0m. This underspend is primarily due to the postponement of Pre-FCD work on HMA Ship *Collins*. $0.8m is attributed to ASC with the remaining underspend due to travel savings within the project.**
		(0.8)	Overseas Industry	
			Local Industry	
			Brought Forward	
		(0.2)	Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
3.6	**2.6**	**(1.0)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government Initial MOU	Mar 03	336.7	**194.9**	Fixed	MOU	1, **2**
US Government Follow-on MOU	Nov 09	43.8	**45.1**	Fixed	MOU	**2**

Notes

1	US Government Initial MOU was closed in March 2013 **with variance attributable to positive exchange variation**.
2	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government Initial MOU	Classified	Classified	Heavyweight Torpedoes	
US Government Follow-on MOU	Classified	Classified	Heavyweight Torpedoes	

Major equipment received and quantities to 30 Jun 14

All weapon deliveries complete. Spiral 1 Software baseline achieved. Platform modifications in **five** submarines completed. **APB Spiral 4 software baseline achieved OR endorsement.**

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Final Design Review	Weapon Handling & Discharge Training Rig Modifications	Jun 05	N/A	Oct 05	4	1
	Submarine Weapon Handling & Discharge System Modifications	Jan 06	N/A	Nov 06	10	1
Acceptance	Weapon Handling & Discharge Training Rig Modifications	Nov 05	N/A	Nov 07	24	1
	Submarine Weapon Handling & Discharge System Modifications	Mar 06	N/A	Jun 07	15	1
Design Review	Mk 48 ADCAP Torpedo Specification Compliance	Dec 07	N/A	Feb 08	2	1

	Explosive Ordnance Approval Process (Spiral 1)	Mar 08	N/A	Mar 08	0	1
	Explosive Ordnance Approval Process (APB 4 – Exercise)	Nov 12	N/A	Feb 11	(21)	1
	Explosive Ordnance Approval Process (APB 4 – Warshot)	Jul 13	**N/A**	Jul 13	0	
Incorporation Approval	Weapon-Collins Combat System (AN/BYG-1 (V8)) Compatibility Certificate incorporating Spiral 1	May 08	N/A	May 08	0	2
	Weapon-Collins Combat System (AN/BYG-1 (V8)) Compatibility Certificate incorporating APB 4 Exercise	Dec 12	N/A	Mar 11	(21)	
	Weapon-Collins Combat System (AN/BYG-1 (V8)) Compatibility Certificate incorporating APB 4 Warshot	Jul 13	**N/A**	Jul 13	0	

Notes	
1	The above data represents rolled-up information as the project consists of many subsystems each of which has independent design review activities. As the critical path for these activities was defined by the FCD program, individual events within each of the above activities were allowed to move provided the delivery of the capability was not adversely impacted. Although some individual activities were ahead or behind schedule the project has maintained the critical path as defined by the FCD program. Additionally, the reported achieved dates are based on the signature of meeting minutes or reports by external organisations. As such, minor variance in the achievement dates can be attributed to the review and the subsequent approval process as recorded in meeting minutes and reports.
2	The Weapon-Collins Combat System (AN/BYG-1 (V8)) Compatibility Certificate, the RAN independent assessment of the suitability of the weapon for use on Collins Class submarines, was not separately scheduled but was dependent on the issue of the US Torpedo Specification Compliance (issued 22 February 2008) and was a pre-requisite for granting IOR (7 May 2008). The Compatibility Certificate was issued on 1 May 2008.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Harbour Acceptance Tests	Weapon Handling and Discharge Systems Post Mk 48 Mod 7 HWT Modification Test for HMA Ship *Waller*	Jan 07	N/A	Apr 07	3	1
Sea Acceptance Trials	Weapon Discharge System Mk 48 Mod 6/7 HWT Modification for HMA Ship *Waller*	Oct 07	N/A	Dec 07	2	1

Notes	
1	Variance is attributable to the Navy Regulatory Review process and submarine program.

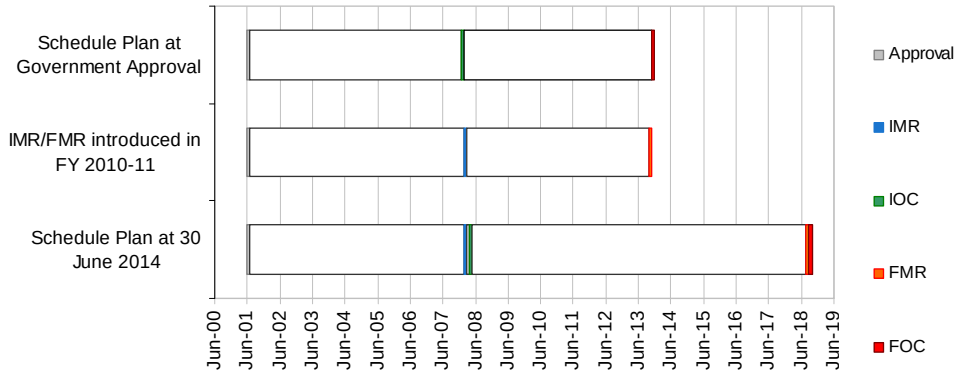
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Mar 08	N/A	
Initial Operational Capability (IOC)				
Platform Modifications and Spiral 1	Feb 08	May 08	3	1
APB 4	Nov 12	Mar 11	(20)	2
Final Materiel Release (FMR)	Nov 13	Aug 18	56	3

Final Operational Capability (FOC)				
Platform Modifications and Spiral 1	Jan 10	Mar 10	2	4
Project FOC	Nov 13	**Sep 18**	**57**	5

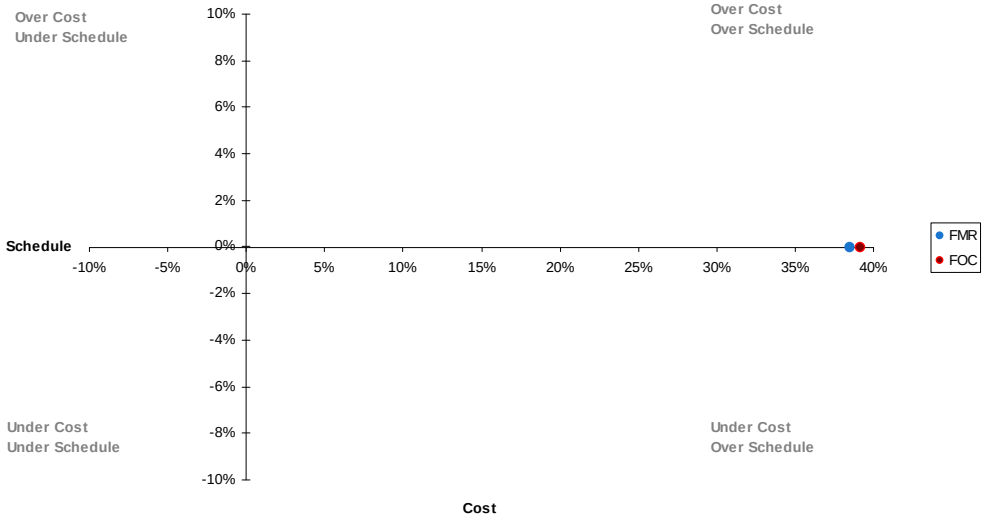
Notes	
1	Variance is attributable to the Navy Regulatory Review process.
2	Dependent upon US Government acquisition process.
3	FMR date was set before the FCD program had reached maturity in terms of the length of dockings and impact of emergent work and other capability upgrades. As a result, the HWT installation schedule has been delayed.
4	Variance is attributable to the Navy Regulatory Review process.
5	Achievement of FOC is dependent on Navy. The capability delivered by the project is consistent with the MAA and FOC will be achieved when the Capability Manager confirms all other Fundamental Inputs to Capability are complete.

Schedule Status at 30 June 2014



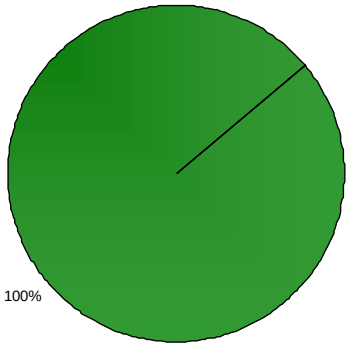
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** Torpedo performance **has been endorsed by Navy with the Operational Release of APB Spiral 4**. Training and simulation facilities requirements are currently being met. **Amber:** N/A **Red:** N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that productivity of the project team will be affected by a turnover of key personnel, leading to an impact on cost and schedule.	This risk is being mitigated by: • Recruitment of appropriately skilled staff to fill vacant positions; • Training of staff to maintain requisite skills and knowledge; • Engaging with project stakeholders and Submarine Branch resources to mitigate loss of corporate knowledge; and • Engagement of contractors for specific tasks where expertise is not available in house.
There is a chance that Final Operational Release will be affected by non-compliance with the Certification Basis, leading to an impact on cost and schedule.	**This risk has been reassessed by the Project and is now rated as a medium risk following Navy approval of APB Spiral 4 for operational use.**
There is a risk that delays to the submarine docking program as a result of higher operational priorities or material defects will adversely affect the Project platform integration program creating schedule delays and cost increases.	This risk is being mitigated by: • Active and frequent engagement with RAN, DMO and industry stakeholders to ensure that any proposed changes to planned maintenance activities properly consider the potential impact on project schedule and/or cost. • Through line management, the project team ensures that when considering changes to the Collins Integrated Master Schedule, committees such as the Sustainment Control Board and the **Project Control** Board are properly informed about potential impact on project schedule and/or cost.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

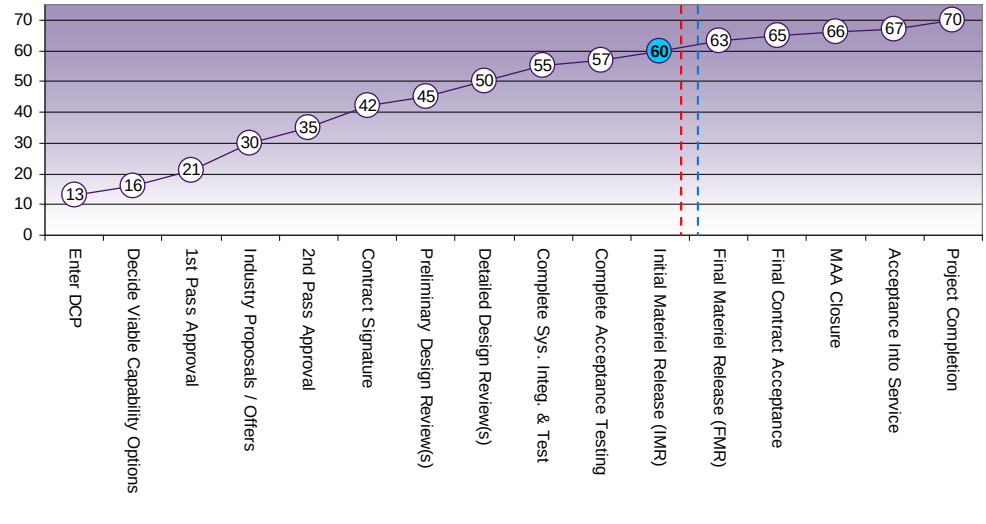
6.2 Major Project Issues

Description	Remedial Action
Uncertainty in the submarine docking cycle and the availability of submarines has impacted the HWT installation schedule.	Monitor Submarine Availability Group outcomes. The Project Office is not in a position to treat this issue, but is monitoring opportunities to install systems earlier.

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	**10**	8	8	8	9	8	**9**	**60**
Initial Materiel Release	Project Status	8	9	9	9	9	**8**	9	**61**
	Explanation	• **Schedule: FMR date was set before the FCD program had reached maturity in terms of the length of dockings and impact of emergent work and other capability upgrades. As a result, the HWT installation schedule has been delayed.** • **Cost:** The completion of APB 4 software operational testing completes a major deliverable. The remaining Project budget and contingency is considered adequate to cover any remaining project cost risk. • **Requirement:** System integration and testing processes have verified the platform modification requirements and those modifications apply to later Spiral baselines. The APB 4 baseline has also been accepted for IOR. • **Technical Understanding:** APB 4 software has completed operational testing.							



2012-13 DMO MPR Status - - - - 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Ensure that adequate staffing is available to execute the project particularly in the start up phase.	Resourcing
Ensure that all project dependencies are established before schedule is established.	Schedule Management
Identify all requirements for technical data and technology as early as possible in the project to allow the transfer requests to be administered. US Government International Traffic in Arms Regulation can require up to a year to progress.	Requirements Management
Engaging in a joint development project where Australia is the junior partner and largely dependent on the US Government program, can introduce project management, cost, technology and schedule risk that needs to be addressed.	First of Type Equipment

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Mr David Gould
Division Head	AVM Chris Deeble **(to Sep 13)**
Branch Head	Mr David Cochrane
Project Director	Mr David Connolly **(to May 14)** **CMDR Ian Jimmieson (Acting May 14–current)**
Project Manager	Mr Walt Daly **(to Feb 14)** **CMDR David Strangward (Acting Feb 14–current)**

Project Data Summary Sheet[210]

Project Name	**INDIAN OCEAN REGION UHF SATCOM**
Project Number	**JP 2008 Phase 5A**
First Year Reported in the MPR	2010-11
Capability Type	Upgrade
Acquisition Type	**MOTS**
Service	Joint Services
Government 1st Pass Approval	Mar 09
Government 2nd Pass Approval	Mar 09 and Mar 10
Total Approved Budget (Current)	**$419.1m**
2013-14 Budget	**$8.5m**
Project Stage	Integration and Test
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

This project will provide the Australian Defence Force (ADF) with twenty 25kHz UHF SATCOM channels on a hosted payload on a commercial Intelsat Satellite (IS-22), to provide coverage of the Indian Ocean Region, and associated ground infrastructure to provide network control.

1.2 Current Status

Cost Performance

In-year

This year the **underspend** of **$0.3m is due to delays with the prime contract milestones which has directly impacted the ability of Outsourced Service Providers to meet the agreed milestone dates. These deliverables have slipped to Financial Year 2014-15.**

Project Financial Assurance Statement

As at 30 June 2014, project JP 2008 Phase 5A has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

The IS-22 satellite was successfully launched on 25 March 2012. **Materiel Release (MR) for the Indian Ocean Region was achieved on 21 December 2012.** In May 2012, additional Network Control System

210 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

(NCS) design review and test and evaluation milestones were added to the project. **In December 2013 a Contract Change Proposal was signed moving FMR for the Network Control System (NCS) to September 2014. Further to that contract change, the NCS is experiencing software development delays resulting in a further slip of 8 months to FMR (NCS). FMR (NCS) is now forecast to be achieved in May 2015 (14 months behind schedule).**

Materiel Capability Delivery Performance

The IS-22 satellite is currently meeting all performance measures, including:

- the hosted payload; and
- the Communications System Monitor (CSM).

The NCS contract was executed on 16 May 2012, factoring United States (US) requirements of Defense Information Systems Agency and Space and Naval Warfare System Command. The implementation strategy was reported to Government. **The Integrated Waveform NCS is the largest remaining scope to be delivered. An issue with the modification of Commercial Off The Shelf software has caused delay. The software has been demonstrated to NATO and US Department of Defence and is the leading Integrated Waveform Channel Controller in the world and is gaining international interest.**

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The JP 2008 Phase 5 project was created to provide capability originally planned for under the JP 2008 Phase 4 Next Generation SATCOM Capability project (a result of Phase 4 of the project being re-scoped to provide access to the Wideband Global Satellite (WGS) capability).

UHF SATCOM provides critical tactical radio coverage over the Middle East Area of Operations, particularly to Special Forces in Afghanistan. Coverage was provided by leases on two commercial satellites and channels loaned by the US Government on an availability basis, which proved to be significantly less than the capability needed by the ADF. This project was also formed on the basis that LEASAT 5 would reach end of life in 2011. LEASAT 5 now has an extended life beyond 2013 due to a change in orbital location, however, only a single channel is available on LEASAT 5.

A market survey was conducted in September 2008 to inform cost and capability options for JP 2008 Phase 5A. It revealed an opportunity for Defence to host a payload on an Intelsat commercial satellite over the region in mid 2012. A Restricted Request For Tender was subsequently let to ten companies for the capability in November 2008 and Intelsat was selected as the preferred tenderer.

Combined first and second pass Government Approval was given in March 2009 and a contract was signed with Intelsat for eight 25 kHz channels and 15 years support in April 2009.

First pass Government approval was given for the project to pursue a Memorandum Of Understanding with the US to provide global UHF SATCOM coverage using US satellites in return for access to ten 25 kHz channels on IS-22.

A subsequent second pass approval was given in March 2010 which allowed the project to procure the full payload on IS-22.

With the signature of the NCS contract with ViaSat Inc in May 2012, additional design review and test and evaluation milestones were added to the project. These milestones relate to the development and procurement of the UHF Channel Control System.

Uniqueness

The contract with Intelsat is based on the standard DMO ASDEFCON template; however, it required significant tailoring based on input from specialist space lawyers. There are also a number of unique aspects to a contract for a satellite, including the unusual risk profile of the Launch and the corresponding high degree of schedule uncertainty which is typical of a satellite program where product quality requires a high priority.

A UHF Channel Control system was designed and developed to meet the requirements of Australian and US forces.

Major Risks and Issues

A major **issue** for the project resulted from a compressed Government approval process, which impacted on the timely generation of the Capability Development Documentation suite. This compressed approvals process also meant that ancillary parts of the capability such as the NCS were not fully considered for cost and schedule as would have occurred if a full first to second pass process had occurred. Notwithstanding this, these sub-systems represent relatively small parts of the capability and cost of the project.

There still remains major **risks** on the delivery of the UHF NCS and its essential interoperability requirement to meet the operational needs of the ADF and US forces. **These are emergent risks involving certification, network links, training requirements and the contractor's schedule.**

Other Current Sub-Projects

JP 2008 Phase 3E Advanced SATCOM Terrestrial Infrastructure System: This project provides the supporting ground infrastructure for Satellite Communications including UHF, X and Ka band communication services.

JP 2008 Phase 3F ADF SATCOM Terrestrial Enhancements: This project will provide the mature Australian Western Seaboard anchoring capability for the WGS constellation.

JP 2008 Phase 4 Next Generation SATCOM Capability: Provision of WGS.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
N/A	N/A	N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Feb 09	Original Approved		4.0	
Apr 09	**Government Initial Second Pass Approval**	269.1		
Apr 10	**Government Subsequent Second Pass Approval**	187.8		1
Jun 14	**Real Variation – Real Cost Decrease**	**(18.0)**		**2**
			438.9	
Jul 10	Price Indexation		18.0	3
Jun 14	Exchange Variation		**(41.8)**	
Jun 14	**Total Budget**		**419.1**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Intelsat Prime	**(294.4)**		**4**
	Contract Expenditure – ViaSat Prime	**(17.4)**		4, **5**
	Other Contract Payments / Internal Expenses	**(16.6)**		**4**, 6
			(328.4)	
FY to Jun 14	Contract Expenditure – ViaSat Prime	**(6.4)**		**5**
	Other Contract Payments / Internal Expenses	**(1.8)**		6
			(8.2)	
Jun 14	**Total Expenditure**		**(336.6)**	
Jun 14	**Remaining Budget**		**82.5**	

Notes	
1	The Initial Second Pass Approval was for eight channels and the Subsequent Second Pass Approval was for the remaining channels of the hosted payload.
2	**Real Cost Decrease was a result of Project Office negotiating insurance for payload launch into the contract. Separate launch insurance no longer needed.**
3	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $16.5m. In addition to this amount, the impact on the project budget as a result of out-turning was a further ($19.6m) having been applied to the remaining life of the project. For this project, that process was incorrectly executed but corrected in January 2012 by returning $30.9m to the budget; $21.1m and $9.9m for impacts of price and exchange variations respectively.
4	**Due to allocation errors in the 2012-13 MPR, prior year expenditure allocations have been slightly amended to reclassify Other Contract Payments / Internal Expenses ($1.3m) to Intelsat ($1.1m) and ViaSat ($0.2m).**
5	This contract was previously disclosed as NCS Prime.
6	Other **Contract Payments / Internal Expenses comprise of other Capital and Operating Expenditure** not attributable to the aforementioned contracts**.**

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**JP 2008 Phase 5A has under achieved due to delays with the prime contract milestones which has directly impacted the ability of Outsourced Service Providers to meet the agreed milestone dates. These deliverables have slipped to Financial Year 2014-15.**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
		(0.3)	Commonwealth Delays	
8.5	**8.2**	**(0.3)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Intelsat	Mar 09	202.5	**354.6**	Firm	ASDEFCON (COMPLEX)	**1, 4**
ViaSat	May 12	36.5	**40.7**	Firm	ASDEFCON (COMPLEX)	**2, 3, 4**

Notes	
1	**The projected Intelsat Contract Price at 30 June 2014 includes Acquisition lines totalling $294.4m and Sustainment lines totalling $60.2m. The increase in contract price is due to a Contract Change Proposal in 2010 which included 12 additional hosted UHF payload channels and a Communications System Monitor.**
2	This contract was previously disclosed as NCS Prime.
3	**The projected ViaSat Contract Price at 30 June 2014 includes Acquisition lines totalling $33.6m and Sustainment lines totalling $7.1m.**
4	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Intelsat	8	20	25kHz UHF SATCOM channels on IS-22 Hosted Payload	
Major equipment received and quantities to 30 Jun 14				
All 20 channels were delivered successfully on 25 May 2012 and are now operational.				

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	IS-22 Hosted Payload	Jun 09	N/A	Jun 09	0	
	NCS	Aug 12	N/A	Aug 12	0	
Preliminary Design	IS-22 Hosted Payload	Nov 09	N/A	Oct 09	(1)	
	CSM	Oct 10	N/A	Nov 10	1	1
Critical Design	IS-22 Hosted Payload	Sep 10	N/A	Sep 10	0	
	CSM	Mar 11	N/A	Mar 11	0	
	NCS	Mar 13	N/A	Mar 13	0	

Notes	
1	The review was conducted in October 2010 but approval by the Project Office did not occur until November 2010 due to a number of issues with requirements traceability that required rectification.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	IS-22 Hosted Payload	Nov 10	N/A	Feb 11	3	1
	CSM	Sep 11	N/A	Oct 11	1	2
	NCS	Nov 13	**Sep 14**	**Apr 15**	**17**	**3**
Acceptance	IS-22 Hosted Payload	Jun 12	N/A	May 12	(1)	
	CSM	Jul 12	N/A	Jun 12	(1)	
	NCS	Mar 14	**Sep 14**	**May 15**	**14**	**3**

Notes	
1	Delay to commencement of integration was driven by a number of delays in sub system deliveries forming part of the hosted payload including C and Ku antennas (not forming part of this capability) and the UHF antenna.
2	While installation commenced in September 2011, testing to confirm that the installation met requirements was completed in October 2011.
3	**In February 2014 ViaSat advised the Commonwealth of software design delays affecting the NCS schedule.**

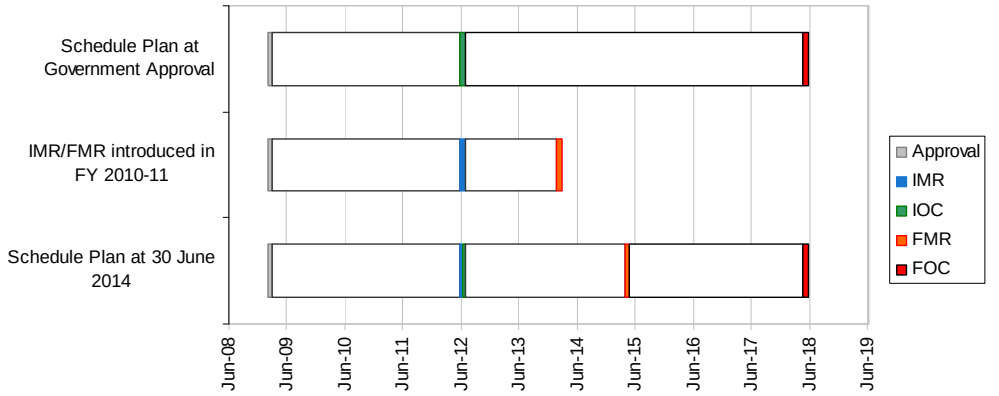
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jul 12	Jul 12	0	
Initial Operational Capability (IOC)	Jul 12	Jul 12	0	
Materiel Release (MR) # 1 (Indian Ocean)	Sep 12	Dec 12	3	**1**
Operational Capability (Indian Ocean)	Sep 12	**Aug 15**	**35**	**2**

Final Materiel Release (FMR) # 2 (Network Control System)	Mar 14	**May 15**	**14**	**3**
Final Operational Capability (FOC) (Pacific Ocean)	Jun 18	Jun 18	0	**4**

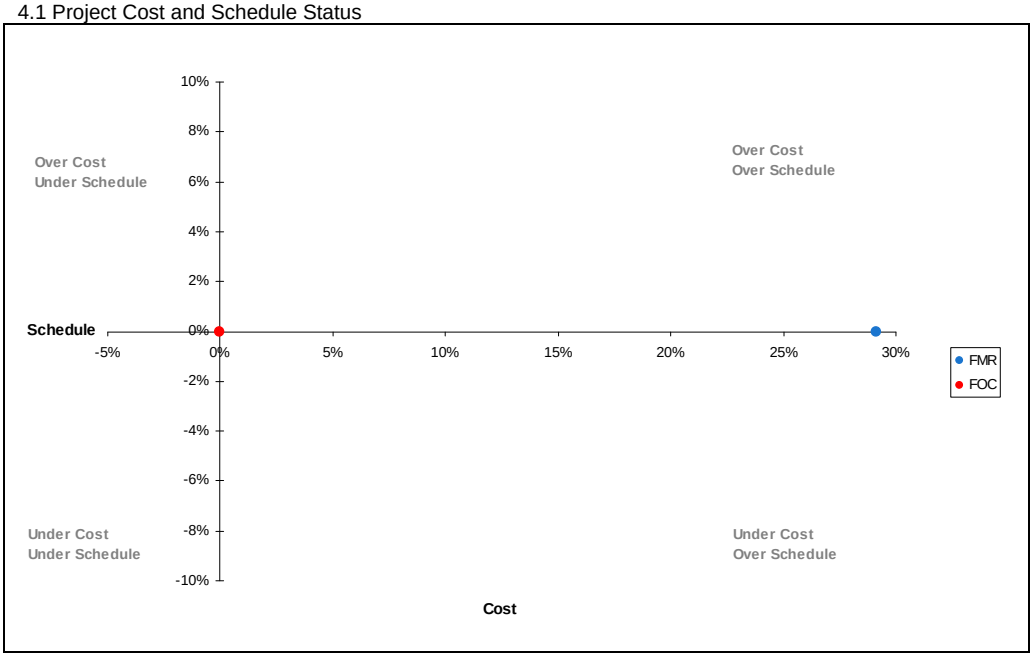
Notes	
1	MR was claimed on 28 September 2012. Chief Information Officer Group (CIOG) requested additional information which was supplied and MR was achieved on 21 December 2012.
2	**Operational Capability (Indian Ocean) is scheduled to be declared in August 2015 to allow a period of Operational Test and Evaluation Post FMR.**
3	**In February 2014 ViaSat advised the Commonwealth of software design delays. This will not affect FOC in June 2018.**
4	CIOG will be in a position to acquire agreed UHF capacity from the US as their capacity builds up in the region. A review of project submission documents to Government highlighted the omission of some key milestone dates in the PDSS.

Schedule Status at 30 June 2014



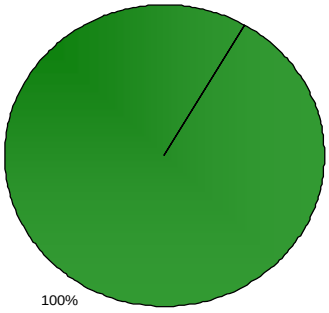
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green**: Materiel will meet overall performance requirements which are determined by the hosted payload.
	Amber: N/A
	Red: N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
N/A	**N/A**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
There is a risk that the technical certification will not be achieved due to new Systems Program Office engineering processes resulting from the change from Navy Technical Regulation Framework to Army Technical Regulation Framework.	**The Project Office will engage with the Design Approval Authority Representative and the Chief Engineer. The Project Office will also sign the Technical Certification Plan.**
There is a risk that CIOG Network Links will not be available in a timely manner to support system roll out.	**The project has engaged an Information and Communications Technology Business Request with CIOG and engaged a Project Manager from CIOG to manage this work.**
There is a risk any errors encountered during testing will require rework but schedule does not have much slack for rework.	**The Project Office will request additional access to the software builds from the contractor.**
There is a risk that the baseline used for development, draft military standard 188-185, may yet be further revised prior to formalisation.	**The Project Office will reassess this risk once the military standard has been formalised.**
There is a risk that Acceptance Test and Evaluation will not have radios available for Integrated Waveform.	**The Project Office will engage other projects and request use of their radios.**
There is a risk that training will not be accepted as there is no approval regime in place.	**The Project Office is looking into other avenues for training acceptance, including external independent Registered Training Organisations approving the training.**

6.2 Major Project Issues

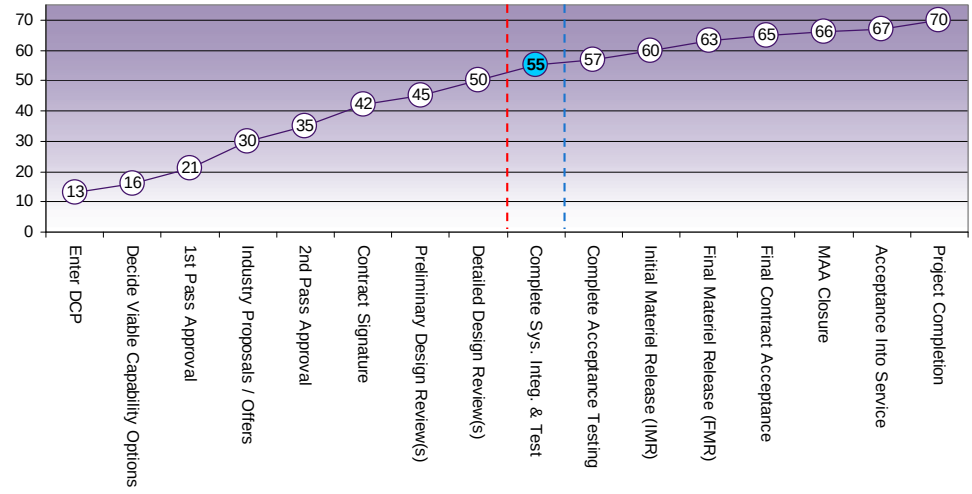
Description	Remedial Action
The training requirements are not clearly defined in the projects scope of work. The current training is inadequate.	**The CMS training has improved and was successfully delivered in August 2013. This issue has been closed following transition to sustainment.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	8	7	8	8	8	8	8	55
Integration and Test	Project Status	**8**	**8**	8	7	8	**7**	7	**53**
	Explanation	• **Cost:** IS-22 is essentially an off the shelf product on a firm fixed price contract which means the project is ahead of the benchmark.							

		• **Technical Understanding and Operations and Support:** Defence is still developing the Concept of Operations for the capability. • **Commercial: The Commonwealth has received formal notification from the contractor that contract milestones will be delayed.**



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
N/A	N/A

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward
Branch Head	Mr Ivan Zlabur **(to Oct 13)** **Ms Myra Sefton (Oct 13–current)**
Project Director	Mr Greg McKinnon **(to Sep 13)** **Mr Paul Davies (Sep 13–current)**

UHF SATCOM

Project Data Summary Sheet[211]

Project Name	**COLLINS CLASS SUBMARINE RELIABILITY AND SUSTAINABILITY**
Project Number	**SEA 1439 Phase 3**
First Year Reported in the MPR	2009-10
Capability Type	Upgrade
Acquisition Type	**Australianised MOTS**
Service	Royal Australian Navy
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Sep 00
Total Approved Budget (Current)	**$411.7m**
2013-14 Budget	**$10.8m**
Project Stage	Detailed Design Review
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

SEA 1439 Phase 3 is a program of upgrades to Collins Class platform systems and shore infrastructure to improve the Class reliability, sustainability, safety and capability **for each of the six submarines**.

1.2 Current Status

Cost Performance

In-year

Year to date variance is attributed to the non payment of the ASC invoice for June 2014 which is forecast for payment in July 2014.

Project Financial Assurance Statement

As at 30 June 2014, project SEA 1439 Phase 3 has reviewed the project's approved scope and budget for those elements required to be delivered by the Defence Materiel Organisation (DMO). Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

Project SEA 1439 Phase 3 does not have a formal contingency allocation.

211 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

The project consists of 22 separate sub-projects of which the outstanding elements are aligned to the Collins Class Submarine Integrated Master Schedule (IMS). The IMS depicts the submarine maintenance **periods** where project implementation can be performed. Submarine installations are consistent with the approved Materiel Acquisition Agreement (MAA) schedule; however, each installation is dependent on the Full Cycle Docking (FCD) program, consequently completion dates vary according to maintenance availability.

Installation of engineering enhancements **were completed** on HMA Ship *Rankin* **on completion of the FCD and continue on HMA Ship *Dechaineux* and *Farncomb* during the scheduled docking period**. HMA Ship *Collins* FCD has been re-scheduled to commence in 2016 due to a baseline change to the IMS, **however some preliminary work has commenced to take advantage of the pre-FCD period allowing access to the platform.** The project **continues to progress** non-platform activities pertaining to the Diesel Land Based Test Facility with completion of the upgraded seismic concrete slab and manufacture of the mounting assembly.

Materiel Capability Delivery Performance

Only two sub-projects provide new capabilities; Special Forces upgrade and the Torpedo Decoy. The remaining sub-projects are medium to low complexity engineering enhancements. The Special Forces upgrade provides three capabilities. Two have achieved Operational Release (OR), while the remaining capability (Exit & Re-entry) has been delayed due to the requirement to implement safety modifications identified during the manned Sea Verification Trial. These safety modifications have been developed and are **being installed on** HMA Ship *Dechaineux* in Mid-Cycle Docking.

Torpedo Decoy received Initial OR on 2 May 2014 by Chief of Navy.

Thirteen engineering enhancements have been completed by the project. The remaining enhancements will be implemented progressively until 2022 subject to the submarine availability and the FCD program.

Note

The capability assessments and forecast by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

In 1999, Government sponsored the '*McIntosh and Prescott Report*' into submarine capability, which was followed by a subsequent review by Head Submarine Capability Team who identified capability, reliability and sustainability issues with the Collins Class platform and associated shore infrastructure. In 2000, Government approved project funds to design and implement engineering enhancements for as many of these capability and materiel deficiencies as possible within the allocated budget. Government also approved a "global budget" whereby Head Maritime Systems could approve transfer of funding between SEA 1439 Phase 3, SEA 1439 Phase 4B (Improvements to Collins Sensors), SEA 1439 Phase 4A (Replacement Combat Systems) and SEA 1429 (Replacement Heavyweight Torpedo) to achieve optimum capability. Under the global budget there have been reductions in funding allocations to SEA 1439 Phase 3 in favour of SEA 1439 Phase 4A and SEA 1429, with a commensurate reduction in the number of engineering enhancements to be implemented through SEA 1439 Phase 3.

The scope of this project is limited to the reliability and sustainability issues identified in the 1999 review and not the more contemporary reliability and sustainability issues relating to diesel engines, generators, batteries or the main motor; those issues are being addressed under the submarine sustainment program.

Many of the engineering enhancements can only be installed during the submarine FCD program and although most design and development activities are complete, submarine upgrades are contingent on the FCD program, which will run to 2022.

A total of 24 platform upgrades were originally identified in the initial MAA. However, two were removed due to one being technically infeasible and the other overlapping with another project. The remaining 22, consisting of two new capabilities and 20 engineering enhancements, have been identified for action under the project. **Thirteen** engineering enhancements have been completed and the two new capabilities are being implemented. However, completion of the remaining **seven** engineering enhancements is priority driven and will be continually reassessed throughout the project.

The two new capabilities and core engineering enhancements managed by the SEA 1439 Phase 3 project, which represent the highest priority and spend profile, and specifically disclosed in this report include:

- **Special Forces Upgrade (New Capability):** To provide three basic levels of capability and to further enhance the capabilities to a fully deployable state in two submarines.

- **Torpedo Counter Measures Internal Stores (Torpedo Decoy) (New Capability):** To provide a programmable counter measure against torpedos.
- **Fire Fighting Upgrade (Engineering Enhancement):** Upgrade to the fire fighting systems onboard, including greater protection from fire and its toxic by-products.
- **Sewage System Upgrade (Engineering Enhancement):** Automation of the sewage discharge system and thereby reduce the risks of exposure to toxic gases.
- **Fast-Track modifications to Submarines 1, 2, 3 and 6 (Engineering Enhancement):** Address platform build deficiencies in a holistic get-well program.

The remaining platform upgrades (engineering enhancements) **are outlined** in ANAO Report No. 17 2010-11: *2009-10 Major Projects Report.*

Uniqueness

Project SEA 1439 Phase 3 installs prioritised engineering enhancements and acquires replacement materiel as a part of ensuring continuous improvement of the Submarine fleet**.** Engineering enhancements were undertaken by ASC Pty Ltd (ASC) under an annualised cost-plus Through Life Support Agreement (TLSA); however as of 1 July 2012 this work is now contracted under an In Service Support Contract (ISSC) as a cost-reimbursement arrangement. Implementation of the ASC contract scope of work is linked to the boat IMS and driven by availability requirements mandated by Chief of Navy and **General Manager Submarines**.

Major Risks and Issues

Engineering enhancements are managed on a prioritised basis within the funding available, with implementation aligned to the IMS which is not controlled by the project. Where schedule slip occurs, there is the potential for impact on project cost performance.

Budget management under the cost reimbursement arrangement of the ISSC presents a major challenge for the project in achieving monthly expenditure. This is due to the alignment of phased expenditure and the supplier's ability to move work within the total work program to achieve contracted performance goals.

Other Current Sub-Projects

SEA 1439 Phase 3.1 Collins Obsolescence Management - Integrated Ship Control Management and Monitoring System Obsolescence: Project scope includes remediating obsolescence of the Integrated Ship Control Management and Monitoring System in the Collins Submarines and shore facilities. Stage One includes purchasing two boat sets and completion of the first installation.

SEA 1439 Phase 4A Replacement Combat System: To provide Collins Class Submarines with the US Navy Tactical Command and Control System; minor improvements to the Combat System Augmentation; sonar and shore facilities for integration, testing and training.

SEA 1439 Phase 4B Weapons and Sensor Enhancements: Acquire endorsed supplies to address deficiencies identified, in the area of Submarine weapons and sensors.

SEA 1439 Phase 5B1 Communications Mast and Antenna Replacement Class Fit: The project aims to fit five submarines with the communications fit developed and tested under Project SEA 1439 Phase 4B, along with one spare antenna, one spare mast raising equipment and spares.

SEA 1439 Phase RCE3 EHF Covert Communications Capability: Extreme High Frequency (EHF) Covert Communications Capability for a single Collins Class Submarine.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
SEA 1439 Phase 4A Replacement Combat System	**Refer above.**	SEA 1439 Phase 3 has provided Global Positioning Systems to SEA 1439 Phase 4A for installation with each Replacement Combat System implementation.
SEA 1446 Phase 1 Interim Minimum Operating Capability	Combat System Augmentation and a number of platform system modifications to two submarines and shore infrastructure.	SEA 1446 Phase 1 supplied approved and verified fast track platform designs for implementation into four submarines.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Sep 00	Original Approved		72.0	
Apr 01	Real Variation – Transfers	3.7		1
Jul 01	Real Variation – Scope	302.8		2
Sep 02	Real Variation – Transfers	(42.0)		3
Aug 04	Real Variation – Budgetary Adjustments	(0.3)		4
Aug 05	Real Variation – Budgetary Adjustments	(0.5)		5
Oct 06	Real Variation – Scope	7.5		6
			271.2	
Jul 10	Price Indexation		74.4	7
Jun 14	Exchange Variation		**(5.9)**	
Jun 14	**Total Budget**		**411.7**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – ASC Pty Ltd	**(224.0)**		
	Other Contract Payments / Internal Expenses	**(110.7)**		8
			(334.7)	
FY to Jun 14	Contract Expenditure – ASC Pty Ltd	**(7.2)**		
	Other Contract Payments / Internal Expenses	**(1.9)**		9
			(9.1)	
Jun 14	**Total Expenditure**		**(343.8)**	
Jun 14	**Remaining Budget**		**67.9**	

Notes	
1	Transfer from SEA 1439 Phase 1B.
2	Implementation of a reliable and sustainable Platform (full scope).
3	Transfer to SEA 1439 Phase 4A as part of initial approval.
4	Administrative Savings harvest.
5	Skilling of Australia's Defence Industry harvest.
6	Real Cost Increase for Special Forces modification to an additional Collins Class submarine.
7	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $66.7m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $7.7m having been applied to the remaining life of the project.
8	Other expenditure comprises $54.6m against multiple minor contracts with Defence companies (including Australian companies), contractor and consultancy services associated with the delivery of this project and project specific travel expenses. Other examples of significant expenditure include $12.3m for the Propulsion Control Reference System, $11.7m to L3 Nautronix Ltd for the underwater communications system (HAIL) and sonobuoy (PASOR), $9.3m for the Towed Array Handling System, **$5.9m** for general operating expenditure, $4.7m for contractor service providers, $4.1m for minor contracts, $3.7m with Thales for the Underwater Telephone and $3.1m for Torpedo decoy procurement.
9	Other expenditure comprises **$1.7m to BAE Systems Australia for Generator Procurement and $0.2m for** operating expenditure, contractors and consultants.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**End of financial year variance is attributed to the non payment of the ASC invoice for June 2014. Project Office is forecasting a $1.7m June invoice to be paid in July 2014.**
			Overseas Industry	
		(1.7)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
10.8	**9.1**	**(1.7)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
ASC Pty Ltd	Jul 12	N/A	N/A	Variable (Cost Reimbursement)	ASDEFCON	1

Notes	
1	The contract is structured as follows; Initial two year Transition Period **1 July 2012 to 30 June 2014** - Cost Reimbursement arrangements with Direct Project Costs (DPCs) reimbursed subject to defined rules and constraints and an agreed Budget Cost Estimate of DPCs for the Period. Subsequent five year mature Performance Periods from **1 July 2014** - Target Cost Incentive Model arrangements with DPCs reimbursed subject to defined rules and constraints and an agreed Target Cost Estimate of DPCs for the five year Period, reset at the end of three years.

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
ASC Pty Ltd	N/A	N/A	See 1.3 Project Context: Background for further information.	

Major equipment received and quantities to 30 Jun 14
A total of 22 platform upgrades (consisting of two new capabilities and 20 engineering enhancements) continue to be progressed for each of the six submarines - subject to the **IMS**.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned (Note 1)	Achieved /Forecast (Note 1)	Variance (Months)	Notes
Final Design Review	Special Forces	N/A	N/A	Dec 04	N/A	2
	Torpedo Decoy	Jun 10	N/A	Jul 10	1	
	Fire Fighting Upgrade	N/A	N/A	Jun 04	N/A	2
	Sewage System Upgrade	N/A	N/A	Nov 04	N/A	2
	Fast Track Enhancements	N/A	N/A	N/A	N/A	
First of Class Implementation	Special Forces (COLLINS)	Jun 05	N/A	Oct 07	28	3, 4
	Torpedo Decoy	Jun 10	N/A	Jun 10	0	
	Fire Fighting Upgrade (RANKIN)	Jul 06	N/A	Oct 07	15	
	Sewage System Upgrade (WALLER)	Jul 06	N/A	Jul 08	24	

	Fast Track Enhancements (RANKIN)	May 01	N/A	Jun 06	61	
Full Class Implementation	Special Forces (COLLINS)	May 08	May 18	May 18	120	3, 4, 5
	Torpedo Decoy	Oct 13	N/A	**Dec 13**	**2**	**6**
	Fire Fighting Upgrade (SHEEAN)	Sep 22	N/A	Sep 22	0	
	Sewage System Upgrade (**COLLINS**)	Mar 17	N/A	May **18**	**14**	**5**
	Fast Track Enhancements (WALLER)	Jul 06	N/A	Nov 07	16	

Notes	
1	The above data represents rolled-up information within the listed sub-projects each of which has many independent design review activities associated with over 100 Configuration Change Proposals. As the critical path for these sub-projects was broadly defined by the submarine docking program, individual activities within each of the above sub projects were allowed to move provided the delivery of the capability was not impacted adversely by delaying the completion of the specific docking. Although some individual activities were ahead or behind schedule the project has maintained the critical path as defined by the submarine docking program.
2	In some instances, the original planned schedule for sub projects was incorporated into the submarine maintenance schedule which was maintained by ASC. ASC update the maintenance schedule annually and do not retain original schedule information. Consequently, apart from post June 2005 activities supported by a MAA, it is not possible to provide the original planned dates for some platform upgrade projects, which were scheduled to occur during an unstable FCD Program. Fast Track was initially installed on two submarines and managed under SEA 1446 Phase 1. SEA 1439 Phase 3 is responsible for rolling out those changes to the remaining four submarines. As such, all design and associated design review and approval was achieved under SEA 1446 Phase 1 Collins Class Interim Minimum Operating Capability.
3	HMA Ship *Collins* received modifications for Multi Swimmer Release and Float on/Float off which comprise two of the three Special Forces capabilities. The third (Exit and Re-entry) required redesign to increase diver safety following sea trials conducted in HMA Submarine *Collins* in 2008.
4	The Special Forces safety modifications identified during the manned Sea Verification Trial have been developed and are awaiting implementation during HMA Ship *Dechaineux* Mid-Cycle Docking, scheduled to be completed by December 2014 in accordance with the IMS.
5	Full class implementation will be achieved on the completion of HMA Ship *Collins* FCD which is scheduled for May 2018 in accordance with the IMS.
6	Full class implementation **has** been achieved **with the approval of the Configuration Change Instruction. Variance is a result of minor delays in the Configuration Management process.**

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned (Note 1)	Achieved /Forecast (Note 1)	Variance (Months)	Notes
Harbour Acceptance Test (HAT)	Special Forces (COLLINS)	Jun 05	N/A	Sep 06	15	
	Torpedo Decoy	Jun 10	N/A	Jun 10	0	
	Fire Fighting Upgrade (RANKIN)	Oct 13	May 14	May 14	7	2
	Sewage System Upgrade (WALLER)	Jul 06	N/A	Mar 07	8	
	Fast Track Enhancements	N/A	N/A	N/A	N/A	

Sea Acceptance Test (SAT)	Special Forces (COLLINS)	Aug 05	N/A	Dec 07	28	3
	Torpedo Decoy	Jul 10	N/A	Jul 10	0	
	Fire Fighting Upgrade	N/A	N/A	N/A	N/A	
	Sewage System Upgrade (WALLER)	Aug 06	N/A	Oct 07	14	
	Fast Track Enhancements	N/A	N/A	N/A	N/A	

Notes

1 The original planned schedule for all sub-projects was incorporated into the submarine maintenance schedule, the IMS. ASC update the maintenance schedule pertaining to specific dockings as required to achieve schedule performance and do not retain original schedule information. Additionally, test and evaluation is linked to the post docking test and trials, therefore, the true variance will reflect the variance in Section 3.1.

Fast Track was initially installed on two submarines and managed under SEA 1446 Phase 1. SEA 1439 Phase 3 is responsible for rolling out those changes to the remaining four submarines. As such, HAT and SAT was achieved under SEA 1446 Phase 1.

2 Variance **was** attributed to the change in schedule completion of HMA Ship *Rankin* FCD from October 2013 Version (IMS V3.3) and the current baselined IMS.

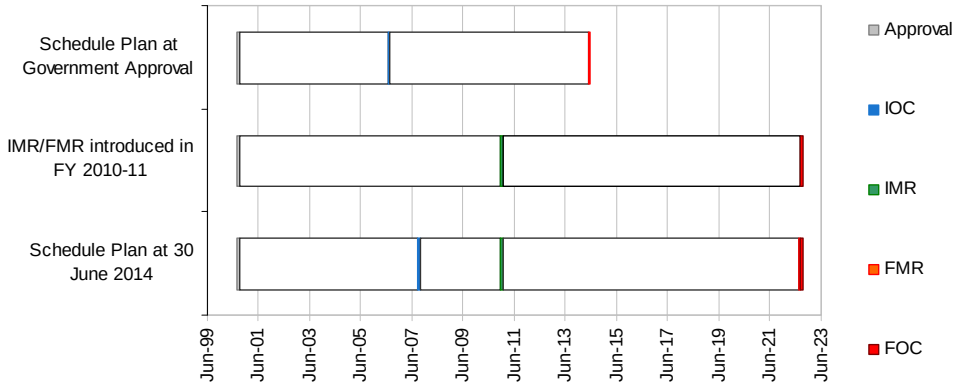
3 HMA Ship *Collins* received modifications for Multi Swimmer Release and Float on/Float off which comprise two of the three Special Forces capabilities. The third (Exit and Re-entry) required redesign to increase diver safety following sea trials conducted in HMA Ship *Collins* in 2008. The redesigned safety modifications identified have been developed and are awaiting implementation during HMA Ship *Dechaineux* Mid-Cycle Docking scheduled to be completed by December 2014. Sea Acceptance testing will be conducted again to verify the modifications. Redesigned safety modifications for HMA Ship *Collins* FCD are scheduled for May 2018 in accordance with the IMS, upon completion HAT and SAT will be conducted.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved / Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Jan 11	N/A	
Initial Operational Capability (IOC)				
Initial Operational Release Special Forces (DECHAINEUX)	Nov 10	Dec 14	49	1
Initial Operational Release Torpedo Decoy	Aug 10	**May 14**	**45**	1
Fire Fighting Upgrade (RANKIN)	Oct 13	May 14	7	2
Sewage System Upgrade (WALLER)	Aug 06	Oct 07	14	3
Fast Track **Enhancements**	N/A	N/A	N/A	4
Final Materiel Release (FMR)	Oct 22	Oct 22	0	
Final Operational Capability (FOC)				
Operational Release of Special Forces	Jun 07	Dec 15	102	5
Operational Release of Torpedo Decoy	Jun 14	**Jun 15**	**12**	**6**
Fire Fighting Upgrade (SHEEAN)	Jun 14	Sep 22	99	7
Sewage System Upgrade **(COLLINS)**	Jun 14	**May 18**	**47**	7
Fast Track **Enhancements** (WALLER)	Jul 06	Nov 07	16	8

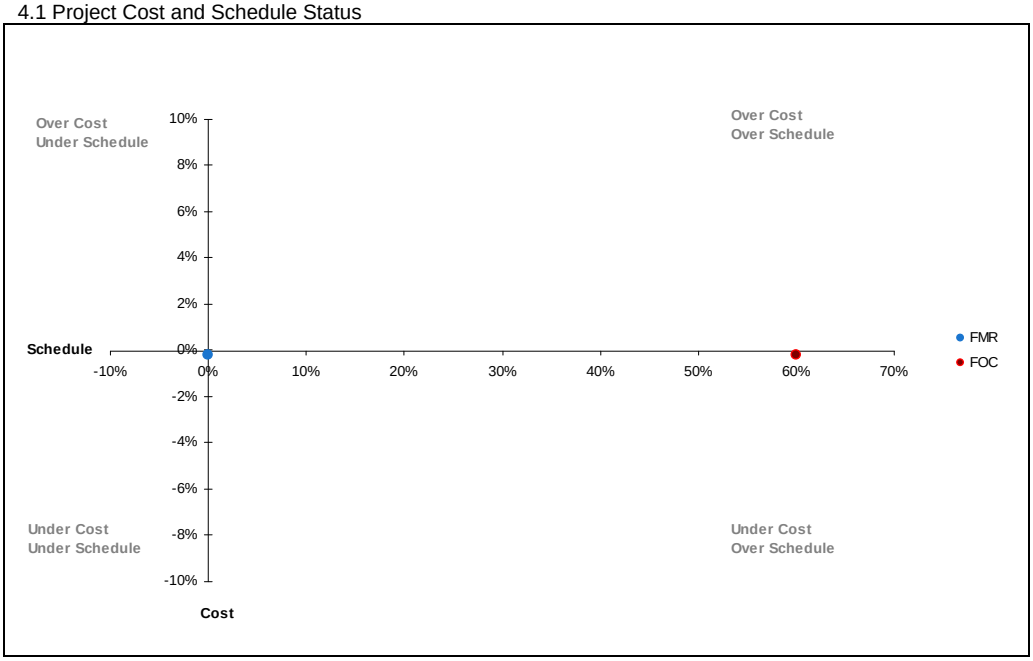
Notes	
1	**Special Forces modifications have been delayed due to the requirement to implement safety modifications identified during the manned Sea Verification Trial. These safety modifications have been developed and are being installed on HMA Ship *Dechaineux* in Mid-Cycle Docking.** **Torpedo Decoy received Initial OR on 2 May 2014 by Chief of Navy.**
2	IOC is linked to successful completion of the HAT, where any variance will be caused through movement in the docking maintenance schedule. These dates are based on the IMS**.**
3	IOC is linked to completion of the FOC SAT. Variance due to changes in docking maintenance schedule since original MAA.
4	Fast Track initially installed on two submarines and managed under SEA 1446 Phase 1. SEA 1439 Phase 3 is responsible to roll out to remaining four submarines. IOC was the responsibility of SEA 1446 Phase 1.
5	The MAA delivery date was for HMA Ship *Collins* only. HMA Ship *Dechaineux* implementation through MAA amendment created variance. The delay was further influenced by contractor workforce constraints and the phased delivery of capability enhancements to the Special Forces systems.
6	**Delay in achieving IOR for the Torpedo Decoy has caused a delay to OR to allow for Navy to conduct the required Operational Test and Evaluation Period.**
7	Variance due to changes in docking maintenance schedule since original MAA.
8	Fast Track initially installed on two submarines and managed under SEA 1446 Phase 1. This project installed the Fast Track upgrades across the remaining four submarines. Variance due to changes in docking maintenance schedule since original MAA.

Schedule Status at 30 June 2014



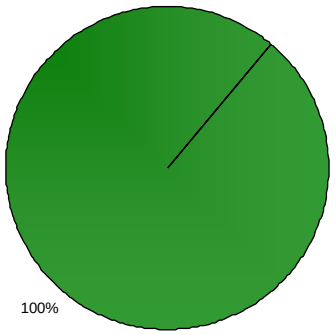
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** Upgrades to platform and shore infrastructure are meeting operational, functional and safety requirements. Upgrades are rectifying capability deficiencies with the initial system. Appropriate and timely training provided to operators and maintainers is occurring. Submarines meet the requirements of the Navy Technical Regulations. System upgrades meet supportability requirements as defined under individual system upgrade certification plans. Special Forces Exit and Re-entry safety modifications could not be achieved within the Materiel Release Tranche Two due to the impact to the submarine maintenance availability. These modifications **are currently being installed on HMA Ship *Dechaineux* in Mid-Cycle Docking.**
	Amber: N/A
	Red: N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability forecasts and assessments by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that schedule slip to the boat FCD schedule will impact the installation of engineering enhancements and new capability, leading to cost and schedule increases to the project.	This risk is being treated by: • Obtaining endorsement of the IMS at the senior management level; • Improving management of maintenance schedules; and • Ensuring configuration changes are captured in the targeted maintenance availabilities Total Work Package.

There is a chance that competing workload demands will reduce the skilled resources available at the contractor facility and impact the installation and testing of engineering enhancements on boats, leading to cost and schedule increases.	This risk is being treated by: • Undertaking engineering enhancement in accordance with the IMS; • Resolving design issues with engineering enhancements early to improve design maturity; and • Coordinating the engineering enhancement workload on the ASC capped workforce.
There is a chance the Outboard Stowage of Special Forces Equipment cannot be achieved due to design and manufacturing deficiencies leading to schedule delays.	This risk is being treated by: • Directorate of Submarine Engineering to review design and manufacture data; and • Material options to be investigated and compression testing to be carried out prior to design acceptance.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	**N/A**

6.2 Major Project Issues

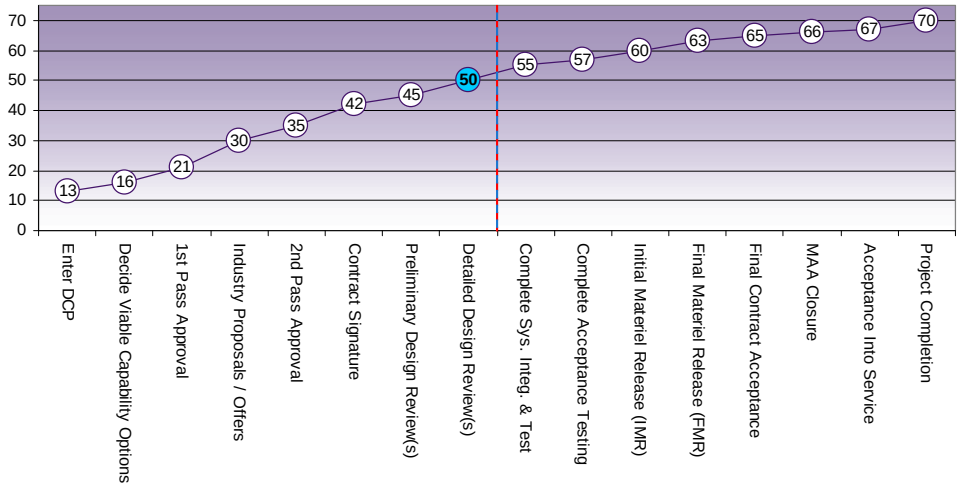
Description	Remedial Action
That Torpedo Decoy (SUBSCUT) Capability **was** not accepted prior to life expiry of Acoustic Decoy Countermeasures (ADC).	**This issue has been retired due to the achievement of Initial OR for the Torpedo Decoy in May 2014.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	7	7	7	8	7	7	7	50
Detailed Design Review	Project Status	6	6	8	8	8	8	9	53
	Explanation	• **Schedule:** Establishment of the IMS and maturity of the majority of designs gives confidence in the schedule. • **Cost:** Project estimates for individual enhancements were not feasible given the undefined project scope. However current cost estimates are within project budget as the majority of the modifications are designed but not fully implemented. • **Requirement:** Designs are either complete or well advanced for most platform upgrades projects. Many are partially implemented across the class. • **Technical Difficulty:** Some verification of designs have been completed, however some technical design challenges remain in progress; such as, composite external pressure vessels for Special Forces. • **Commercial:** Transition to an ISSC from TLSA has provided							

		confidence that the remaining project cost will stabilise. Refer to Section 2.3 Details of Project Major Contracts Note 1. • **Operations and Support:** Project has achieved IMR for a number of sub-project enhancements and is now primarily in the implementation phase.



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Ensure that all capability requirements are clearly defined, approved and appropriately funded before detailed acquisition planning commences.	Requirements Management
Ensure that maintenance period schedule dependencies are identified and appropriate risk management strategies developed.	Schedule Management
Consider the impact associated with long term sole source cost plus contracts.	Contract Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Mr David Gould
Division Head	AVM Chris Deeble **(to Sep 13)**
Branch Head	Mr David Cochrane
Project Director	**Mr Brad Hajek (Acting)**
Project Manager	Mr Brad Hajek

Project Data Summary Sheet[212]

Project Name	**SM-1 MISSILE REPLACEMENT**
Project Number	**SEA 1390 Phase 4B**
First Year Reported in the MPR	2010-11
Capability Type	Replacement
Acquisition Type	**Australianised MOTS**
Service	Royal Australian Navy
Government 1st Pass Approval	Nov 03
Government 2nd Pass Approval	Jul 04
Total Approved Budget (Current)	**$407.3m**
2013-14 Budget	**$6.7m**
Project Stage	Acceptance Into Service
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

This project will replace the Standard Missile-1 (SM-1) missile with a modern variant of the Standard Missile-2 (SM-2) missile and improve the air defence capability of the Guided Missile Frigate (FFG) fleet, adding to the capability delivered by the FFG Upgrade project.

1.2 Current Status

Cost Performance

In-year

In-year expenditure resulted in a **$1.5m** underspend, which is primarily attributed to delayed contracted scope with Australian and Foreign Industry and subsequent savings, as well as deferred Foreign Military Sales (FMS) payments. Establishment of In-Service arrangements has not proceeded as quickly as planned.

Project Financial Assurance Statement

As at 30 June 2014, project SEA 1390 Phase 4B has reviewed the project's approved scope and budget for those elements required to be delivered by the Defence Materiel Organisation (DMO). Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

212 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

Procurement and delivery of missiles completed February 2010. FFG SM-2 missile Stage 1 Home-All-the-Way (HAW) Materiel Release (May 2010), Initial Operational Release (IOR) (July 2010) and Initial Operational Capability (IOC) (August 2010) now achieved. Stage 2 (final stage) Mid-Course Guidance (MCG) capability Materiel Release occurred with Stage 2 software installation aboard HMAS *Sydney* in May 2011. Subsequent combined Acceptance Test and Operational Test and Evaluation (OT&E) live-fire events for the SM-2 missile test program successfully conducted off Hawaii during June 2011.

Land based and shipboard regression testing during January – March 2012 identified some issues for remediation prior to the MCG final software baseline being finalised for release in the third quarter of 2012. The Materiel Acquisition Agreement (MAA) was updated on 28 March 2012. Capability observations by Navy regarding legacy Fire Control performance issues have been addressed insofar as these can be corrected in software to ensure the products are suitable. FFG Team Trainer (TT) has been completed with multiple FFG crews using that for Command Team Training. Operational software has been released for use in all FFGs. Maritime Armament Review Board (MARB) actions have been addressed and the Weapon System Certificates for all ships have been issued. Final Materiel Release (FMR) **and Final Operational Capability (FOC)** are forecast for **December** 2014 **and February 2015 respectively,** when the **Initial** In-Service Support arrangements **are** established. **This results in a delay of 27 months for FMR and 26 months for FOC.**

Materiel Capability Delivery Performance

FFG SM-2 Stage 1 HAW capability baseline was established in May 2010 and has been installed in all four FFGs and the land based TT. An operational firing event aboard HMAS *Newcastle* was conducted successfully in July 2010, and on 25 August 2010 Chief of Navy (CN) approved IOR of the FFG SM-2 HAW capability. The IOC was also achieved coincident with HMAS *Melbourne* deployment in August 2010. CN endorsed the SM-2 HAW capability, in conjunction with the upgraded FFG capability for Operational Release (OR) on 28 June 2012.

The FFG SM-2 Stage 2 MCG capability software baseline was established in May 2011 and installed in HMAS *Sydney* in preparation for combined Acceptance Test and OT&E live-fire events that were successfully conducted off Hawaii in June 2011. SM-2 MCG capability has now been released for use in all FFGs and Weapon System Certificates have been issued. **CN endorsed the SM-2 MCG capability for Operational Release on 26 July 2013.**

Note

The capability forecasts and assessments by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Project SEA 1390 Phase 4B, as a discrete phase of the SEA 1390 Phase 2 FFG Upgrade project, will integrate the SM-2 Block IIIA surface to air missile into the four Royal Australian Navy (RAN) ADELAIDE class frigates (FFGs) at the "Mid-Course Guidance" standard, and acquire Initial Ship Outfit and Inventory Stock missiles.

The SM-2 Block IIIA missile is the replacement Area Air Defence (AAD) weapon for the ageing SM-1 missile in RAN service with the FFGs. It will provide a modern AAD missile capability to the RAN FFGs and affording an air defence to escorted vessels and coastal infrastructure or forces deployed nearby.

The SM-2 capability will be progressively delivered in two stages to mitigate technical risk with the development and fielding of the required software. Stage 1 provides an SM-2 HAW capability (which was achieved in August 2010 with the deployment of HMAS *Melbourne* to Operation Slipper) with the full capability of MCG to be delivered in Stage 2.

The Commonwealth, through the FFG Systems Program Office (SPO), has assumed responsibility as the Prime Systems Integrator (Prime Contractor). This commercial arrangement is important as it provides a sound risk mitigation approach to the project's primary risk – the completion of the production stages of the SEA 1390 Phase 2 FFG Upgrade project (particularly the implications of non-availability of the FFG). This level of managerial oversight has allowed the FFG Upgrade project (SEA 1390 Phase 2) and the SM-2 Integration (SEA 1390 Phase 4B) to occur in parallel without negatively impacting each upon the other.

Uniqueness

Acquisition of the SM-2 capability is being undertaken via a combination of United States (US) Government FMS arrangements and US and Australian commercial sources, with overall 'Prime Systems Integrator' responsibility resting with the FFG SPO. There is a strong reliance on Original Equipment Manufacturers (OEM) due either to necessity (sole supplier/ proprietary information/ intellectual property constraints) or to mitigate risk and to maintain technical integrity. In addition, under a Service Level Agreement, the Navy Guided Weapons Systems Program Office is responsible for the acquisition of the SM-2 missiles, missile support and repair/certification facilities at the Intermediate Level Maintenance Facility Defence Establishment Orchard Hills.

Major Risks and Issues

Ship availability within the RAN Force Generation Plan (FGP) was a significant challenge when scheduling installation and test activities. SM-2 Stage 2 MCG final software baseline was rolled-out in the third quarter of 2012 but ship availability delayed the completion of this activity to the first quarter 2013. FOC, originally scheduled for December 2012, has been delayed to **February 2015**.

Establishment of In-Service Support Arrangements for the Weapons System Software may not be timely, thereby endangering the In-Service capability longevity.

Other Current Sub-Projects

SEA 1390 Phase 2.1 – Guided Missile Frigate Upgrade Implementation: Upgrade FFG Anti-Ship Missile Defence, air search radar and missile fire control system/radars, Underwater Warfare, Electronic Support and other ship systems, Data Link, ship and shore based Training Systems and establish a Warfare Systems Support Centre.

SEA 1390 Phase 4A – FFG SM-1 Missile Replacement Test Station: Purchase of the Mk698 Test Set for logistic support and all up round depot level maintenance of the SM-2.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
SEA 1390 Phase 2.1 FFG Guided Missile Frigate Upgrade Implementation	**Refer above.**	The upgraded FFG combat system developed under SEA 1390 Phase 2.1 was a necessary precursor and baseline for the development of the SM-2 capability. The upgraded FFG combat system was developed and delivered progressively as three successive (software) baseline builds and the completion of Baseline Build 2 was necessary for the further development of the SM-2 capability to be completed under SEA 1390 Phase 4B.
SEA 1390 Phase 4A FFG SM-1 Missile Replacement Test Station	**Refer above.**	Project SEA 1390 Phase 4A is another discrete phase of the SEA 1390 FFG Upgrade Project and is directly linked to the SM-2 capability. This phase acquired, installed and set-to-work a Mk 698 Mod 0 Guided Missile Test Set necessary to support the re-certification, maintenance and repair of the SM-2 Block IIIA missiles.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Jul 04	Original Approved		552.6	
Aug 05	Real Variation – Budgetary Adjustments	(2.1)		1
Apr 12	Real Variation – Transfer	(86.5)		2
Apr 12	Real Variation – **Real Cost Decrease**	(120.0)		2
			(208.6)	
Jul 10	Price Indexation		127.9	3
Jun 14	Exchange Variation		**(64.6)**	
Jun 14	**Total Budget**		**407.3**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – US Government	**(255.2)**		
	Contract Expenditure – Lockheed Martin	**(26.1)**		
	Contract Expenditure – BAE Systems	**(15.0)**		
	Contract Expenditure – AAI Corporation	**(13.7)**		
	Contract Expenditure – Thales Australia	**(9.6)**		4
	Other Contract Payments / Internal Expenses	**(7.4)**		**5**
			(327.0)	
FY to Jun 14	Contract Expenditure – US Government	**(4.4)**		**6**
	Contract Expenditure – Lockheed Martin	**(0.4)**		
	Contract Expenditure – Thales Australia	**(0.2)**		
	Contract Expenditure – AAI Corporation	**(0.1)**		
	Other Contract Payments / Internal Expenses	**(0.1)**		5
			(5.2)	
Jun 14	**Total Expenditure**		**(332.2)**	
Jun 14	**Remaining Budget**		**75.1**	

Notes	
1	Skilling Australia's Defence Industry harvest.
2	Real Cost Decrease comprising $86.5m funds transfer to SEA 4000 Phase 3.2 SM-2 Conversion and Upgrade approved by Chief of Defence Force and Secretary, Department of Defence 29 August 2011, and $120.0m cost savings identified at the 2012–13 Portfolio Budget Estimates Review for return to the Defence Capability Program.
3	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $118.7m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $9.2m having been applied to the remaining life of the project.
4	Thales Australia engaged to modify the Australian Distributed Architecture Combat System (ADACS) Command and Control (C2) software. Total contract value less than $10.0m with expenditure profile as shown.
5	Other expenditure comprises operating expenditure, contractors, external service providers, consultants, other capital expenditure not attributable to the aforementioned top **five** contracts and minor contract expenditure.
6	**FMS purchase of Initial Support Technical Services (AT-P-LDA and AT-P-GTN).**

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The underspend is primarily attributed to delayed contracted scope with Australian and Foreign Industry and subsequent savings, as well as deferred Foreign Military Sales (FMS) payments. Establishment of In-Service arrangements has not proceeded as quickly as planned.**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
		(1.5)	Commonwealth Delays	
6.7	**5.2**	**(1.5)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government	Aug 05	218.9	**282.1**	**Reimbursement**	FMS	**1, 2**
AAI Corporation	Jul 07	10.4	14.3	Firm	ASDEFCON	**2**
Lockheed Martin	Jul 07	23.9	**26.9**	Firm	ASDEFCON	**2**
BAE Systems	Feb 08	7.8	15.1	Firm	ASDEFCON	**2**

Notes	
1	**FMS case AT-P-GTN for Initial Support Technical Services accepted December 2013.**
2	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government	Various	Various	Acquisition of SM-2 Missiles, Weapon Control System software upgrade.	
AAI Corporation	Various	Various	Upgraded On-board Training System (OBTS), Guided Missile Launching System (GMLS) Simulator and Land Based Simulation System (LBSS).	
Lockheed Martin	Various	Various	MK92 Continuous Wave Illuminator (CWI) upgrade.	
BAE Systems	Various	Various	Guided Missile Launching System upgrade.	

Major equipment received and quantities to 30 Jun 14
Delivery of approved suite of missiles achieved. Hardware installations complete.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	GMLS Mk-13	Oct 05	N/A	Oct 05	0	
	OBTS/LBSS	Dec 05	N/A	Dec 05	0	
	Mk-92 Fire Control System Solid State CWI transmitter	Oct 05	N/A	Oct 06	12	1
	Command & Control (C2) ADACS Software	Feb 09	N/A	Feb 09	0	
	Weapons Control System	Oct 07	N/A	Oct 07	0	
Preliminary Design	GMLS Mk-13	N/A	N/A	N/A	0	
	OBTS/LBSS	Sep 07	N/A	Sep 07	0	
	Mk-92 Fire Control System Solid State CWI	Oct 07	N/A	Sep 07	(1)	
	C2 ADACS Software	Jun 10	N/A	Feb 10	(4)	
	Weapons Control System – Stage 1: HAW	Mar 08	N/A	Apr 08	1	2
	Weapons Control System – Stage 2: MCG	Jan 09	N/A	Feb 09	1	2
Critical Design	GMLS Mk-13	Oct 07	N/A	Nov 06	(11)	
	OBTS/LBSS	Jan 08	N/A	Jan 08	0	
	Mk-92 Fire Control System Solid State CWI	Jan 08	N/A	Jan 08	0	
	C2 ADACS Software	Jun 10	N/A	Feb 10	(4)	
	Weapons Control System – Stage 1: HAW	Aug 08	N/A	Aug 08	0	
	Weapons Control System – Stage 2: MCG	Jul 09	N/A	Jul 09	0	

Notes	
1	Delay due to mutually agreeing considerations with respect to Limitation of Liability and Intellectual Property.
2	Delay attributable to consolidation of travel to US for multiple events including this review.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration - Weapons Control System Stage 1 HAW	Standard Missile Adjunct Processor (SMAP) Integration	Feb – Mar 09	N/A	Feb – Mar 09	0	
	Weapons Control Processor (WCP)//SMAP Integration Surface Warfare Engineering Facility	Mar – Jun 09	N/A	Mar – Jun 09	0	
	HAW CWI Engineering Development Model	Jun 09	N/A	Jun 09	0	
	System Integration Test – Shipboard	Aug – Sep 09	N/A	Sep – Oct 09	1	1
	System Acceptance Test – Shipboard	Oct – Nov 09	N/A	Nov 09	0	
System	WCP/SMAP Integration Surface	Jul – Nov	N/A	Nov 10	0	

Integration - Weapons Control System Stage 2 MCG	Warfare Engineering Facility	10				
	ADACS/WCP/SMAP Integration – Garden Island, Sydney	Jul – Sep 10	N/A	Oct 10	1	2
	System Integration Test – Shipboard	Dec 10 – Jan 11	N/A	Jan 11	0	
	System Acceptance Test – Shipboard	Jan – Mar 11	N/A	Mar 11	0	
Acceptance	WSN-7B Ring Laser Gyro-compass	N/A	N/A	Sep 07 – Aug 09	0	3
	SM-2 Missiles	Sep 07 – Dec 08	N/A	Jul 08 – Oct 09	10	4
	GMLS Mk-13 Installation (4 ships)	Feb 09 – Feb 10	N/A	Apr 09 – Jun 10	4	5,6,7
	GMLS Mk-13 Roundhouse 1 Installation	Jan 09	N/A	Apr 09	2	8
	OBTS	Mar 09	N/A	Jun 10	9	9
	Team Trainer (TT)	Jul 09	N/A	Dec 09	5	10
	Warfare Systems Support Centre (WSSC)	Jul 09	Oct 09	Sep 09	2	11
	Mk-92 Fire Control System Solid State CWI (4 Ships)	Nov 08 – Jul 09	N/A	Aug 08 – Apr 10	9	12
	Mk-92 Fire Control System Solid State CWI for Ship Set 5	Nov 09 – Mar 10	N/A	Oct 09 – Jun 10	3	12
	Mk-92 Fire Control System Solid State CWI for Moorestown NJ, US	Dec 09 – Jul 10	N/A	Jan 10 – Apr 11	9	13
	Mk-92 Fire Control System Solid State CWI for Garden Island, Sydney	Aug – Sep 10	N/A	Apr 10 – Jun 11	9	13
	C2 ADACS Software	Feb 12	N/A	Nov 12	9	14
	Weapons Control System Stage 1	Dec 09	N/A	Aug 10	8	15
	Weapons Control System Stage 2 Firing Event Capability Demonstration	Mar – Apr 11	Jun 11	Jun 11	3	16
	Weapons Control System Stage 2 Operational Capability	N/A	Oct – Dec 12	Mar 13	3	17
	Weapons Control System Stage 2, Navy Acceptance (agreement to MCG Operational Release)	Oct – Dec 12	Jul 13	Jul 13	7	18

Notes	
1	A slight delay of nine days to coincide with ship completion of scheduled maintenance availability, thereby allowing the commencement of system testing.
2	Delay attributable to ADACS software development and related follow-on certification for the FFGs to operate on the Australian tactical Multi-TDL Network.
3	Delivery schedule for listed items procured under FMS Case AT-P-GMG not specified. Original planned date for delivery is not applicable.
4	Delay attributable to requisition of missile components by US Navy during (FMS Case AT-P-LCY) production phase.

5	Ship one Installation was completed as scheduled in January 2009, however, Milestone achievement was delayed for resolution of minor design issues. This delay had no effect on the overall project delivery schedule.
6	Ship two installation completed, milestone awaiting resolution of N260469 Contract Change Proposal-5. This delay had no effect on the overall project delivery schedule.
7	Ship four Installation was completed as scheduled in December 2009. However the Test Results and Supplies Acceptance Certificate was provided and accepted by the Commonwealth in January 2010. This delay had no effect on the overall project delivery schedule.
8	Installation completed as scheduled in January 2009. However, the Test Results and Supplies Acceptance Certificate was provided and accepted by the Commonwealth in April 2009 after installations and minor design corrections were made. This delay had no effect on the overall project delivery schedule.
9	Initial Acceptance Testing onboard HMAS *Melbourne* showed defect in Government Furnished Equipment (GFE) inertial navigation system. Finalisation of the OBTS Acceptance was withheld pending correction of this defect.
10	The test and acceptance of the Land Based Simulation System software was dependant on the availability of the site for this purpose within the overall RAN training schedule. Since the TT was not available at the contracted time, the obligation was deferred until the TT was available and was coordinated with other visits to Australia by the US vendor (AAI Corporation) personnel. This delay had no effect on the overall project delivery schedule.
11	WSSC delay attributed to requirement for Weapon Control System software maturity to be attained before completion of the Land Based Simulation System wrap-around simulation software could occur and Acceptance achieved. Original scheduling did not include this dependency.
12	MK92 CWI updates included the classified Stable Master Oscillator (STAMO). The alterations required a turn-around program for the classified items through the OEM (Lockheed Martin) in the US and its supplier. There is a limited number of classified shipments through the Australian Freight Forwarder in US and RAAF Richmond in Australia. Additionally these classified items require licensing by the US Department of State for international transfer. Several issues were encountered where the Australian Freight Forwarder changed its street address in US and this required re-issuing of the licence, a process that takes about three months through the US Department of State. Coordination of ship availability for installation testing of modified STAMOs and to provide the GFE for the turn-around program needed to be undertaken with the classified shipments. The purpose was to ensure that the ships were always operational during the turn-around program with some variation to the contracted milestones, which was appreciated by both parties. The delay had no effect on the overall project delivery schedule.
13	A latent defect in the original FFG Upgrade STAMO design was discovered midway through the SM-2 alteration turn-around program. This meant that additional design and fabrication was required and that all STAMOs needed to be turned around again. The re-work was agreed under contract change and the existing contract milestones rescheduled. The redesign, fabrication, and proof of correction took longer than expected due to material supply lead-time and issues associated with the shipment of classified items to/from US (see Note 13). Additionally STAMOs in the turn-around program not being available for ships (see Note 13) which perturbed the overall program since a modified STAMO was necessary before an unmodified STAMO could be returned. The delay had no effect on the overall project delivery schedule.
14	Finalisation of the Stage 2 baseline Combat System software for operational fielding of the final MCG capability was scheduled to occur by early 2012. Issues with the Fire Control radars have been identified during the on-going regression tests for the planned final software and resolution required additional shipboard testing conducted aboard HMAS *Newcastle* late June 2012. MCG capability has now been released for use in all FFGs and Weapon System Certificate has been issued.
15	Shipboard testing identified issues which required resolution.

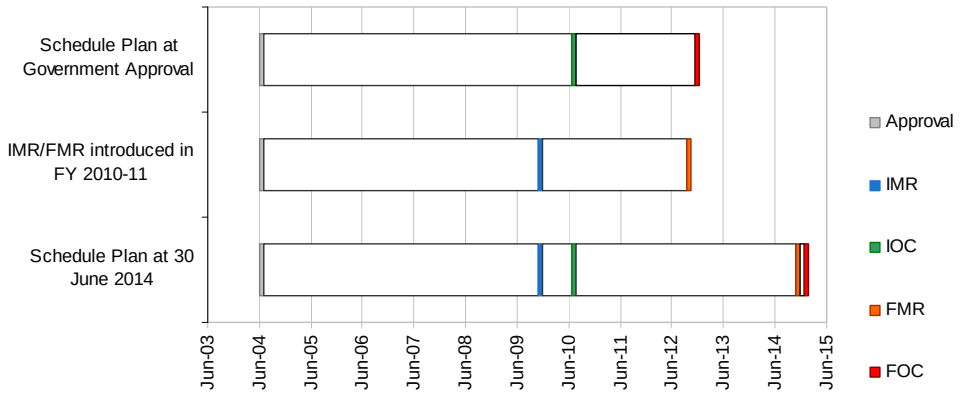
16	Delay attributable to the RAN Reduced Activity Period in the December/January 2010 period, which meant ships were unavailable over a two month period for the conduct of shipboard integration and testing per the original schedule. An additional delay of one month was caused by the unavailability of the US Pacific Missile Range Facility where the live-fire test events are scheduled to be conducted.
17	Update of MAA has recognised the need to allow for update of the software to account for issues in the test program that need to be corrected before being fielded for operational use. The revised MAA now allows for both a correction and regression test period and a roll-out to all ships and shore sites depending on the availability of those locations within the RAN FGP and Training Program. Achievement date of March 2013 represents the issuing of the SM-2 Stage 2 MCG Weapon System Certificates for each ship under the auspices of the MARB.
18	Capability progressively installed in FFGs per the Navy operating cycle as represented in the FGP. Maritime Armament Review Board held in December 2012 and outstanding actions completed in March 2013 coinciding with final ship installation. **CN endorsed the SM-2 MCG capability for Operational Release on 26 July 2013.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Dec 09	N/A	
Initial Operational Capability (IOC)	Aug 10	Aug 10	0	
Final Materiel Release (FMR)	Sep 12	**Dec 14**	**27**	1
Final Operational Capability (FOC)	Dec 12	**Feb 15**	**26**	2

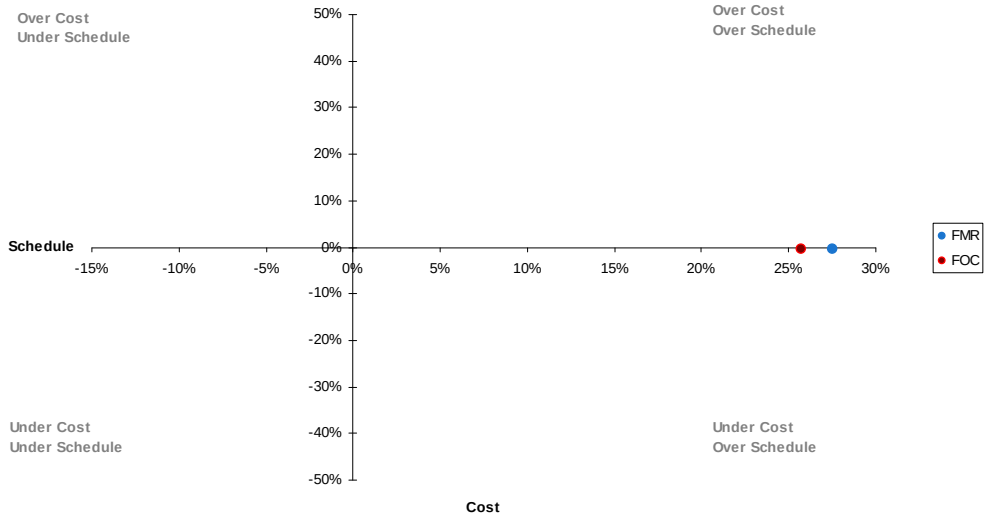
Notes	
1	Procurement of Additional Missile Section Spares was initially delayed due to US FMS contracting issues. Delivery **of all Additional Missile Section Spares** has **been** completed **with the last items receipted into inventory mid-June 2014.** Additionally establishment of the In-Service Support arrangements are outstanding. **FMS Case AT-P-GTN accepted in December 2013 for Initial Weapon Control System Software and Services** but **supporting commercial arrangements have lagged**. **These** are expected to be in place by late **2014**.
2	Achievement of FMR is procedurally necessary prior to FOC and hence this event is programmed to occur following the expected achievement of FMR.

Schedule Status at 30 June 2014



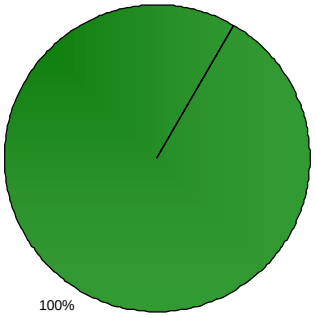
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The project is currently meeting the capability requirements as expressed in the Materiel Acquisition Agreement.
	Amber: N/A
	Red: N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that the establishment of In-Service Support Arrangements for the Weapons System Software will not be in place such that there will be a reduction in availability of the development Integrated Development Team (IDT) personnel to provide the planned support, thereby endangering the In-Service capability longevity.	FMS **case AT-P-GTN** has been **accepted for** three years In-Service Support per the project obligations. Liaison has been undertaken with the US Navy FMS managers and IDT participants regarding expected scope and method of delivery (eg. 2x 18-month updates to the software products).
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	**N/A**

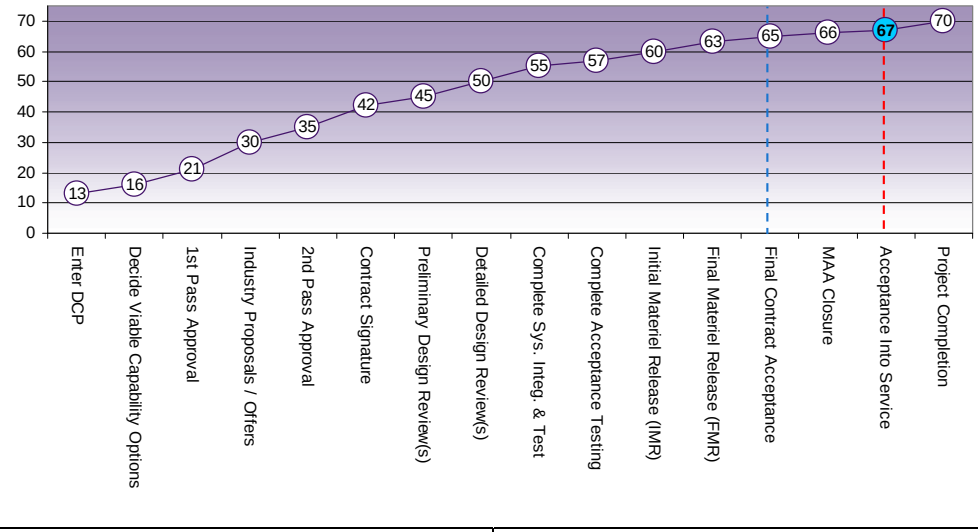
6.2 Major Project Issues

Description	Remedial Action
N/A	**N/A**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	10	9	10	10	10	9	9	67
Acceptance Into Service	Project Status	9	9	10	**10**	10	9	10	**67**
	Explanation	• **Schedule:** Some schedule uncertainty remains due to the need to ship items from US to Australia which is outside the project's direct control. • **Operations and Support:** The support systems have been defined and procurement of long-lead support elements progressed. Operational Guidance information recently received from US Navy to complete the operational information planned to be delivered.							



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Two stage contracting: Contract Development Agreements facilitate early positive engagement with the contractor, joint development of the resultant fixed price contract and establishes an effective and cooperative work environment.	Requirements Management Contract Management
The establishment of commercial contracts were based entirely on deliverable items and artefacts (software build states and/or documentation in electronic format) and progress against agreed milestones. Payments were made on delivery acceptance and milestones achieved in accordance with the contract. Reliance on Contract Earned Value Management requires considerable effort and expertise on the part of the Project Authority to adequately assess contractor performance, and was not utilised or necessary to achieve 'value for money' project objectives.	Contract Management
For significant and high technological upgrades to major systems the acquirer (Commonwealth) acting as the Procurement Coordinator managing separate contracts directly with OEMs allows for better risk management, schedule control and influence on the quality of the contracted supplies.	Requirements Management Contract Management
Significant efficiencies were achieved for ease of handling, delivery, traceability and tracking of documents through electronic document delivery which was encouraged in all commercial contracts and the primary FMS case.	Contract Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble (Acting Jun 13–**Sep 13**) **Mr Colin Thorne (Sep 13–current)**
Division Head	RADM Mark Purcell
Branch Head	CDRE Michael Houghton
Project Director/Manager	CAPT Mona Shindy, RAN

Project Data Summary Sheet[213]

Project Name	**ANZAC ANTI-SHIP MISSILE DEFENCE**
Project Number	**SEA 1448 Phase 2A**
First Year Reported in the MPR	2009–10
Capability Type	Upgrade
Acquisition Type	**Australianised MOTS**
Service	Royal Australian Navy
Government 1st Pass Approval	N/A
Government 2nd Pass Approval	Nov 03
Total Approved Budget (Current)	**$386.9m**
2013-14 Budget	**$22.9m**
Project Stage	**Initial Materiel Release**
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

The Anti-Ship Missile Defence (ASMD) upgrade SEA 1448 Phase 2 project will provide the ANZAC Class Frigates with an enhanced level of self defence against modern anti-ship missiles. There are two sub-phases of SEA 1448 Phase 2. Phase 2A of the ASMD Project, is to upgrade all eight of the ANZAC Class Ship's existing Combat Management Systems (CMS) and fire control systems, and install an Infra-Red Search and Track (IRST) System which will provide improved detection of low level aircraft and anti-ship missiles when the ship is close to land.

1.2 Current Status

Cost Performance

In-year

Current in-year performance indicates **spending is in line with budget, with a minor** underspend of **$0.1m**

Project Financial Assurance Statement

As at 30 June 2014, project SEA 1448 Phase 2A has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

213 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

The systems being provided under Phase 2A are being delivered to schedule. Overall though, due to the dependence of Phase 2A with Phase 2B, the Government approving a change of acquisition strategy for Phase 2B in August 2009 **and** the Real Cost Increase for Phase 2B for the follow on ships 2-8 in November 2011, there is now a 70 month variance to the original approvals for this Phase of the Project. During **2013-14**, schedule has continued to be maintained, with recent activities including the successful completion of Stage 2 **Operational Test & Evaluation (OT&E)** on HMAS *Perth*. The second ship to undergo the ASMD upgrade, **HMAS *Arunta*, has completed the ASMD upgrade, with Materiel Release (MR) scheduled for October 2014. The third ship to undergo the ASMD upgrade, HMAS *ANZAC* is also progressing on schedule, as is the fourth ship, HMAS *Warramunga*. All documents to support Initial Operational Capability (IOC) have been delivered to Navy.**

Materiel Capability Delivery Performance

The Initial Materiel Release (IMR) was claimed for Stage 1 Capability on HMAS *Perth* on 24 June 2011. The Chief of Navy formally provided Initial Operational Release (IOR) for ASMD upgrade capability delivered to HMAS *Perth* and its associated support systems on 16 August 2011. The Project **has now completed OT&E for the final Stage 2 Capability. IOC is anticipated in third quarter of 2014.**

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Explanation

Background

The need for an ASMD capability in the Royal Australian Navy's (RAN) surface fleet was first foreshadowed in the 2000 Defence White Paper.

SEA 1448 Phase 2A is the initial phase of the ANZAC ASMD Program, performed by the ANZAC Alliance (Commonwealth plus BAE Systems (previously Tenix) and Saab Systems), to provide ship systems capable of integrating missile defence systems.

Phase 2A was approved by Government in November 2003 for $449m (December 2003 prices). This included an element for the Very Short Range Air Defence (VSRAD) System (two per ship) of $155.5m, which was quarantined pending the outcome of investigations into an active phased array radar system (referred to as CEAFAR) and its Sea trials conducted in 2004.

SEA 1448 Phases 2A and 2B are being managed as a confederated ASMD Project due to their common systems engineering disciplines, schedules and risks. Phase 2A represents a low risk due to its in-service equipment.

As a result of technical issues in the integration of the phased array radar into the Class with Phase 2B of the ASMD Project in 2007, a change to the Phase 2B Project acquisition strategy caused delays in the installation of the equipment being purchased under Phase 2A. These delays do not impact on the delivery of the Phase 2A equipment, which is being delivered into store and appropriately maintained until the Phase 2B acquisition strategy calls on the equipment for installation.

To support the upgraded Mk3E Combat Management System and IRST, a combined ASMD Integration and Training Centre was built by the **then** Defence Support Group (DSG) in 2006. This building was added to the existing ANZAC System Support Centre located at HMAS *Stirling* in Western Australia. This facility was made available for lead ship training between September 2010 and April 2011 and was formally handed to Navy in August 2011.

The remaining contract to be developed for Phase 2A of the ASMD Project is the in service support for the IRST. This has been deferred to the second half of 2014, to align with the return to service of HMAS *Arunta*. The support for the Mk3E Combat Management System is already in contract as there is an existing sustainment support contract with Saab Systems (Australia) for the existing Saab Mk3 Combat Management System that is already installed in the ANZAC Class.

Uniqueness

The Phase 2A Combat Management System upgrade is the next generation of the Mk3E system initially installed on the final ANZAC Class Frigate (HMAS *Perth*). The Mk3E was the first Windows XP based Commercial-Off-The-Shelf combat management system in the RAN and was initially installed in HMAS *Perth* as part of a de-risking trial.

This Phase of the ASMD Project is currently fully contracted through the ANZAC Ship Alliance.

Major Risks and Issues

The major risks and issues for SEA 1448 Phase 2A are:

- Integration of highly technical systems within a single ship platform.
- **With multiple ships now in the ASMD program, managing the demands of competing resources across complex activities.**

Other Current Sub-Projects

SEA 1448 Phase 2B - This Phase completes the ASMD Upgrade by delivering a Phased Array Radar (PAR) System consisting of a target indication and tracking radar titled CEAFAR and a missile illuminator system, titled CEAMOUNT which will provide mid course guidance and terminal illumination to the Evolved Sea Sparrow Missile (ESSM). This phase also replaces the existing ANZAC Class navigation radar.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
SEA 1448 Phase 2B	**Anti-Ship Missile Defence**	**Refer above and Section 1.2 – Schedule Performance.**

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Jan 04	Original Approved		449.0	
Aug 04	Real Variation – Budgetary Adjustments	(0.1)		
Mar 06	Real Variation – Transfers	(155.4)		1
Feb 07	Real Variation – Transfers	(4.4)		2
			(159.9)	
Jul 10	Price Indexation		101.3	3
Jun 14	Exchange Variation		**(3.5)**	
Jun 14	**Total Budget**		**386.9**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – SAAB Systems Pty Ltd (CMS)	**(112.5)**		**4**
	Contract Expenditure – BAE Systems Australia (IRST)	**(93.8)**		**4**
	Contract Expenditure – BAE Systems Australia (First of Class)	**(37.1)**		**4**
	Contract Expenditure – SAAB Systems Pty Ltd (First of Class)	**(19.3)**		**4**
	Contract Expenditure – BAE Systems Australia (FON)	**(8.2)**		**4**
	Contract Expenditure – SAAB Systems Pty Ltd (Follow On (FON))	**(0.2)**		
	Other Contract Payments / Internal Expenses	**(11.8)**		**4**,5
			(282.9)	
FY to Jun 14	Contract Expenditure – BAE Systems Australia (FON)	**(20.0)**		
	Contract Expenditure – SAAB Systems Pty Ltd (CMS)	**(1.0)**		
	Contract Expenditure – SAAB Systems Pty Ltd (First of Class)	**(0.8)**		
	Contract Expenditure – SAAB Systems Pty Ltd (Follow On (FON))	**(0.5)**		
	Contract Expenditure – BAE Systems Australia (First of Class)	**(0.5)**		
			(22.8)	
Jun 14	**Total Expenditure**		**(305.7)**	
Jun 14	**Remaining Budget**		**81.2**	

Notes	
1	$155.4m transferred to Project SEA 1448 Phase 2B for phased array radar procurement with procurement of VSRAD capability as directed by Government.
2	Transferred to **the then** DSG for facilities funding of the ASMD Systems Integration and Training Centre.

3	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $88.7m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $12.5m having been applied to the remaining life of the project.
4	**The amounts for each contract differ slightly from prior year due to a re-validation of Life To Date expenditure between Phase 2A, Phase 2B and sustainment funding streams.**
5	Other expenditure comprises: operating expenditure, contractors, consultants, contingency, other capital expenditure not attributable to the aforementioned top five contracts and minor contract expenditure.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The underspend is largely due to complex material management. The project is actively working with industry to realign the financial spend profile.**
			Overseas Industry	
		(0.1)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
22.9	**22.8**	**(0.1)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
SAAB Systems Pty Ltd (CMS)	Apr 05	123.1	**113.5**	Variable	Alliance	**1, 4**
BAE Systems Australia (IRST)	Apr 05	104.9	**93.8**	Variable	Alliance	**1**, 2, **4**
BAE Systems Australia (First of Class)	Apr 07	26.2	**45.2**	Variable	Alliance	**1**, 2, **4**
SAAB Systems Pty Ltd (First of Class)	Apr 07	9.9	**22.6**	Variable	Alliance	**1,** 3, **4**
BAE Systems Australia (FON)	Jan 12	74.9	**73.1**	Variable	Alliance	**1**, 2, **4**

Notes

1	**The amounts for each contract differ slightly from prior year due to a re-validation of contract values between Phase 2A, Phase 2B and sustainment funding streams.**
2	These contracts are listed with BAE Systems Australia, formerly Tenix Defence.
3	An increase in contract value has occurred as the project transitioned from the research and development stage through to realising the potential full capability. These were enacted via contract change proposals.
4	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
SAAB Systems Pty Ltd	8	8	Combat Management Systems and Fire Control System upgrades	1

BAE Systems Australia	8	8	Infra-red Search and Track Systems	1
BAE Systems Australia	N/A	N/A	First of Class Installation	
SAAB Systems Pty Ltd	N/A	N/A	First of Class Installation	
BAE Systems Australia	7	7	FON Ships 2-8 Installation	

Major equipment received and quantities to 30 Jun 14

Equipment has been delivered into store and is being appropriately maintained until required by Phase 2B for its installation. Installation has been completed for First of Class ship, HMAS *Perth* **and HMAS Arunta**. **Equipment continues to be installed on HMAS *ANZAC* and HMAS *Warramunga***.

Notes

1	$155.4m transferred to Project SEA 1448 Phase 2B for phased array radar procurement with procurement of VSRAD capability as directed by Government.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	Mk3E Combat Management System/Fire Control Director/Infra-Red Search and Track – Stage 1 (Requirements Review)	Feb 04	N/A	Aug 05	18	1
	Mk3E Combat Management System/Fire Control Director – Stage 1 (Functional Review)	Apr 05	N/A	Aug 06	16	1
	Mk3E Combat Management System/Fire Control Director – Stage 1 (System Performance Review)	N/A	N/A	Nov 06	N/A	
	ASMD Shore Facilities (HMAS *Stirling*)	N/A	N/A	May 06	N/A	
Preliminary Design	Mk3E Combat Management System/Fire Control Director/Infra-Red Search and Track System – Stage 1	Nov 05	N/A	Aug 07	21	1
	ASMD Shore Facilities (HMAS *Stirling*)	N/A	N/A	Nov 06	N/A	
Critical Design	Stage 1 Critical Design Review – Part 1 (All except Phased Array Radar in the AFT mast)	Sep 06	N/A	May 08	20	1
	Stage 1 Critical Design Review – Part 2 (Remaining components of AFT mast)	N/A	N/A	Aug 08	N/A	
	ASMD Shore Facilities (HMAS *Stirling*)	N/A	N/A	Jun 07	N/A	

Notes

1	Variances indicated are directly linked to: the Government decision to investigate phased array radar technologies in lieu of the requirement for the VSRAD system; and, a realisation of technical risks in Phase 2B which required re-engineering effort to redesign the integration of the phased array radar into the ANZAC platform.

3.2 Contractor Test and Evaluation Progress

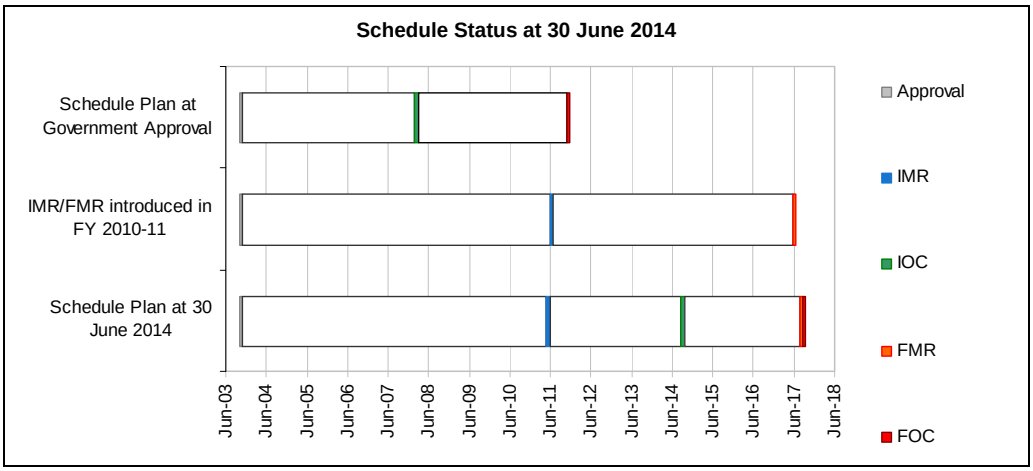
Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Test Readiness Review	HMAS *Perth* with upgraded ASMD System (Mk3E Combat Management System/Fire Control Director/Infra-Red Search and Track - Sea Phase)	Nov 07	N/A	Mar 11	40	1, 2
Acceptance	HMAS *Perth* with upgraded ASMD System (Mk3E Combat Management System/Fire Control Director/Infra-Red Search and Track - Sea Phase)	Apr 08	Jun 11	Jun 11	38	1

Notes	
1	Variance indicated is directly linked to the Government decision to investigate phased array radar technologies in lieu of the requirement for the VSRAD system; and, a realisation of technical risks in Phase 2B which required re-engineering effort to redesign the integration of the phased array radar into the ANZAC platform.
2	Additional variance of one month due to production completion delay of one month in lead ship HMAS *Perth*.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

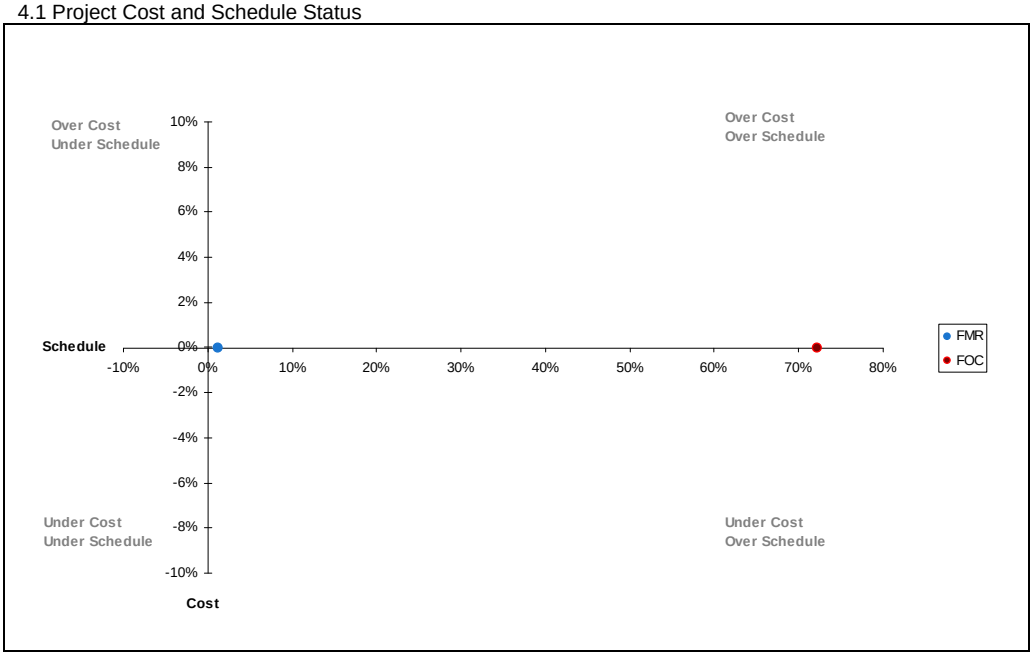
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Jun 11	N/A	1
Initial Operational Capability (IOC)	Mar 08	**Sep 14**	**78**	2
Final Materiel Release (FMR)	Jul 17	Sep 17	2	3
Final Operational Capability (FOC)	Dec 11	Oct 17	70	4

Notes	
1	N/A
2	Variance is directly linked to: the Government decision to investigate phased array radar technologies in lieu of the requirement for the VSRAD system; and, a realisation of technical risks in Phase 2B which required re-engineering effort to redesign the integration of the phased array radar into the ANZAC platform. The **previous** variance **was** linked to the updated Materiel Acquisition Agreement (MAA) which moved IOC until after PAR System has been proven against Super Sonic Targets. **All IOC documentation has been submitted to Navy and is currently under review by regulators.**
3	Newly added DMO milestone as part of update to the MAA between Defence and DMO. *Note: this variation is due to the approval of ships 2-8 by Government.*
4	Variance is a result of the ASMD Project Management Stakeholder Group agreeing to link the completion date of this Phase of the Project with that of Phase 2B. *Note: this variation is due to the approval of ships 2-8 by Government.*



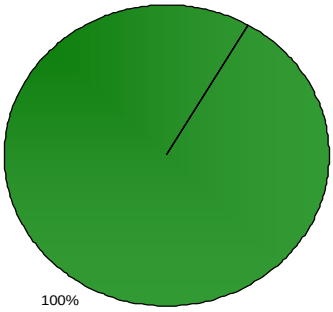
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** Based on lead ship (HMAS *Perth*) **achieving** IOR in August 2011 **and the successful completion of OT&E in August 2013,** the Project is meeting capability requirements as expressed in the suite of Capability Definition Documentation and in accordance with the requirements of the relevant Technical Regulatory Authorities. **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Recognising that the IRST System being installed under Phase 2A is a new capability being fielded by the RAN for the first time, there is a chance it will not operate to the expectations.	Successful completion of acceptance testing for HMAS *Perth* has seen all systems achieving initial materiel certification in June 2011. Subsequent at sea operations by HMAS *Perth* has proven the system to meet initial capability requirements. This risk will be retired when IOC is achieved in **the third quarter of 2014.**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

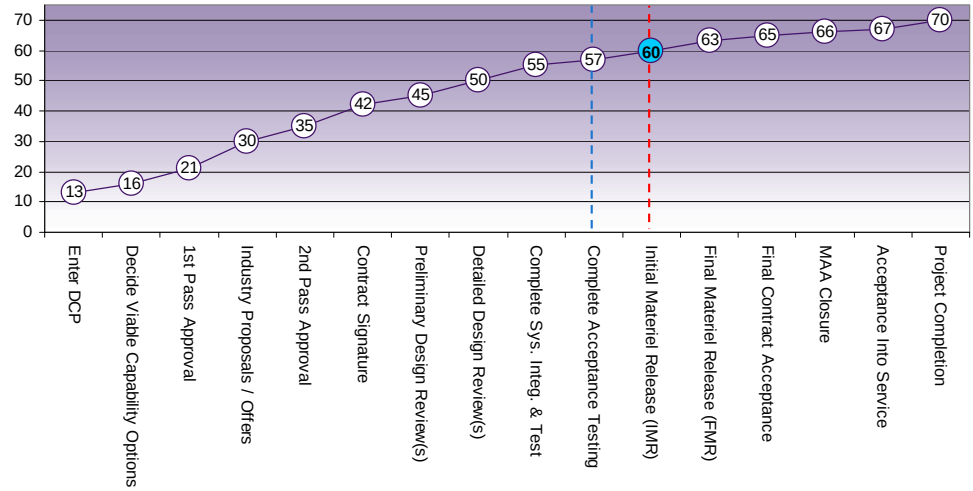
6.2 Major Project Issues

Description	Remedial Action
N/A	N/A

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	**10**	8	8	8	9	8	**9**	**60**
Initial Materiel Release	Project Status	8	8	9	**9**	9	8	**9**	**60**
	Explanation	• **Schedule: Schedule is mature and there remains a further six ships to upgrade.** • **Requirement:** Phase 2A is well understood in this area; the upgrade of the Combat Management System to Mk3E and the introduction of the IRST System are low risk to the Project and well understood to the customer. • **Technical Understanding: Successful OT&E completed in August 2013.**							



2012-13 DMO MPR Status - - - - 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Adequate implementation of Project Systems Engineering processes. In light of this, the ASMD Project has rigidly followed a disciplined systems engineering process that has ensured the complete traceability from requirements through to final acceptance testing.	Requirements Management
Ensuring that stakeholder engagement at all levels (engineering and strategic) is culturally embedded within the Project Team.	Contract Management

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble (Acting to Jul 13) **Mr Colin Thorne (Aug 13–current)**
Division Head	RADM Mark Purcell, **RAN**
Branch Head	CDRE Michael Houghton, RAN
Project Director/Manager	Mr Mark Simmonds

Project Data Summary Sheet[214]

Project Name	**ARTILLERY REPLACEMENT**
Project Number	**LAND 17 Phase 1A**
First Year Reported in the MPR	2010-11
Acquisition Type	**MOTS**
Capability Type	Replacement
Service	Australian Army
Government 1st Pass Approval	Feb 06
Government 2nd Pass Approval	Jul 09
Total Approved Budget (Current)	**$336.1m**
2013-14 Budget	**$22.4m**
Project Stage	**Final Contract Acceptance**
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

This project **has delivered** 35 M777A2 Lightweight Towed 155mm Howitzers (LW155) and the Advanced Field Artillery Tactical Data System (AFATDS) as the Battle Management System - Fires (Command and Control) (BMS-F (C2)) through Foreign Military Sales (FMS) with the United States (US) Government to replace major systems of the current fleet of 105mm and 155mm Howitzers. It was also acquiring the XM1156 Precision Guidance Kit as the Course Correcting Fuze (CCF) capability. **The scope and funding for CCF are expected to be transferred to LAND 17 Phase 1C.1, pending government approval.**

1.2 Current Status

Cost Performance

In-year

Year end overspend of $0.9m is due to FMS payment brought forward for the CCF capability of 2.2m, which was partially offset by savings in M777A2 support ($0.4m), project management expenditure ($0.5m) and foreign exchange gains ($0.2m).

Project Financial Assurance Statement

As at 30 June 2014, project LAND 17 Phase 1A has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

214 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Schedule Performance

LW155 and BMS-F (C2) capabilities – The project achieved Initial Materiel Release (IMR) **in** November 2011 and **the Initial Operational Capability was declared by the Capability Manager on 23 May 2013. Since IMR, the project has delivered the remaining Mission System and Support System materiel to Army and Final Materiel Release for the LW155 and BMS-F (C2) capabilities was achieved on-schedule on 17 September 2013.**

CCF capability - Whilst initially delayed due to the need for additional test programs during development; the FMS case for the CCF **is now in place** and **delivery of** the CCF **is currently planned to commence in 2015**. **In order to allow this project to progress to closure and enable efficient reallocation of project resources, the scope and funding for CCF are expected to be transferred to LAND 17 Phase 1C.1, pending government approval.**

The forecast date of December 2013 Final Operating Capability (FOC) **was not achieved due to the delay to the CCF acquisition. As the scope and funding for CCF are expected to be transferred to LAND 17 Phase 1C.1, pending government approval, the Capability Manager is planning to declare FOC for the LW155 and BMS-F (C2) capabilities prior to the end of 2014.**

Materiel Capability Delivery Performance

The Indirect Fire capability is as follows:

- The LW155 capability provides Army with a digitised, mobile, medium indirect fire platform.
- The BMS-F (C2) capability provides Army with a digitally networked, interoperable command and control system that allows for automated transmission of digital calls for fire from combat units and the rapid calculation of ballistic solutions and effects for firing.
- The CCF capability provides Army with improved ammunition precision to minimise collateral damage, avoid incidents of friendly fire and increase lethality against high value targets.

The project **has completed delivery of the LW155 and BMS-F (C2) capabilities to Army.** The CCF capability was initially delayed; however, an FMS case was signed in December 2012 and the CCF has been cleared for production in the US. **The scope and funding for CCF are expected to be transferred to LAND 17 Phase 1C.1, pending government approval.**

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Government First Pass approval for LAND 17 Phase 1A was provided on 14 February 2006, and allowed the project to explore capability solutions to enhance the Australian Army Indirect Fire Support system through the replacement or upgrade of the 105mm Hamel Howitzer and 155mm M198 Howitzer fleets when they reach the end of their service life.

In July 2009, Government provided Second Pass Approval and agreed to split the LAND 17 project into two phases. Phase 1A for delivery of the LW155 and an Australianised AFATDS, and Phase 1B for delivery of the Self Propelled Howitzer and the Digital Terminal Control System.

An FMS Case for the supply of the LW155 was established with the US Government in September 2009. The first M777A2 Lightweight Howitzer arrived in Australia in August 2010, with the remainder delivered during 2011-12.

An FMS Case for the supply of the AFATDS was established with the US Government in May 2010.

A Systems Requirements Review (SRR) was conducted between LAND 17 Phase 1A project, the US Government and Raytheon Network Centric System (NCS) in September 2010 resulting in the US Government signing a contract with Raytheon NCS for the AFATDS. IMR for LW155 and BMS-F (C2) was achieved on 23 November 2011 **and FMR was achieved on 17 September 2013.**

A Letter of Request (LOR) was submitted to the US Government for the acquisition of the CCF in September 2009; however, in November 2009 the US Government advised that it was unable to offer a Letter of Offer and Acceptance (LOA) as final costs in relation to testing were not available. On advice from the US Government, the LOR was resubmitted in January 2010; however, in September 2010 the US Government advised that the US Program was on hold due to continued delays in the CCF development. In February 2011, the US Government advised that the CCF will be subjected to a further program of testing prior to

reaching a production milestone decision.

In August 2011, **MINDEF** was informed of the delays affecting the CCF program and that Defence would seek Government agreement to reset the CCF schedule pending remediation outcomes.

In December 2012, the LOA for the acquisition of CCF via FMS was accepted, in anticipation of the US CCF program passing the initial production and deployment milestone in the first half of 2013.

In May 2013, the US Government advised that the CCF had been cleared for production **with the production run commencing in late 2013. The first quantity of Australian CCF is estimated to be delivered in late 2015.**

The scope and funding for CCF are expected to be transferred to LAND 17 Phase 1C.1, pending government approval.

Uniqueness

Whilst this project is considered a replacement project, the inclusion of the BMS-F (C2) and the ability to perform digitised calls for fire and ballistic computations is a new capability for the Australian Defence Force (ADF).

The digital capability provided by AFATDS and Digital Fire Control System enables connectivity and interface with external systems and thereby contribute to the higher intent for joint and Network Centric Warfare (NCW).

Major Risks and Issues

Mission System Architectures – The creation of the BMS-F Joint Fires Network Architecture was a major technical challenge. Full ADF and Coalition interoperability will require a higher order Joint Fires Support solution architecture that supports the BMS-F Joint Fires Network. This task is technically challenging and will require engagement of key stakeholders **post introduction into service and throughout the in-service phase.**

Maintaining integration and interoperability – the broader ADF will **need to address** the following challenges **throughout the in-service phase:**

Technical – The LW155 must operate with Army's current and future fleet of vehicles, must be transportable by in-service aircraft and naval vessels, and utilise both in-service and future 155mm ammunition, **including the CCF when it is delivered.**

Technical – AFATDS must interface and integrate with multiple systems across the ADF and Coalition, which utilise different platforms, standards and protocols.

Commercial – Combining **and sustaining** systems from different Original Equipment Manufacturers and countries of origin, where each has specific background and foreground Intellectual Property restrictions will be commercially challenging. Many of the identified systems, including the LW155 and AFATDS, are subject to the US Government's International **Traffic** in Arms Regulations.

Sustainment – The ongoing support of the Australian AFATDS presents a complex sustainment challenge. Both the software and hardware will require ongoing upgrades in synchronisation with all interfaces throughout the entire Life Of Type of the capability.

Other Current Sub-Projects

LAND 17 Phase 1B: Covers the acquisition of new and improved Forward Observer equipment including a Control Terminal and the Tactical Full Motion Video System (TFMVS).

LAND 17 Phase 1C.1: Covers the acquisition of an additional quantity of LW155, noting additional capability enabling elements are pending the scope approval.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
JP 2085 Phase 1B Explosive Ordnance Warstock Remediation Project	JP 2085 Phase 1B has procured the XM982 Excalibur Global Positioning System guided artillery precision munition, as well as the Smart 155 Sensor Fuzed Munition. JP 2085 Phase 1B is also procuring an initial quantity of the AFATDS as part of the Excalibur capability through the FMS program.	This acquisition of AFATDS was planned to be the baseline mission system and support system for LAND 17 Phase 1A to expand. It included integration with ADF vehicles and interoperability with a number of ADF battle systems.
JP 2072 Phase 1 Battlespace Communications System (Land)	JP 2072 is responsible for designing the Battlespace Communications Systems (Land) (BCS (L)) architecture. The BCS (L) will be a 'system of systems' incorporating Combat Net Radio and wide band radio, Trunk Communications and local area voice and data systems that will act as the bearers used to network force elements.	JP 2072 is the primary acquisition body for the LAND 17 Phase 1A communications bearers required under the BMS-F Network architecture.
LAND 200 The Land 200 nomenclature is the combination of the following projects/phases: • LAND 75 Phase 3.2 and Phase 3.3. Battlefield Command Support System (BCSS); • LAND 75 Phase 3.4. Battle Management System – Mounted (BMS-M); and • LAND 125 Phase 3. Battle Management System – Dismounted.	The systems within LAND 200 will be utilised by manoeuvre elements and generate a current and Common Operating Picture (COP).	Interoperability with this COP system is essential for LAND 17 Phase 1A to create a shared situational awareness that is central to the safe and effective application of Joint Fires. Land 17 Phase 1A is also integrating the AFATDS into the Bushmaster Protected Mobility Vehicle Command (PMV-C) variant, based on the LAND 200 vehicle configuration.
LAND 116 Project Bushmaster	LAND 116 introduced the Protected Mobility Vehicle (PMV) in seven configurations.	The LAND 17 Phase 1A conversion kit interfaces with the PMV-C variant. The Troop (PMV-T) variant has been proposed as the personnel vehicle for the LW155 Gun Crew. The Command variant is the vehicle platform on which both the LAND 75 Phase 3.4 and LAND 17 Phase 1A will integrate their respective systems.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Nov 09	Original Approved		348.3	
Jul 10	Price Indexation		17.1	1
Jun 14	Exchange Variation		**(29.3)**	
Jun 14	**Total Budget**		**336.1**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – US Government (AT-B-UCZ)	**(92.9)**		
	Contract Expenditure – Harris Corporation	**(10.5)**		
	Contract Expenditure – US Government (AT-B-UDQ)	(8.6)		
	Contract Expenditure – US Government (AT-B-UGV)	**(0.4)**		
	Other Contract Payments / Internal Expenses	**(22.6)**		2
			(135.0)	
FY to Jun 14	Contract Expenditure – US Government (AT-B-UGI)	**(9.1)**		
	Contract Expenditure – Thales Australia	**(5.2)**		
	Contract Expenditure – BAE Systems Global	**(3.3)**		
	Contract Expenditure – Raytheon Australia	**(2.3)**		
	Contract Expenditure – US Government (AT-B-UGV)	**(2.2)**		
	Other Contract Payments / Internal Expenses	**(1.2)**		3
			(23.3)	
Jun 14	**Total Expenditure**		**(158.3)**	
Jun 14	**Remaining Budget**		**177.8**	

Notes	
1	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $8.7m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $8.4m having been applied to the remaining life of the project.
2	Other Contract Payments/Internal Expenses: Radios (Raytheon Australia $3.4m), **M777A2 parts/support ($5.0m), AFATDS Vehicle Integration Kits ($0.7m)**, Operating Expenditure, Offer Definition, Consultants, Foreign Military Sales, Contractor Support and Minor Capital expenditure not attributable to the Prime contract.
3	Other Contract Payments/Internal Expenses: **M77A2 repair ($0.4m),** AFATDS Vehicle Integration Kits **($0.4m)**, Field Service Representatives **($0.2m)** and Other Operating Expenses **($0.2m)**.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Year end overspend of $0.9m is due to FMS payment brought forward for the CCF capability of $2.2m, which was partially offset by savings in M777A2 support and project management expenditure ($1.1m) and foreign exchange gains ($0.2m).**
			Overseas Industry	
			Local Industry	
		2.2	Brought Forward	
		(1.1)	Cost Savings	
		(0.2)	FOREX Variation	
			Commonwealth Delays	
22.4	**23.3**	**0.9**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government (AT-B-UCZ)	Sep 09	130.8	**96.3**	FMS	FMS	1, **4**
US Government (AT-B-UDQ)	May 10	22.8	**18.9**	FMS	FMS	**2, 4**
Harris Corporation	Feb 11	11.1	**10.5**	Firm	ASDEFCON	**4**
US Government (AT-B-UGV)	Dec 12	19.9	**52.4**	FMS	FMS	**3, 4**

Notes

1	Contract price reduced to reflect saving against LW155 price following final delivery of guns.
2	**The $10.3m that remains against the contract is savings, the largest area of which relates to Engineering Services.**
3	**In December 2013, Amendment 1 to AT-B-UGV was approved, increasing the quantity of CCFs by 2,476 fuzes.**
4	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government (AT-B-UCZ)	35	35	The delivery of M777A2 Lightweight Towed 155mm Howitzer and support system.	1
US Government (AT-B-UDQ)	108	108	The delivery of Australian AFATDS.	2
Harris Corporation	255	255	Supply of radios, ancillaries and spares.	
US Government (AT-B-UGV)	**1,624**	4,000	The delivery of Course Correcting Fuzes.	**3**

Major equipment received and quantities to 30 Jun 14

All above quantities have been delivered except for the CCF capability which is expected to be transferred to LAND 17 Phase 1C.1, pending government approval.

Notes

1	Delivery of 35 LW155 completed in Financial Year 2011-12.
2	These quantities are exclusive of JP 2085 Phase 1B – The complete quantity is 156 “seat” licences (combined total), which includes AFATDS software (quantity 108), Effects Management Tool software and Simulator-Stimulator software.

3	**The CCF capability is expected to be transferred to LAND 17 Phase 1C.1, pending government approval.**

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	AFATDS	Sep 10	Sep 10	Sep 10	0	1, 2
Preliminary Design	AFATDS/Bushmaster Command Post (CP) – Vehicle Installation Kit (VIK)	Jun 12	N/A	Jul 12	1	3
Detailed Design	AFATDS/Bushmaster CP-VIK	Oct 12	N/A	Feb 13	4	3

Notes	
1	First round of SRR held in September 2010. Second round of SRR (post-IMR) to establish Integrated Project Team (IPT) agreement on the remaining functional requirements was conducted in March 2012.
2	As both the LW155 and AFATDS are Military-Off-The-Shelf acquisitions, there is neither Preliminary Design Review (PDR) nor Critical Design Review.
3	PDR and Detailed Design Review cover design for the VIK for AFATDS. The variance is the result of several requirements needing action after a test event in October 2012.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	LW155	Sep 11	N/A	Sep 11	0	1
	AFATDS AS 6.7	Sep 11	N/A	Mar 12	6	2
	LW155	N/A	May 13	May 13	0	3
	AFATDS AS 6.7 SP 1	N/A	May 13	May 13	0	2
Acceptance	LW155 PDA for IMR	Sep 11	N/A	Nov 11	2	4
	AFATDS PDA for IMR	Sep 11	N/A	Nov 11	2	4
	LW155 DA for FMR	N/A	Jul 13	**Sep 13**	**2**	5
	AFATDS DA for FMR	N/A	Jul 13	Jul 13	0	5

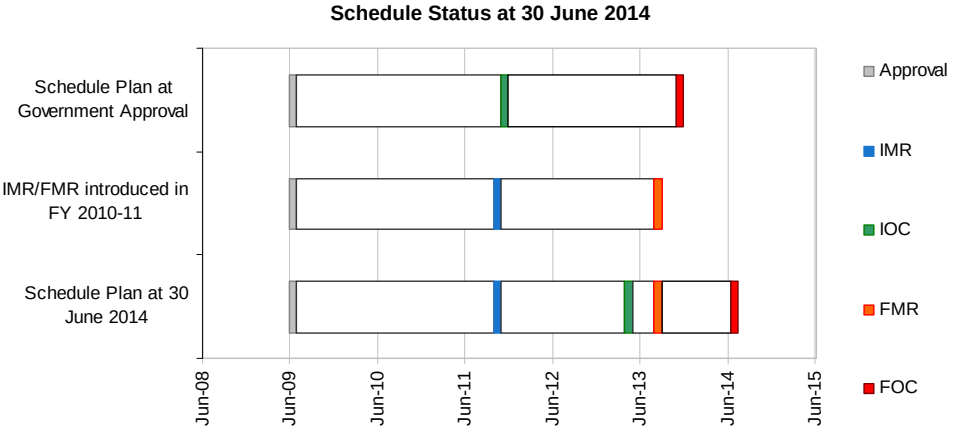
Notes	
1	The project conducted certification activities required for IMR in collaboration with relevant Defence agencies.
2	The AFATDS was tested and certified with multiple combat management systems prior to IMR. The System Integration for AFATDS is finalised as required for FMR based on: • The Factory Acceptance Test (FAT) Report being received in March 2012 for the Final Australian (AS) version of AFATDS 6.7. The variance is based on the schedule for US Government to approval of the FAT; and • AFATDS AS 6.7 Service Pack (SP) 1 requalification test report received in February 2013. This test report details the resolution of a high priority software error indentified in the US mainline software and confirmed in the AS baseline in November 2012. The integration of the new AS baseline software was received, tested and accepted by May 2013.
3	Final certification testing activities with the LW155 were completed by May 2013.
4	Pre-IMR Acceptance Test and Evaluation activities were conducted from May through to November 2011. Test event with live fire (AFATDS/LW155) occurred in October 2011 and Preliminary Design Acceptance documents were completed in November 2011.

5	Pre-FMR Acceptance Test and Evaluation activities for LW155 were conducted from June 2012 through to March 2013 with estimated completion date in May 2013. Pre-FMR Acceptance Test and Evaluation activities for AFATDS were conducted from April 2012 until February 2013. Design Acceptance (DA) documents for AFATDS **were completed in July 2013. DA documents for the LW155 were completed in September 2013; the two month variance was due to delays incorporating the in-service ammunition Explosive Ordnance Design Assessments into the LW155 DA pack.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

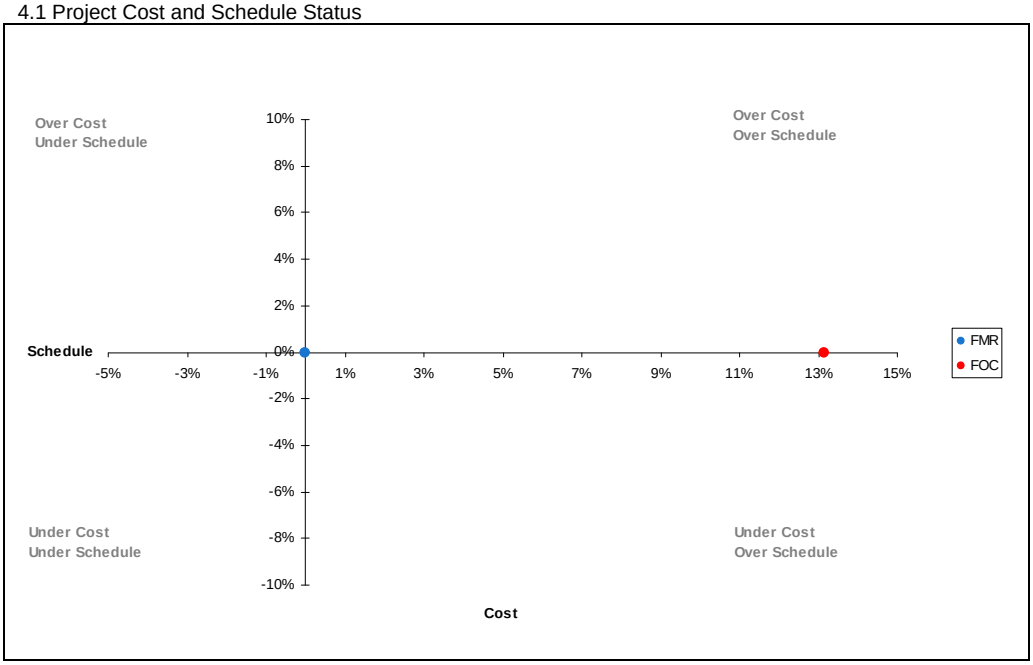
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Nov 11	Nov 11	0	
Initial Operational Capability (IOC)	Dec 11	May 13	17	1
Final Materiel Release (FMR)	Aug/Sep 13	Sep 13	0	2
Final Operational Capability (FOC)	Dec 13	**Jul 14**	**7**	3

Notes	
1	IOC was delayed due to the delays in the development of the CCF, declaration was made on the basis that the CCF had been cleared for production in the US.
2	The acquisition of CCF **was** an issue, which **was** expected to impact the Materiel Acquisition Agreement milestones. CCF was approved for production as of May 2013 and an approved production schedule is **in place** with the US Government. **The scope and funding for CCF are expected to be transferred to LAND 17 Phase 1C.1, pending government approval.**
3	**The delay to the formal declaration of FOC was due to the delayed production of the CCF, and the time taken to approve the transfer of CCF funds and scope out of LAND 17 Phase 1A and into LAND 17 Phase 1C.1. This process was affected by the federal election and associated caretaker period in late 2013. Army has agreed that the remaining capability elements within LAND 17 Phase 1A have been met and is currently working toward declaring FOC as soon as possible.**



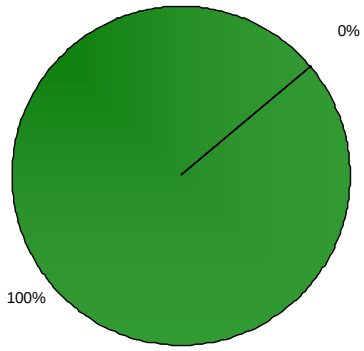
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The LAND 17 Phase 1A project **achieved** delivery of the LW155 and AFATDS to the required level of capability in accordance with FMR requirements and associated completion criteria outlined in the MAA. **The acquisition of CCF is an issue which impacts MAA milestones. The scope and funding for CCF are expected to be transferred to LAND 17 Phase 1C.1, pending government approval and it will be formally removed from the Phase 1A MAA.** **Amber:** **N/A** **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
AFATDS Vehicle integration not met by FMR date: It is possible that a PMV-C mounted BMS-F (C2) and almost certain that a M113 mounted BMS-F (C2) capability by the FMR date may not be achieved due to the inability of JP 2085 Phase 1B to deliver vehicle integration designs for the PMV-C and M113 prior to November 2010. JP 2085 Phase 1B was to set the conditions for LAND 17 Phase 1A vehicle integration activities.	The Project Office engaged multiple stakeholders (DMO projects and Defence agencies including Land Engineering Agency) in December 2010 and gained stakeholder endorsement on an integration plan to leverage off the LAND 75 vehicle integration work. In collaboration with LAND 75, JP 2072 Phase 1, LAND 116 Bushranger Project **and Thales Australia**, the project has completed work on **92 vehicle integration kits for the Bushmaster PMV-C fitted with a LAND 75 BGC3 digital fit in August** utilising the terms and conditions of an extant Bushmaster PMV-C services contract. **Whilst** the Department is managing the remaining **JP 2085** scope for those elements that remain a requirement (refer **to** Section 6.2), **the project has retired the risk of AFATDS vehicle integration.**
LW155: There is a chance that the FOC will be affected by LW155 support arrangements. The US Government has not finalised the long term through life support arrangement for this capability. The end state ADF through life support arrangement will need to leverage the US industrial base once established.	The Project Office will maintain an interim support arrangement, monitor the progress of the US DoD toward a long term, through life support arrangement, and maintain sufficient flexibility to access and leverage the contracts and arrangements established. **The Project Office continues to work with the sustainment team to continuously improve the support arrangements for the M777A2. FMR was achieved on schedule.** **This risk has been retired.**
AFATDS – System Integrator Competencies: There is a chance that the FOC will be affected by the lack of in-house systems integration competencies, leading to an impact on FMR date. Although the foundation of System Engineering process is sound, the problem is compounded by the process implementation and corporate culture not suited to capabilities based on IT software and hardware components.	The Project Office has engaged the services of the external Systems Integrator and provided extensive AFATDS training to the in-house resources at the School of Artillery and main contractor site (Raytheon Network Centric Systems in the US). Constant exposure to NCW systems and obtaining lessons learnt from other Defence organisations continues to give staff and stakeholders a greater appreciation on the integration demands of such systems. **System integration was managed to a point where FMR was declared. This risk has been retired.**
AFATDS Interoperability with other ADF Systems: There is a chance that FMR date will be affected by complex and unclear interoperability requirements with external systems. The problem is compounded by the lack of Army's Joint Fires Functional Concept (JFFC) and appreciation of interdependencies within digitised networks.	The Project Office has engaged the services of an external Systems Integrator to assist in understanding gaps in JFFC through workshops and requirement analysis. The Project Office, to the limit of its control, endeavoured to discharge its interoperability requirements through engineering test programme and closer engagement with stakeholders of "enabling" projects and interdependent agencies. Remedial actions by the end of the reporting period have resulted in better understanding by stakeholders of limitations facing information

	exchange between tactical and strategic domains. **The Capability Manager and Sponsor accepted the level of interoperability that the project provided and FMR was achieved on schedule. This risk has been retired.**
LW155 Explosive Ordnance Design Acceptance for In-service 155mm munitions: There is a chance that the Explosive Ordnance Design Acceptance for in-service munitions will not be achieved in time for the FMR milestone. The risk is based on the delayed provision of amended technical data from the Munitions Branch (MUNB) and together with project resource constraints and increased number of required munitions combinations.	MUNB secured the conventional munitions priority list from Army. The project is on track to obtain certifications as per the priority list, noting that the inclusion of the Precision Guided Munitions for FMR is subject to the outcomes of the Excalibur trial and the provision of the required technical information from MUNB. **The Excalibur trial was completed on time and included in the DA pack for the M777A2, all associated in-service certification was completed and FMR was achieved on schedule.** **This risk has been retired.**
Integrated Logistics Support **(ILS)** Resourcing (LW155 and AFATDS): There is a chance that a lack of Project Integrated Logistics Support resources will lead to a delay in setting conditions for FMR leading to an impact on the capability performance, schedule and supportability.	Recruitment actions were initiated and business case was completed and submitted for action. These were placed on hold pending the workforce downsizing which included a temporary freeze on the progress of new and existing recruitment. The project has started an early transition to Fleet and shares resources for ongoing project activities where practicable. **All ILS deliverables for FMR were achieved and FMR occurred on schedule.** **This risk has been retired.**
LW155 Engineering Design Acceptance (DA) not completed before FMR: There is a chance that Objective Quality Evidence won't be provided in a timely manner to meet Design Acceptance criteria, leading to an impact on schedule. This is caused by dependency on a number of external organisations involved in the certification process.	Through engagement of external organisations and follow up with site visits, the project managed to mitigate many of the causal factors. The roadmap for DA was re-baselined in March 2013 and estimated the completion of activities in July 2013. **All necessary engineering work was completed and FMR was achieved on schedule.** **This risk has been retired.**

Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	**N/A**

6.2 Major Project Issues

Description	Remedial Action
AFATDS – JP 2085 Phase 1B: The inability of JP 2085 Phase 1B to deliver AFATDS software, hardware, radios and vehicle integration to set the conditions for the LAND 17 Phase 1A AFATDS upgrade has brought additional schedule risk to the project. LAND 17 Phase 1A has financial provision to acquire additional vehicle integration kits based on JP 2085 design for the additional vehicle variants, that is, not the Bushmaster PMV-C conversion of the LAND 75 vehicle baseline.	Under a Project Collaborative Agreement, AFATDS assets acquired by JP 2085 Phase 1B were transferred to LAND 17 Phase 1A, together with the responsibility to integrate those assets into the Bushmaster PMV-C. The Project Management Steering Group (PMSG) confirmed in February 2013 the outstanding AFATDS integration tasks, including the integration designs for M113**,** are beyond the control of JP 2085 Phase 1B. The PMSG engaged key stakeholders, including Capability Development Group (CDG) and

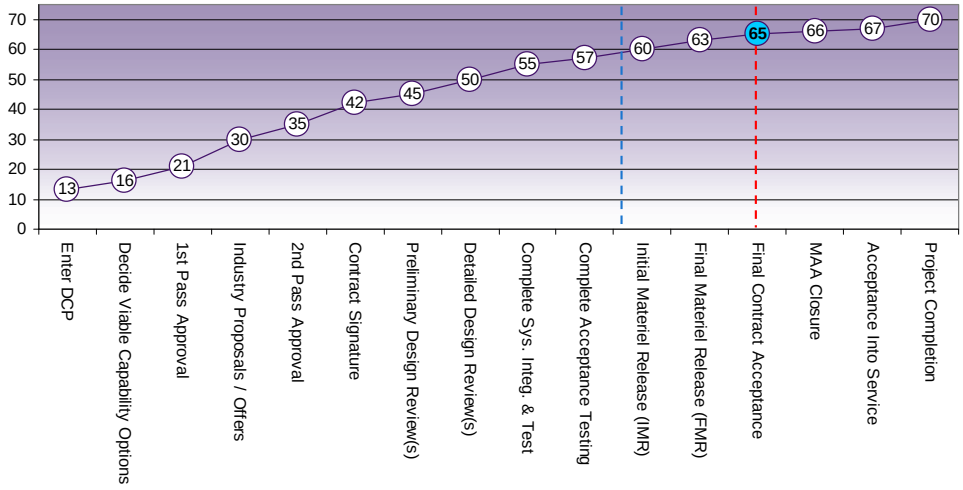
	Army Headquarters to refine the integration requirements and identify DMO organisations best suited to fulfil them. **Whilst remaining elements of JP2085 Phase 1B scope remain unresolved, LAND 17 Phase 1A has retired this issue**.
CCF – Schedule: The US Government has been unable to offer the CCF for acquisition via FMS due to ongoing testing and certification of the fuze accuracy and reliability.	The FMS case has been signed in anticipation of production readiness being achieved in the first half of 2013. In May 2013 the US Government formally advised LAND 17 that the progression to production had been approved. **The scope and funding for CCF are expected to be transferred to LAND 17 Phase 1C.1, pending government approval.** LAND 17 Phase 1A **has retired this issue.**
AFATDS – The AFATDS capability is required to interface with the Theatre Battle Management System (TBMCS) to achieve an effective Air-Land co-ordination. LAND 17 Phase 1A has the contractual requirement to verify application interoperability with TBMCS and provide an engineering input to Army. However, the in-service build for the TBMCS does not support the AFATDS interface. The problem is compounded by the TBMCS support arrangements, whose approved scope does not facilitate the integration with other joint war fighting systems (such as BMS-F (C2)).	Project has conducted the test with the in-service TBMCS build. The test event proved that there were technical issues between the two systems (interface) and gaps in the wider network architecture. The IPT agreed at the requirements review that ongoing work to resolve technical issues will continue, and that the full production rollout of this interface is outside the LAND 17 Phase 1A scope. CDG have an action to review the TBMCS requirement. The IPT agreed the project portion of the TBMCS requirements will be tabled for endorsement at the next PMSG. **The Capability Manager and Sponsor accepted the level of interoperability with TBMCS that the project delivered, allowing FMR to be achieved on schedule. This issue has been retired.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	**10**	**9**	**10**	**9**	9	**9**	**9**	**65**
Final Contract Acceptance	Project Status	9	8	9	**9**	**10**	**10**	**10**	**65**
	Explanation	• **Schedule:** Critical Path activities **were** managed in accordance with DMO policy and guidelines **allowing IMR and FMR to be achieved on schedule**, noting the **transfer of CCF funds and scope to LAND 17 Phase 1C.1, pending government approval.** • **Cost: The project currently shows a cost underspend due to the outstanding budget for the CCF. Once the cost and scope of the CCF is formally transferred to LAND 17 Phase 1C.1 the project will reach its financial benchmark.** • **Requirement:** Project Requirements are well understood, and were confirmed at the second SRR.							

		• **Technical Difficulty: Technical challenges were suitably addressed by the project and the delivered scope was approved by the Capability Manager and Sponsor.** • **Commercial:** All contracted requirements have been satisfactorily performed. There is confidence that **the supplier's** in-service support performance will be satisfactory, noting limitations to LW155 support arrangements stated in Section 6.1 **were suitably treated in collaboration with the CA09 Indirect Fire Support Weapons sustainment team.** • **Operations and Support: As the LW155 and BMS-F (C2) mission systems and support systems have been acquired and established in accordance with the MAA and FMR, both capabilities are ready for deployment and can be fully supported.**



2012-13 DMO MPR Status - - - -	2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Increased need for collaboration due to diverse systems integration – As DMO projects become heavily integrated and dependent on one another, such as interoperable battle management systems, the technical challenges to success become frequent. Close collaboration with the customer, supplier and related DMO projects, early in the process, is essential to understanding the interoperability requirements and developing suitable test plans and schedules that achieve the outcomes of the customer. Regular joint working groups are an excellent way to achieve this.	**Requirements Management** **Resourcing**

Close stakeholder engagement – Whilst delivering a novel and technically complex system to Army, the project experienced a constantly changing environment in terms of customer requirements. In order to ensure the customer's needs are met through timely and accurate representation of requirements to suppliers, continuous face to face stakeholder engagement is essential. Regular working groups with both the customer and supplier are an excellent way to achieve this.	**Requirements Management** **Resourcing**
International Traffic in Arms Regulations (ITAR) – As the number of ITAR controlled items being acquired by DMO increases, the need for close engagement with the Defence Export and Controls Office and a detailed data management plan early in the project becomes essential. The movement and transfer of ITAR controlled items between countries and parties is governed by Technical Assistance Agreements and Third Party Retransfers, these documents are time consuming to develop with the US Government and must be commenced early in the project.	**Schedule Management** **Resourcing** **Governance**

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble (Acting **to Aug 13**) **Mr Colin Thorne (Aug 13–current)**
Division Head	MAJGEN Paul MacLachlan
Branch Head	BRIG David Shields **(to Sep 13)** **Mr Robert Lumley (Sep 13–Mar 14)** **BRIG Cameron Purdey (Mar 14–current)**
SPO Director	**COL John Dougall**
Program Director LAND 17	Mr Adrian Ford
Project Manager LAND 17 Phase 1A	**LTCOL Stuart Mallett (Jan 14–current)**

Project Data Summary Sheet[215]

Project Name	**FOLLOW ON STAND OFF WEAPON**
Project Number	**AIR 5418 Phase 1**
First Year Reported in the MPR	2009-10
Capability Type	New
Acquisition Type	**Australianised MOTS**
Service	Royal Australian Air Force
Government 1st Pass Approval	Aug 04
Government 2nd Pass Approval	Dec 05
Total Approved Budget (Current)	**$317.4m**
2013-14 Budget	**$0.1m**
Project Stage	Acceptance into Service
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

This project **has acquired** the Lockheed Martin AGM-158A Joint Air-to-Surface Standoff Missile (JASSM) and support systems, and integrate the JASSM onto the Royal Australian Air Force F/A-18 A/B Hornet aircraft. The Follow On Stand Off Weapon (FOSOW) system will increase aircraft survivability and weapon terminal effectiveness against defended targets from launch ranges in excess of those afforded using air delivered weapons currently in the Australian Defence Force (ADF) inventory. The FOSOW system provides the capability to successfully, and effectively, conduct stand-off strike operations against a range of targets.

1.2 Current Status

This Project was made a Project of Concern on 23 November 2010 and was removed from the list on 23 December 2011.

Cost Performance

In-year

Project achieved the 2013–2014 budget.

Project Financial Assurance Statement

As at 30 June 2014, project AIR 5418 Phase 1 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

215 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

Initial Materiel Release (IMR) was achieved in July 2011, Materiel Release 2 (MR2) was achieved in November 2011, and Initial Operational Capability (IOC) was achieved in December 2011. Final Materiel Release (FMR) was **achieved on 26 September 2013. Final Operational Capability (FOC) was declared by Chief of Air Force (CAF) on 22 January 2014.**

Materiel Capability Delivery Performance

Two live test firings occurred in mid-2013, demonstrating the reliability and performance of the capability. All material elements to enable an Initial PSTL capability have been delivered and explosive ordnance storage facilities are available to meet FOC storage requirements.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Project AIR 5418 was originally scoped to acquire a FOSOW capability to provide Australia with the ability to conduct effective airborne precision land strike against well-defended targets. The F/A-18 A/B Hornet aircraft was nominated as the delivery platform to carry and employ the FOSOW system.

Lockheed Martin's JASSM was selected as the preferred option following the tender process and Project AIR 5418 Phase 1 gained Second Pass Approval on 5 December 2005.

JASSM is being procured through a Foreign Military Sales (FMS) Case with the United States Air Force (USAF) for the supply of the operational and test missiles, support equipment and USAF program management support; a FMS case with the United States Navy (USN) for weapon to aircraft integration; and a Direct Commercial Sales contract with Lockheed Martin Missiles and Fire Control for the supply of certification/airworthiness data, integration support, and missile capability enhancements.

Originally Project AIR 5418 was required to deliver a fixed and relocatable targets capability which **would** achieve IOC, and a mobile maritime targets capability which **would** achieve FOC. Due to lack of program funding by the USAF for the maritime strike capability, it no longer became a feasible option for Australia. This was also agreed to by the Defence Capability and Investment Committee on 28 May 2010.

Integration of JASSM onto the F/A-18 A/B Hornet was undertaken by the USN Advanced Weapons Laboratory at China Lake, California. The integration effort required the inclusion of the JASSM capability into the F/A-18 A/B Hornet Operational Flight Program (OFP) software.

A successful JASSM live firing was completed at the USN China Lake Weapons Range on 3 December 2010. Analysis of data from this test firing confirmed JASSM functionality in the 21X OFP software, resulting in a Letter of Certification being issued by the USN on 28 February 2011.

In May 2011, Government agreed to remove the moving target capability from the scope of the project, included a Real Cost Decrease of $50 million and revised definition requirements for IOC, FOC, IMR and FMR.

In July 2011 two successful JASSM firings took place at the Woomera Test Range and demonstrated an IOC level of capability. Following on from positive recommendations from the Airworthiness Board, AIR 5418 achieved IOC in December 2011.

A fuze issue in 2012 delayed the delivery of the remaining missiles required to fulfil FMR requirements. The issue was resolved with deliveries in February to April 2013 and FMR **was achieved on 26 September 2013. Final Operational Capability (FOC) was declared by CAF on 22 January 2014.**

The Project Office **has transitioned** the JASSM into service, and has raised a Sustainment Case via FMS with the United States (US) Government.

Uniqueness

JASSM is an Australianised Military-Off-The-Shelf (MOTS) guided weapon acquisition. The Commonwealth of Australia was the first FMS customer authorised by the US Department of State to purchase this product.

This weapon is operated by the USAF from platforms which are not in the Australian inventory. Australian integration of JASSM onto the F/A-18 A/B Hornet platform is a world first.

JASSM represents the longest range (greater than 300 kilometres) guided weapon to be introduced into ADF capability, and as a result poses safety challenges for test/training over Australian land ranges.

Major Risks and Issues

Explosive Ordnance (EO) storage licensing issues are being remediated. **Lead and funding for this issue has transitioned to Defence Support Reform Group (DSRG) (see section 2.1 note 3).**

Other Current Sub-Projects

N/A

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
AIR 5376 Phase 2 Hornet Upgrade	The AIR 5376 Phase 2 Project was established to upgrade the existing F/A-18 fleet to incorporate enhancements to the aircraft's air defence capability. Enhancements are being implemented in three distinct stages. The first is to enable the aircraft to more effectively perform its air defence role. The second stage involves enhancing pilot situational awareness, and the final stage is providing additional aircraft self protection. In addition to these hardware upgrades of the F/A-18 Fleet, each stage includes new or upgraded aircraft software and ground support and training systems.	AIR 5418 was reliant upon Hornet Upgrade Phase 2 for delivery of the Joint Mission Planning System and upgraded F/A-18 A/B Hornet Operation Flight Program software (21X), required to enable the operation of JASSM on the Hornet. AIR 5376 Phase 2 has delivered both of these capabilities.
AIR 5349 Phase 2 Super Hornet Weapons	Project AIR 5349 Phase 2 was established to acquire the Super Hornet associated missile suite including: AIM-9X Within Visual Range Air-to-Air Missiles , AGM-154C & C-1 Joint Stand-Off Weapons, AIM-120C-7 Advanced Medium Range Air-to-Air Missiles and new Infra-Red Flares in support of the Super Hornet aircraft.	The Precision Strike Targeting LAN will facilitate the delivery of weaponeered target materials and provide support to both deliberate and dynamic strike operations. Project AIR 5418 Phase 1 has responsibility for delivering materiel components to enable declaration of PSTL Initial Service Release (ISR). On declaration of ISR, AIR 5349 Phase 2 will take on responsibility for delivering materiel components to support Final Service Release. Close liaison between AIR 5418 and AIR 5349 will be required to ensure a smooth transition in project responsibilities.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Aug 04	Original Approved		14.9	1
Dec 05	**Government Second Pass Approval**	355.3		
Jun 11	Real Cost Decrease	(50.0)		2
Oct 12	Real Cost Decrease	(25.0)		3
Aug 13	**Real Variation - Transfer**	**(1.5)**		**4**
			278.8	
Jul 10	Price Indexation		62.6	**5**
Jun 14	Exchange Variation		**(38.9)**	
Jun 14	**Total Budget**		**317.4**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – US Government	**(162.9)**		**6**
	Contract Expenditure – Lockheed Martin	(81.0)		
	Other Contract Payments / Internal Expenses	**(40.0)**		**7**
			(283.9)	
FY to Jun 14	Other Contract Payments / Internal Expenses	**(0.1)**		**8**
			(0.1)	
Jun 14	**Total Expenditure**		**(284.0)**	
Jun 14	**Remaining Budget**		**33.4**	

Notes	
1	First Pass approval.
2	Government Approved Real Cost Decrease in June 2011 to remove moving target from project scope.
3	As a result of project approaching FMR and risks retired due to the successful Operational Test and Evaluation $25m of contingency has been returned from the project budget.
4	**Transfer of $1.5m to DSRG for Facilities Rectification was completed in August 2013.**
5	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $59.2m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $3.4m having been applied to the remaining life of the project.
6	Section 2.3 Prime Acquisition Contracts covering acquisition of the JASSM Materiel System and integration with the F/A-18 have been combined due to classification.
7	Other expenditure comprises: **$40.0m**, being a combination of Engineering Support **($10.5m),** Aircraft Integration ($9.7m), Project Office Management ($4.7m), Mission Planning **($1.9m)**, and pre-Second Pass Approval expenditure ($13.2m).
8	Other expenditure comprises **$0.06m** for Mission Planning System, with the remaining **$0.04m for** Project Office Support.

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**N/A**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
0.1	**0.1**	**0.0**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
US Government (x 2 FMS cases)	**Jun 06 Jul 06**	160.4	**171.6**	FMS	FMS	1, **3**
Lockheed Martin	Sep 06	67.1	**81.0**	Fixed/Firm	ASDEFCON	2, **3**

Notes	
1	Prime Acquisition Contracts covering acquisition of the JASSM system and software integration with the F/A-18 A/B have been combined due to classification. The **movement** in contract value is due to **amendments** to one of the two prime FMS Cases.
2	The increase in contract value is due primarily to a number of major Contract Change Proposals (CCPs) including CCP-049 Contract Extension from October 2009 – December 2010 and CCP-053 Contract Extension from January 2011 – September 2011.
3	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
US Government	Classified	Classified	JASSM Operational and Test Missiles.	1
US Government	**Various**	**Various**	**F/A-18 A/B Hornet OFP Software development, testing and certification.**	2
Lockheed Martin	**Various**	**Various**	**JASSM Data, Training and Integration Support.**	

Major equipment received and quantities to 30 Jun 14
Deliveries of missiles have been achieved. USN certification of F/A-18A/B aircraft software providing JASSM capability achieved.

Notes	
1	FMS Case AT-D-YLA.
2	FMS Case AT-P-GJO.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Prior Certification	AGM 158A Missile System	Aug 06	Jan 07	Feb 07	6	1
System Requirements	AGM 158A Missile System	Jun 07	N/A	Jun 07	0	
	F/A-18 A/B System Segment	Sep 05	N/A	Sep 05	0	
Preliminary Design	AGM-158A Missile System		N/A	N/A	N/A	2
	F/A-18 A/B System Segment 21X (IOC)	Mar 06	N/A	May 06	2	3
	F/A-18 A/B System Segment 23X (FOC)	Jun 08	N/A	Jun 08	0	4
Critical Design	AGM 158A Missile System	N/A	N/A	N/A	N/A	2
	F/A-18 A/B System Segment 21X (IOC)	Aug 06	N/A	Mar 07	7	3
	F/A-18 A/B System Segment 23X (FOC)	Jan 09	N/A	Jan 09	0	4
Build Readiness	F/A-18 A/B System Segment 21X (IOC)	Nov 07	N/A	Jul 09	20	3
	F/A-18 A/B System Segment 23X (FOC)	Feb 11	N/A	Feb 11	0	4

Notes	
1	Variance due to protracted commercial contract negotiations. Prior Certification Review was completed in late January 2007. The approval to exit the Prior Certification Review was dated 01 February 2007.
2	The weapon is Australianised MOTS. Preliminary Design Review and Critical Design Review issues were addressed in the Prior Certification Review.
3	Data listed is for the F/A-18 21X Build 3.4.1 (JASSM functionality) OFP software which was used for the IOC. Variance due to the detection of software anomalies and the undertaking of corrective and preventative action.
4	Data listed is for the F/A-18 23X Build 3.1.3 (JASSM functionality) OFP software which will be used for the FOC.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	JASSM System (Weapon integrated into platform) 21X	Jun 09	Feb 11	Feb 11	20	1
	JASSM System (Weapon integrated into platform) 23X	N/A	Jun 11	Jun 11	0	
Acceptance	JASSM System (Weapon integrated into platform)	Dec 09	Nov 11	Dec 11	23	2

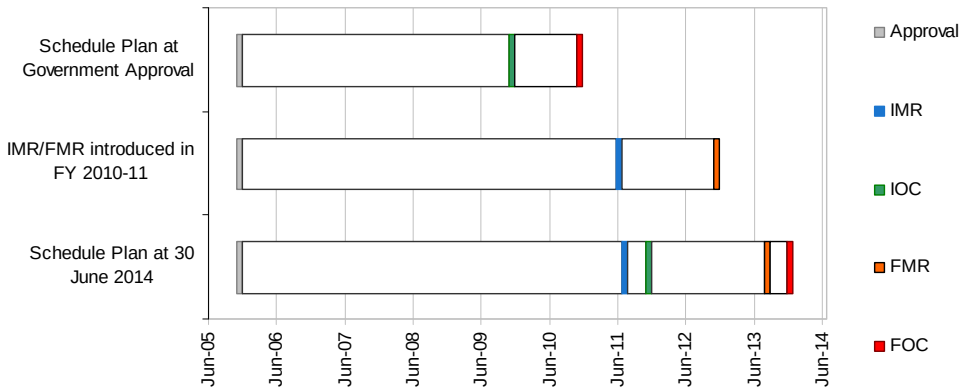
Notes	
1	Data listed is for the F/A-18 21X Build 3.4.1 (JASSM functionality) OFP software which will be used for the IOC. Variance is attributable to the delays associated with correcting software anomalies detected during software development and testing, which required extensive redevelopment and retesting to ensure airworthiness and operational effectiveness.
2	An additional variation of four months between System Integration and Acceptance was realised due to: delayed delivery of JASSM Test Missiles, Government acceptance of risk associated with Woomera test firings and availability of the Woomera Test Range and support agencies.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jul 11	Aug 11	0	1, **6**
Second Materiel Release (MR2)	Dec 11	Nov 11	(1)	2
Initial Operational Capability (IOC)	Dec 09	Dec 11	24	3
Final Materiel Release (FMR)	Dec 12	Sep 13	9	4, **6**
Final Operational Capability (FOC)	Dec 10	**Jan 14**	**37**	5

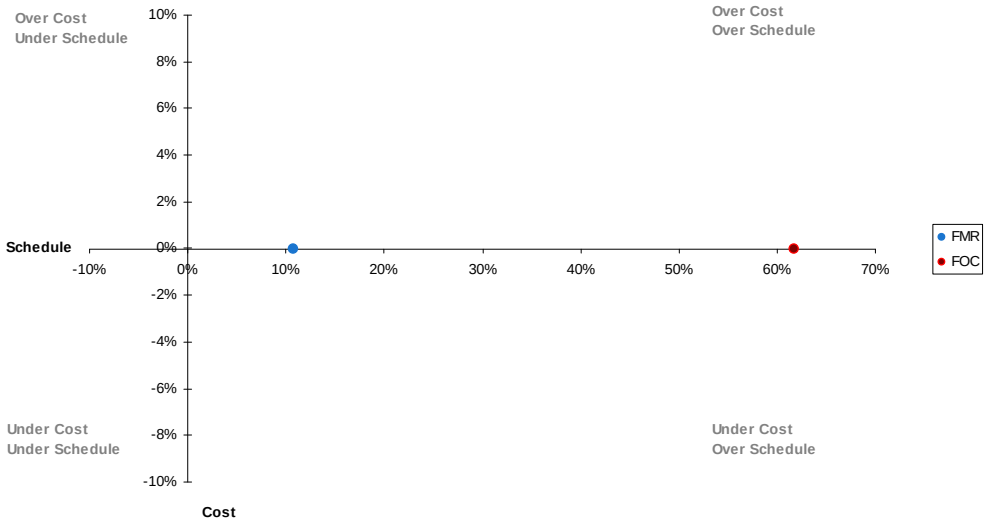
Notes	
1	The AIR 5418 Project Office submitted a minute to the capability manager seeking agreement that AIR 5418 had reached IMR on 5 July 2011. The capability manager signed off on this 3 August 2011.
2	MR2 was achieved in November 2011 with the issue of the Supplemental Type Certificate and Service Release.
3	IOC was declared by Chief of Air Force on 13 December 2011. The variance is attributable to delays in the AF/A-18 A/B software development and certification process, which has required extensive testing and redevelopment to ensure airworthiness and operational effectiveness.
4	FMR **was achieved on 26 September 2013** following Lot 8 delivery delays.
5	FOC requires delivery of the approved full quantity of JASSM war stock. The FOC war stock missiles **were** manufactured in Lot 8. Lot 8 missiles deliveries were delayed due to a fuze reliability issue. The fuze issue has now been resolved and deliveries were complete by April 2013. **FOC was declared by CAF on 22 January 2014.**
6	**IMR and FMR were introduced in Financial Year 2010-11, and hence original planned dates for IMR/FMR occur after IOC/FOC.**

Schedule Status at 30 June 2014



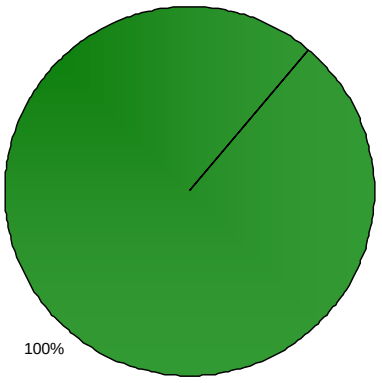
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** JASSM fixed/relocatable target capability **has met** revised Government approval. Missile deliveries have now been completed due to the fuze issue being resolved and the project **has achieved** FMR and FOC. All material elements to enable an Initial PSTL capability have been delivered and responsibility for achieving final PSTL capability has passed to Project AIR 5349 Phase 2. EO storage facilities are available to meet FOC storage requirements. **Amber:** N/A **Red:** N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessment and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
N/A	**N/A**
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

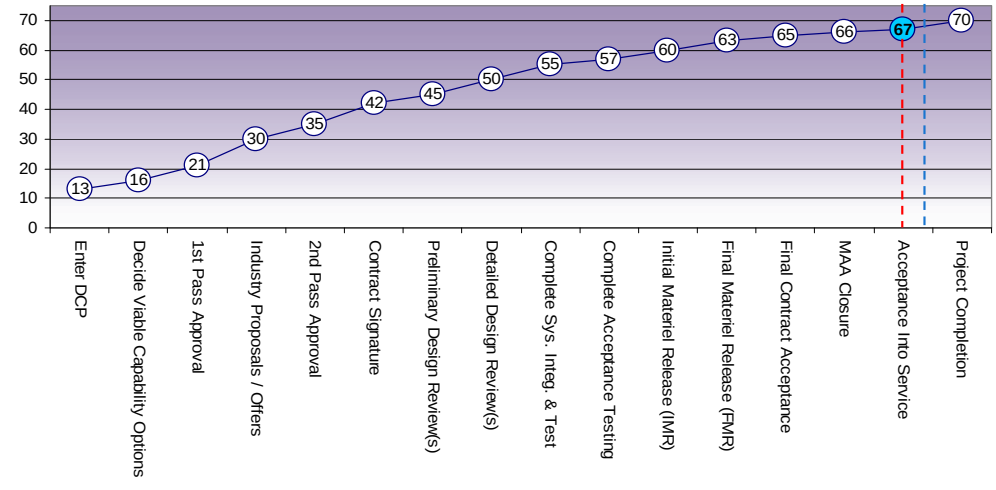
6.2 Major Project Issues

Description	Remedial Action
EO Storage Facilities – JASSM storage facilities have had their Explosive Limit Licenses removed due to short comings in facility design.	**DSRG** have been allocated funding to remediate the non-conforming facilities to enable Explosive Limit Licenses to be reinstated. Alternative temporary storage facilities have been identified for JASSM whilst rectification work is undertaken. **This issue has now been transferred to DSRG to rectify and manage.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	10	9	10	10	10	9	9	67
Acceptance Into Service	Project Status	**10**	**9**	10	10	10	**9**	9	**67**
	Explanation	• **N/A**							



2012-13 DMO MPR Status - - - - 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Stability of interfaces on ageing platforms may not be reliable, leading to an underestimation of integration complexity.	First of Type Equipment
Interface Control Documents are not always correct or may not have been interpreted correctly during host platform design.	Requirements Management
Host platform upgrades not required in the past may now be required, due to the minimum technical performance requirements of new systems to be integrated.	First of Type Equipment
Sufficient resident project staff is important to ensure US Government and contractors understand our requirements and expectations.	Resourcing
FMS is a good procurement vehicle when a US program is mature. However, FMS provides little ability for DMO to manage capability and associated risk when US program is less mature and the Commonwealth is the integrator of project outcomes.	First of Type Equipment

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble **(Acting to Aug 13)** **Mr Colin Thorne (Aug 13–April 14)** **Ms Shireane McKinnie (April 14–current)**
Division Head	**Vacant (to April 14)** **RADM Tony Dalton (April 14–current)**
Branch Head	Mr Martin Weir
Project Director	Ms Catherine Martin **(to Oct 13)** **Mr Stephen McDonald (Oct 13–current)**
Project Manager	SQNLDR Mathew Green **(to Jan 14)** **Vacant (Jan 14–current)**

Project Data Summary Sheet[216]

Project Name	**BATTLEFIELD COMMAND SUPPORT SYSTEM**
Project Number	**LAND 75 Phase 3.4**
First Year Reported in the MPR	2010-11
Capability Type	New
Acquisition Type	**Australianised MOTS**
Service	Australian Army
Government 1st Pass Approval	Dec 05
Government 2nd Pass Approval	Nov 09
Total Approved Budget (Current)	**$314.8m**
2013-14 Budget	**$29.1m**
Project Stage	**Complete System Integration and Test**
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

The LAND 75 Phase 3.4 Battlefield Command Support System (BCSS) project will provide a digital command and control support system to enhance combat capability of the Australian Army through supporting timely and quality decision-making in the land tactical environment. The BCSS project will also deliver a Battle Management Systems (BMS) **capability to equip a Battle Group (BG).** The BMS consists of software that is **designed to be** simple and intuitive to use and hardware that can survive in the land tactical [combat] environment. **The hardware is mounted in a** number of fielded vehicles including: Bushmaster Protected Mobility Vehicles (PMV), G-Wagons, Macks and Unimogs. The BMS is a computer-based command and control system designed to enhance the tactical commanders' Situational Awareness and ability to execute operations.

The BMS is the central component of the **BG** and Below Command, Control and Communications System (BGC3) that is being jointly delivered by the LAND 75 Phase 3.4, LAND 125 Phase 3A and JP 2072 Phase 1 projects, and will incorporate a mobile, data capable communications system and be able to exchange combat information with BCSS and other Land BMS. The BGC3 will form the basis of a land combat identification (Blue Force Tracking) system by providing commanders with a 'real-time' Situational Awareness display of friendly force locations. **Land 75 Phase 3.4 is also delivering a Track Management System (TMS) which is the primary interface between the BMS and the Joint forces Global Command & Control Systems. The TMS provides Battle Group and above connectivity for units equipped with the BMS and TMS.**

1.2 Current Status

Cost Performance

In-year

This year the **$10.2m underspend** between planned and actual expenditure is primarily due to **a number of**

216 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

additional work packages that are no longer required, been transferred to Sustainment or have taken longer than anticipated to approve.

Project Financial Assurance Statement

As at 30 June 2014, project LAND 75 Phase 3.4 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current, financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

Initial Materiel Release (IMR) was achieved on 14 June 2011 and the Initial Operating Capability (IOC) was declared by the Chief of Army as the Capability Manager on 20 April 2012.

In December 2011, the Prime Minister agreed to align the LAND 75 Phase 3.4 Final Operational Capability (FOC) with Army's Brigade rotation cycle circa December 2013. The approval was linked to a Basis of Provisioning **(BOP)** change sought by Army. The DMO has negotiated this change with Elbit Systems Ltd (ESL) and in January 2013 Contract Change Proposal (CCP) 13 (CCP013) to the contract was signed. Changes to the BOP have been implemented into the schedule. **In July 2013 Army sought further modifications to the BOP and clarified FOC activities as part of the Government approval submission for a follow-on procurement of BMS under LAND 75 Phase 4 Work Package A.**

As at **June 2014**, the project has installed the BGC3 into **236** PMVs, **207** Unimog Trucks, **301** G-Wagons and these vehicles are now in use with Army. **All 90 Mack Truck kits are ready for acceptance by the project although at Army's direction will not be installed. Army has decided to independently install the Mack kits into selected vehicles in accordance with their priorities. March 2015 is the current planned milestone date for the DMO to have delivered these FOC supplies, transitioned all equipment to sustainment and closed the Material Acquisition Agreement.**

Materiel Capability Delivery Performance

The DMO provided release of supplies to Army **in 2013** in sufficient quantities to conduct operational test and evaluation activities commencing in June 2013. **These activities are complete and are in support of a planned declaration of FOC** by the Chief of Army. **In providing project approval of LAND 75 Phase 4 in August 2013, the Government agreed to FOC declaration in mid 2014. FOC is currently planned for March 2015.**

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The capability need was identified in 2002-03 by Capability Development Group (CDG) and the Land Warfare Development Centre. The need arose from analysis of operational experience through the use of BCSS, regional threat and technology assessments, and support from allied programs and technology growth. The capability was refined from 2003 to 2005 culminating in the submission for first pass approval in late 2005. The duration of time from concept to contract has allowed the Australian Defence Force (ADF) to capitalise upon generational advancements in technology and support the alignment of complementary projects to deliver a holistic solution.

The project received Government first pass approval in December 2005. In June 2006, the Minister for Defence agreed that the solicitation of the LAND 75 Phase 3.4 BMS and the LAND 125 Phase 3 C4I sub-system was to be combined to enable Defence to obtain a fully integrated system for mounted and dismounted battle management. The communications bearer (originally to be provided separately by the JP2072 Phase 1 Battlespace Communications System project) for the mounted BMS was added in January 2007. Combining the Request For Tender (RFT) enabled Defence to seek a coherent and integrated solution from industry.

The BGC3 RFT closed on the 27 August 2007, with tenders received from four companies. The initial down selection was to two preferred tenders in January 2008. Phase 1 of the Offer Definition Activity (ODA) selected ESL as the preferred tender to proceed to Phase 2 of ODA in May 2008. ESL successfully completed the ODA and provided a refined risk, schedule and cost proposal that constituted the basis of the

approval proposal. Government Second Pass Approval was gained in November 2009, with the contract awarded to ESL as the prime contractor in March 2010.

In the 2012-13 Federal Budget, the Government decided to remove installation of the BGC3 into the M113AS4 Family of Vehicles and apply a real cost decrease of $7.0m. The contract change, together with previously approved changes to the BOP and FOC schedule sought by Army, was executed in early 2013.

The design work for the M113AS4 installation kits will still continue in the project at this stage; however in the 2012-13 Federal Budget, the Government decided to remove installation of the BGC3 into the M113AS4 Family of Vehicles from Land 75 Phase 3.4. Installation now falls under the scope of Land 75 Phase 4.

Uniqueness

The capability introduced by this project will fundamentally change the methods used by tactical forces in the implementation and collaborative distribution of battlefield data. Command and Control processes will move from analogue, hard copy based information distribution to an electronic, near-real time capability with improved situational awareness. Implementation of this capability is considered a conversion rather than simply a rollout for the ADF, as it introduces a significant number of organisational and personnel change management requirements. **LAND 75 Phase 3.4 has captured lessons by using the system which have influenced the requirements and dependencies of related projects. The understanding gained by Army has provided the basis for further phases of LAND 75.**

Major Risks and Issues

Meeting the **final** design approval requirements continues to remain a challenge for the program as the project is exposed to multiple platform design authorities that creates a complex management environment. Melding of the processes required to achieve an approved design **within the agreed schedule for FOC** continue to consume a large portion of the project's management and engineering resources.

The majority of the components in the BMS are off the shelf, as are many of the external systems to which the system is to integrate. Managing the interfaces to ensure that the system specifications can be achieved, **while also meeting stringent security accreditation requirements** remains a key challenge.

Planning for the introduction into service of the capability with Army is well advanced, but nonetheless remains a complex activity. Regular workshops and stakeholder meetings are conducted between the DMO and Army.

Other Current Sub-Projects

LAND 75 Phases 3.2, 3.3 and 3.3B BCSS: A digital command post system used for deliberate planning, operational monitoring, controlling and reviewing functions. The BCSS will provide the higher level command and control processes to complement and inform the lower tactical information generated from the BMS. The three BCSS acquisition project phases were closed in early 2013, and all BCSS activities are now managed in sustainment.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
JP 2072 Phase 1 Battlespace Communications System	This is a project to enhance communications for ADF land elements through the development of a holistic battlespace communications architecture for the land environment.	Communications radio solution and architectures that underpin the BGC3.
LAND 125 Phase 3A Soldier Combat System	This project will enhance communications for ADF soldiers through the development of a BMS Dismounted component.	LAND 125 Phase 3A C4I sub-system will enable the ADF to streamline delivery of an integrated system for mounted and dismounted battle management.
JP 5408 Phase 2B Navigation Warfare	This project will incrementally implement the enhancements and replacements to the ADF's Global Positioning Systems (GPS) equipment.	The navigational and timing GPS equipment from JP5408 form an integral component of the BGC3. **LAND 75 is not dependent on any further deliveries from JP 5408 to achieve FOC.**

LAND 116 Phase 3 Bushranger	This project is providing protected land mobility to Army units and Royal Australian Air Force (RAAF) Airfield Defence Guards with the PMVs.	The PMV is one of the vehicle platforms identified for installation of the BMS. **Changes to the baseline configuration of the platform will have an impact on the installation of the LAND 75 systems.**
LAND 121 Phase 3A Overlander	This project will acquire approximately 1,200 unprotected lightweight/light vehicles (G-Wagons).	The G-Wagon is one of the vehicle platforms identified for installation of the BMS. LAND 121 designed the mechanical installation of the BGC3 into the G-Wagon. **Every G-Wagon to be delivered by LAND 121 will be fitted for the BGC3. All** G-Wagons **in the LAND 75 BOP** are to be fitted with the BGC3.
LAND 17 Phase 1B BMS-Fires and AFATDS	This project will deliver an enhanced indirect fire support system.	The BMS-Fires system of the 105mm Hammel Artillery Replacement and 155m Howitzer Artillery Replacement will need to exchange data with the BMS being acquired by the LAND 75 Phase 3.4 project. LAND 17 has already designed and is delivering a kit to replace a portion of the BMS with the BMS-Fires terminal. LAND 17 BMS-Fires kit requires that any PMV they are fitting has first been fitted by LAND 75.
LAND 75 Phase 4 – Work Package Alpha	**Work Package Alpha of LAND 75 Phase 4 was approved by Government in August 2013. This project will continue the rollout of vehicles using the installation designs developed in LAND 75 Phase 3.4.**	**The project approval of LAND 75 Phase 4 clarified the revised dates for the LAND 75 Phase 3.4 FOC to be mid 2014.**

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Dec 05	Original Approved		7.9	1
Nov 09	**Government Second Pass Approval**	325.0		
Jun 12	Real Variation – Scope	(7.0)		2
			325.9	
Jul 10	Price Indexation		15.6	3
Jun 14	Exchange Variation		**(26.7)**	
Jun 14	**Total Budget**		**314.8**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Elbit Systems Limited	**(149.8)**		
	Contract Expenditure – Northrop Grumman	**(9.2)**		
	Other Contract Payments / Internal Expenses	**(25.1)**		4
			(184.1)	
FY to Jun 14	Contract Expenditure – Elbit Systems Limited	**(7.4)**		
	Contract Expenditure – Northrop Grumman	**(1.2)**		
	Other Contract Payments / Internal Expenses	**(10.3)**		5
			(18.9)	
To Jun 14	**Total Expenditure**		**(203.0)**	
To Jun 14	**Remaining Budget**		**111.8**	

Notes	
1	This project's original DMO budget amount is that prior to achieving Second Pass Government approval.
2	The May 2012 Commonwealth Budget decreased the Project Budget by $7.0m and removed the installation of BGC3 into the M113**AS4** family vehicle from the project scope.
3	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $8.3m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $7.3m having been applied to the remaining life of the project.
4	Other expenditure comprises: Contractor Support (**$8.0m**), Consultants (**$7.0m**), Operating Expenditure (**$6.6m**), Offer Definition ($3.0m), and Minor Capital ($0.5m) expenditure not attributable to the Prime contract.
5	Other expenditure comprises: Contractor Support (**$7.1m**), Consultants (**$1.7m**), Operating Expenditure (**$0.9m**), **and Minor Capital ($0.6m).**

2.2 In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The variation is primarily due a number of additional work packages that are no longer required, been transferred to Sustainment or have taken longer than anticipated to approve. Payments for the final two milestones still remain outstanding. Also contributing to the variation was a delay in invoicing for the delivery of Batch 2 of the G-Wagon Kits.**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
		(10.2)	Commonwealth Delays	
29.1	**18.9**	**(10.2)**	**Total Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Elbit Systems **Limited**	15 Mar 10	176.2	**176.0**	Variable	ASDEFCON	1, **2**
Northrop Grumman	24 Jun 11	10.3	**10.8**	Fixed Price	ASDEFCON	**2**

Notes

1	This value represents the LAND 75 Phase 3.4 aspect of a contract which covers **three** other discrete projects. Total contract value is **$467.0m**, this includes both Acquisition and Sustainment.
2	**Contract value as at 30 June 2014 is based on actual expenditure to 30 June 2014 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Elbit Systems **Limited**	Various	Various	Delivery of BMS installations or installation kits for: - Mack Truck: 90 - Unimog Truck: 207 - PMV: 237 - G-Wagons: 388	
Northrop Grumman	Various	Various	Software Licences for the Track Management System	

Major equipment received and quantities to 30 Jun 14

As at **June 2014**, the project has installed the BGC3 into **236** PMVs, **207** Unimog Trucks, **301** G-Wagons. **All 90 Mack Truck kits are ready for acceptance by the project although at Army's direction will not be installed. Army has decided to independently install the Mack kits into selected vehicles in accordance with their priorities.**

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	System Design Review - BMS	May 10	N/A	Aug 10	3	1
Preliminary Design	Group 1 – Selected Variants of PMV, Mack and Unimog	Sep 10	N/A	Sep 10	0	
	BMS	Aug 10	N/A	Sep 10	1	2
	Preliminary Design Review – Group 2 & 3 Remaining Variants of PMV (Group 2) and M113**AS4** (Group 3)	Aug 11	N/A	Oct 12	14	3
Detailed Design	Group 1 – Selected Variants of PMV, Mack and Unimog	Dec 10	N/A	Jan 11	1	4
	BMS	Dec 10	N/A	Jan 11	1	
	Delta Detailed Design Review (dDDR) – Group 1 PMV only	Dec 11	N/A	May 13	17	5
	Group 2 – **PMV Ambulance**	Nov 11	N/A	**Jun 14**	**30**	6
	Group 3 M113**AS4**	Dec 11	N/A	**Dec 14**	**36**	7

Notes	
1	The System Design Review was achieved when all major action items resulting from the review were completed, and the progress certificate was issued.
2	System Preliminary Design Review (PDR) was delayed to align with the conduct of the Dismounted and Group 1 reviews.
3	PDR was delayed due to Protected Mobility Command Vehicle production being reprioritised by Army in order to provide a coherent capability to the customer. Design activities relating to installation of the **BMS** into the M113AS4 remains part of Group 3 design reviews, driving the achievement date. Mack and Unimog remaining variants designs were removed from Group 2 as part of CCP013 negotiations as a common design from Group 1 was implemented.
4	The DDR was aligned to incorporate the conduct of dismounted human factors trials and the dismounted design review, and significant input from Thales in its role of the vehicle Original Equipment Manufacturer (OEM) and Design Authority. The delay was subject to the finalisation of a major CCP for the design schedule.
5	**The dDDR** Review was held in December 2012 with one major action item remaining which is configuration management of the final design compared to the finite element analysis that was used to support the design review. This action has now been closed **and the milestone has been achieved**.
6	Mack and Unimog remaining variants designs were removed from Group 2 as part of CCP013 negotiations as a common design from Group 1 can be implemented. **The PMV Ambulance** (Group 2) **completed design documentation is being prepared for the Verification & Validation (V&V) process in preparation for the Functional Configuration Audit (FCA). Only the PMAV design is to be delivered under LAND 75 Phase 3.4.**
7	Delay is due to the time required for ESL to form a sub-contractual arrangement with BAE **(who own all the intellectual property for the platform)** and their collective ability to develop a design **acceptable to Army. Physical space in the vehicle is severely limited that has provided significant design challenges. Several re-designs have been required to develop a design that is acceptable to all parties while maximising utility of the vehicle.**

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Variable Message Format (VMF) Conformance to standard testing	Jun 11	N/A	**Sep 13**	**27**	1
	Communications	May - Oct 10	N/A	**Dec 14**	**50**	2
Acceptance	Acceptance Test and Evaluation - Group 1 Various Vehicles	Apr - Jun 11	N/A	**Oct 14**	**40**	3,**4**
	Acceptance Test and Evaluation – Group 2 PMV Ambulance	Feb 12	N/A	**Sep 14**	**31**	**4,5**

Notes	
1	The first set of VMF messages was completed June 2011, allowing demonstration of the interoperability element with other ADF systems. **All** message conformance testing is complete. **The final compliance to standard certificate was issued by the** ADF Tactical Data Link Authority **in September 2013.**
2	Initial communications developmental testing was related to communication performance of individual radios by radio OEMs (as delivered by the sister project JP 2072 Phase 1). Acceptance testing is platform related and is conducted on each new design to address the interdependencies, such as antenna **location and** collocation. The majority of the Communications requirements are complete. **Army's Operational Test and Evaluation activity at Exercise TALISMAN SABRE 2013 trialled deployments of the system up to a Battle Group. Computer based modelling for deployments larger than a Battle Group are nearing completion that will confirm scalability of the network beyond a Battle Group**.
3	Final testing schedules for Group 1 variants were planned for September 2012. Delays are due to the need for the contractor to redesign elements to improve human factors compliance and mine blast conformance **with the platform design authority. Final testing activities are complete for Group 1 and Group 2 variants as of February 2014, with the only remaining task being the construction of the design acceptance package.**
4	**Delays in closing out the Design Acceptance Process for Unimog and Mack vehicle platform designs has been experienced due to insufficient objective quality evidence to satisfy V&V requirements of the contract. The age of the vehicles in the Mack and Unimog fleets has made it challenging for the Contractor to deliver consistent installations. Army has requested a consolidated list of deviations to requirements for consideration in closing out this outstanding work for the B-vehicle platforms.**
5	**PMV Ambulance** does not share a common design with the other PMV variants. Vehicle availability combined with issues with the interim production and design activities of Group 1 vehicles contributed to the delay from that planned. **All PMV designs are expected to complete Functional and Physical configuration audits (FCA/PCA) in mid 2014.**

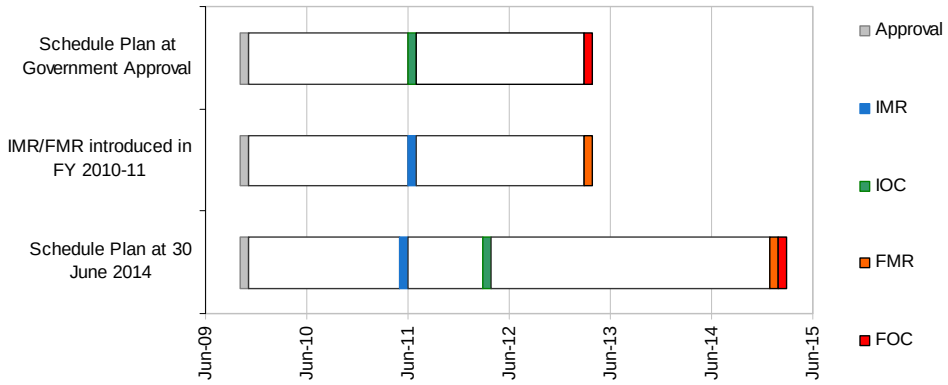
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved / Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jul 11	Jun 11	(1)	
Initial Operational Capability (IOC)	Jul 11	Apr 12	9	1
Final Materiel Release (FMR)	Apr 13	**Feb 15**	**22**	2
Final Operational Capability (FOC)	Apr 13	**Mar 15**	**23**	**2**

Notes

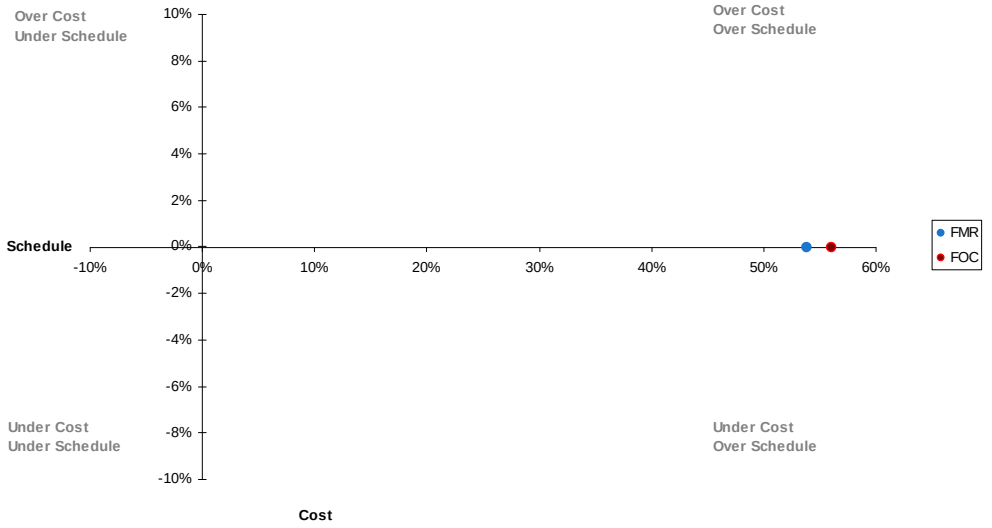
1	Longer than expected Operational Test and Evaluation (OT&E) activities were required to fully explore risk areas of interest to Army and Defence Science and Technology Organisation. The initial round of OT&E activities in 2011 following Exercise TALISMAN SABRE 2011 were inconclusive.
2	**Based on approval from the Prime Minister, the FOC date was first** moved **to December 2013 to** better align with the Army Brigade Rotation Cycle. **In the 2012-13 Federal Budget, the Government decided to remove installation of the BGC3 into the M113AS4 Family of Vehicles. In the August 2013 Approval of LAND 75 Phase 4, FOC (and FMR) was agreed to be planned for mid-2014 in order to align with final deliveries of equipment required for FOC. The Government confirmed that the definition of FOC for Land 75 Phase 3.4 is equipment for two motorised infantry Battle Groups, one Special Operations Task Group and one Air Field Defence Squadron. March 2015 is the planned milestone date for the DMO to have delivered these FOC supplies, transition of all equipment to sustainment and close the Material Acquisition Agreement. Options to combine the remaining M113AS4 design effort with the installation effort in Land 75 Phase 4 are being developed for Government consideration.**

Schedule Status at 30 June 2014



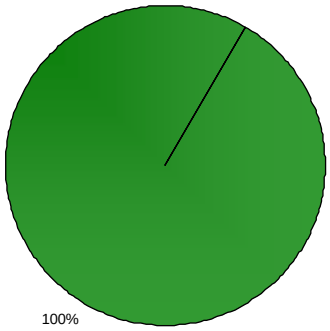
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The project is currently meeting capability requirements as expressed in the Material Acquisition Agreement and supporting suite of capability definition documentation. **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.	

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a risk that the BGC3 system will not achieve full information and communications technology (ICT) Accreditation.	System security accreditation documentation has been developed as a result of the Software Baseline being achieved and the Project is liaising with Chief Information Officer Group to ensure the process is successful. System Accreditation should be achieved in **mid 2014**. **Delays are due to competing priorities within the Chief Information Officer Group (CIOG) that has slowed consideration of the BGC3.**
There is a chance that the BGC3 will not achieve Introduction into Service (IIS) approval from Army.	The project will continue to seek feedback from the Capability Manager, and conduct regular stakeholder meetings. In addition, ensure compliance to the Army Acceptance into Operational Service manual.
There is a chance that with a significant number of stakeholders involved with the Program consensus will not be reached on capability requirements of the BGC3 system deliverables	**This risk has now been retired as the capability requirements were clarified in the LAND 75 Phase 4 project approval.**
There is a risk that ESL may fail to meet quarterly Key Performance Index (KPI) of the system post-delivery, or that ESL may challenge the Commonwealth assessment of the KPI.	**The performance regime to be applied in sustainment is to be the subject of a future negotiation with the contractor, and so this risk has been retired.**
There is a risk that the project's testing capability for the Program will be reduced in 2013 with the departure of a key resource.	**This risk has now been retired as there has been very little turnover of project staff due to the recruitment slowdown. Short term use of contracted support has supported the DMO during surge periods.**
There is a risk that changes to the endorsed MAA scope for the dismounted BMS (BMS-D) are occurring informally.	**This risk has now been retired as all BMS-D systems have now been manufactured and delivered to the DMO.**
There is a risk that the Track Management System (TMS) will not achieve ICT accreditation for the DSN.	Continued consultation with domain experts and CIOG in Defence to advise on requirements to achieve ICT accreditation. **The BGC3 is to be certified for stand-alone Secret in LAND 75 Phase 3.4, and will be considered for certification for use on the Defence Secret Network as part of LAND 75 Phase 4 should it be approved.**
There is a risk that TMS will not transition to the in-service support agency.	**Transition planning for TMS has advanced to the point where this risk has now been retired.**
There is a risk that the IIS Training will not adequately prepare selected staff officers at Brigade and Divisional level to undertake the role of a TMS operator on operations or in training.	**This risk has now been retired as introduction into service training is now complete and Army is satisfied with what was delivered.**
There is a risk that the TMS will not be accepted by the user.	**This risk has now been retired as the TMS technical architecture has demonstrated the ability to generate a recognised land picture across the two areas of operations.**

There is a risk that TMS may not be able to deliver the interoperability required with other systems.	**This risk has now been retired as the TMS technical architecture has demonstrated the ability to generate a recognised land picture across the two areas of operations.**
There is a risk that the BGC3 System may not be given Design Acceptance.	If the system fails to meet the required specifications additional work will be required to solve functionality issues. A need to work closely through the conduct of verification activities to ensure these issues are addressed.
There is a risk that there may be a delay to Design Acceptance schedule for the PMV **Ambulance** Group 2 platform.	**This risk has been realised and has been transferred to Section 6.2 Major Projects Issues.**
There is a risk that there may be a delay to Design Acceptance for the M113AS4 Family of Vehicles.	**This risk has been realised and has been transferred to Section 6.2 Major Projects Issues.**
There is a risk that the Contract is not being executed correctly within the Program.	**This risk has now been retired. Management of the contract with the Contractor has been within the context of the Joint Project Improvement Team, and management of the contract internal to the DMO is occurring in accordance with DMO policy.**
Emergent Risks (risk not previously identified but has emerged during 2013-2014	
Description	Remedial Action
N/A	**N/A**

6.2 Major Project Issues

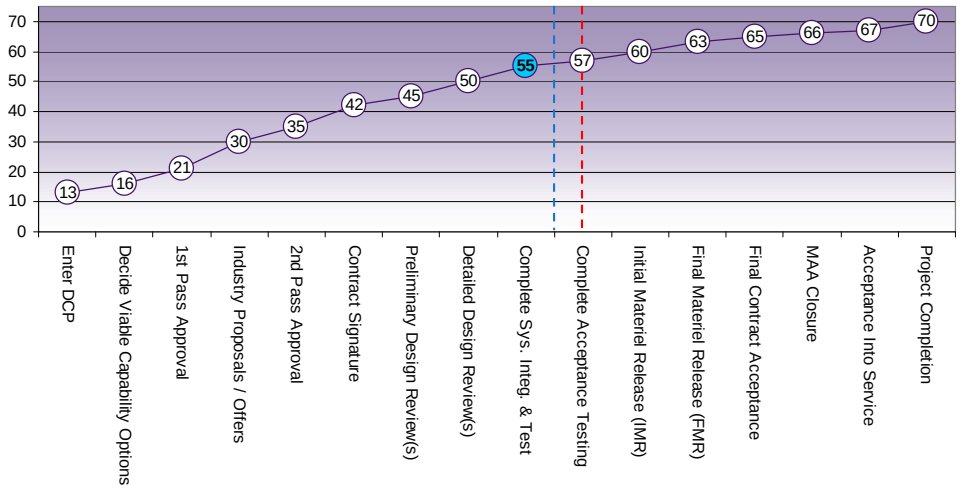
Description	Remedial Action
Detailed Design Review has not been met for the BGC3 system for the PMV due to scope changes to the baseline of the PMV impacting the requirements and subsequent baseline of the BGC3. The vehicle baseline is dynamic with competing projects installing capability in to the vehicles concurrently.	A February 2011 Gate Review agreed that the LAND 200 program will deliver most, if not all PMV installations to Army at preliminary design baseline. Once the design baseline has been finalised, and a design acceptance certificate has been issued by Thales, any deltas between the final design and that delivered will be identified. If Army accepts the design, then no further action is required. If there are differences that are unacceptable, then a retrofit program will be required.
The user community do not accept and use the BMS-D.	**This issue has now been retired as Army has accepted that the BMS-D system will support their further learn by doing activities. All BMS-D systems have now been manufactured and delivered to the DMO.**
The contractor may be inexperienced in areas in working with Defence (contract and engineering processes, deliverables, culturally) and as such some deliverables are below standard subsequently there is a chance the contractor performance and achievement of contract milestones will not be met.	Increase Project Controls and Contract Management function in the Program. Implement communication plan with ESL. Tighter control on the Program Measurement and Review format/performance measurements. Formal correspondence on issues and points of contention. Educate the **Project Managers** on these strategies to ensure tighter project controls.
Schedule is not accurate - dates for vehicles availability are not 'solid', time frames are too aggressive, difficult to quantify amount of damages and warranty provision commencement/conclusion.	Implement the Battle Rhythm - including improve the schedule (scope), control the delivery of the product lines, review the schedule, action schedule slip with ESL and request corrective actions (formally), identify schedule tolerances and when they are

	breached and identify strategies for managing these breaches. Further CCP negotiations are required to re-baseline the schedule.
The BMS-D have the following safety issues: - Electromagnetic interference / Electromagnetic compatibility emissions / Radiation hazard - Weight - Size - Premature fatigue	**This issue has now been retired as Army has accepted that the BMS-D system will support their further learn by doing activities. All BMS-D systems have now been manufactured and delivered to the DMO and Army have indicated a willingness to accept higher levels of unmitigated technical risk in order to realise the benefits of a digitised force.**
Inadequate baseline management by both the Commonwealth and the contractor (ESL) has resulted in an inability to strike a baseline for the BMS-D.	CoA Engineers to work with Contractors (at their premises) to ensure deliverables are to a standard that will be accepted by the CoA in accordance with the Contract
There is a delay to Design Acceptance schedule for the PMV Ambulance Group 2 platform.	**The project will continue engagement with ESL and insist on Thales involvement as well as frequent meetings to identify issues and address action items.**
There is a delay to Design Acceptance for the M113AS4 Family of Vehicles.	**The project will closely monitor the design process within ESL and ensure schedule recovery action is in place when required.**
The TMS is not able to connect with coalition head quarters via the MIP gateway	**Management of Stakeholder expectations through Army Headquarters and Capability Development Group. Ensuring requirements are articulated to the OEM.**

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	8	**7**	8	8	**8**	8	8	**55**
Complete System Integration and Test	Project Status	8	8	8	8	8	8	**9**	**57**
	Explanation	• **Cost: The overall estimate at completion is projected to be within approved project provision based on cost variance trends and cost risk assessments. Use of contingency is considered unlikely. Majority of risks have been retired in project elements particularly sensitive to cost increases.** • **Operations and Support: The operating and support systems have begun to be transitioned to the operating environment. The support contract for the first three years is part of the acquisition contract. The Command and Control System Support Office has been established and is actively managing the transition arrangements for sustainment.**							



2012-13 DMO MPR Status - - - - | 2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
For Network Centric Warfare (NCW) projects that have many interfaces and stakeholders, it is essential to have the requirements not only well understood, but to have these very well defined in the suite of Second Pass project approval documentation. This provided a solid foundation to build an executable contract, and helps guide stakeholder projects who are seeking interoperability with the BGC3.	Requirements Management
The project has a well defined contract with clear conditions of contract that provide flexibility where it is needed. In particular, parties to the contract can agree to changes to the GFM by accession rather than via a formal contract change proposal, which allows far greater agility in the management of GFM and GFE requirements.	Contract Management
The project has formed a variety of contracts and sub-contracts with the Commercial Design Authorities for Army's platforms. There is a wide variety of Intellectual Property (IP) arrangements amongst the separate platform contracts. In the cases where the CoA has stronger IP rights these contracts have worked more effectively and at a lower overall cost. It is recommended for future platform projects that rights to the IP consistent with ownership are sought.	**Contract Management**
During the course of the program, it was found to be essential to continue with an expanded Integrated Project Team which had senior stakeholder representation of all groups involved, including projects delivering the platforms, technical regulatory agencies and the Capability Managers.	Governance
Considering the many stakeholder interfaces involved in the NCW programs (which this project is but one), the traditional PMSG forum was found to be insufficient and requiring a broader NCW program focus. As a result, higher level program management oversight, which involves all key stakeholder groups, including the Capability Manager, Capability Development Group and the DMO, has proven to be an essential management forum for the project.	Governance

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward
Branch Head	Mr Brad Flux
Project Director	Mr Roger Grose
Project Manager	**LTCOL Geoffrey Donkin (to Dec 13)** **LTCOL Joanne Whittaker (Jan 14–Current)**

Project Data Summary Sheet[217]

Project Name	**AMPHIBIOUS WATERCRAFT REPLACEMENT**
Project Number	**JP 2048 Phase 3**
First Year Reported in the MPR	2013-14
Capability Type	Replacement
Acquisition Type	Australianised MOTS
Service	Royal Australian Navy
Government 1st Pass Approval	Feb 09
Government 2nd Pass Approval	Sep 11
Total Approved Budget (Current)	$239.9m
2013-14 Budget	$46.7m
Project Stage	Complete Acceptance Testing
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

The JP 2048 Phase 3 project will provide the Amphibious Deployment and Sustainment (ADAS) capability with a new breed of watercraft that will be organic to the two new Canberra Class Amphibious Assault Ships, Landing Helicopter Dock (LHD), acquired under JP 2048 Phase 4A/4B. The craft will be known as LHD Landing Craft (LLC). The LLC will interface and operate with the LHD ships and will enable transport of personnel and equipment from the LHD ships to the shore, including where there are no fixed port facilities or prepared landing facilities. The LLC have an in-service date of 2014–2016.

1.2 Current Status

Cost Performance

In-year

The project experienced a minor underspend of $2.2m against an in-year budget of $46.7m, which was due to the Navantia milestone related to planned maintenance documentation not being achieved. Expenditure against prime contract escalation was also lower than planned. This was offset by the early achievement of the Navantia milestone related to six out of 12 LLC constructed.

Project Financial Assurance Statement

As at 30 June 2014, project JP 2048 Phase 3 has reviewed the project's approved scope and budget for those elements required to be delivered by the DMO. Having reviewed the current financial, contractual obligations of the DMO for this project, current known risks and estimated future expenditure, the DMO considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

217 Notice to reader

Future dates and Sections: 1.2 (Project Financial Assurance Statement); 1.3 (Major Risks and Issues), 5.1 (Measures of Materiel Capability Delivery Performance), 6.1 (Major Project Risks) and 6.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the Auditor-General's Independent Review Report at p. 167.

Contingency Statement

The project has not applied contingency in the Financial Year.

Schedule Performance

Major project milestones achieved in 2013-14 include:

- Launch of LLC 01-04 in Spain;
- Completion of Acceptance Test and Evaluation activities for LLC 01-04 in Spain;
- Project acceptance of LLC 01-04 in Australia;
- Completion of Military communication and navigational display systems installation on LLC 01-04;
- Commencement of LLC 01-04 crew training; and
- Six out of 12 LLC constructed.

Progress of these milestones demonstrates schedule performance and supports the achievement of project outcomes within the planned timeframes. Initial Materiel Release (IMR) is currently pending Navy sign off.

Materiel Capability Delivery Performance

The project remains on track to deliver the materiel capability as approved at Second Pass.

Note

The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

1.3 Project Context

Background

A Request for Information and Optimisation Study was conducted before developing a Preliminary Function Performance Specification from the Operational Concept Document. A Request for Proposal (RFP) was released in November 2007. The RFP evaluation determined the Navantia proposed LCM-1E series watercraft was the most suitable design, as it is a Military off the Shelf (MOTS) solution and already in service with the Spanish Armada.

The project received First Pass approval in February 2009. Government approved the Navantia LCM-1E MOTS solution as the most suitable capability option and the project released a direct source Request for Tender to Navantia in May 2009. The Evaluation Report was endorsed by the Capability Development Stakeholder Group in July 2010.

The project received Second Pass approval in September 2011 and a contract was signed between the Commonwealth and Navantia in December 2011 for the acquisition of 12 LHD Landing Craft (LLC) built in Spain, based on the LCM-1E series watercraft with Australian modifications for the Royal Australian Navy (RAN) together with associated supplies and Integrated Logistic Support.

In accordance with the project Materiel Acquisition Agreement (MAA) the 12 LLC will be delivered in three batches of 4 craft:

- Batch 1 (LLC 01-04) scheduled for April 2014 (achieved on schedule);
- Batch 2 (LLC 05-08) scheduled for March 2015; and
- Batch 3 (LLC 09-12) scheduled for January 2016.

Uniqueness

While the LLC is based on an existing Spanish LCM-1E series watercraft design, in addition to the Spanish requirements the LLC will be built to Classification Society standards.

Major Risks and Issues

The project has accepted the first batch of 4 LLC from Navantia in Australia. The project has experienced issues with Navantia's inability to deliver documentation relating to spares in accordance with the contract schedule, which has consequently impacted the delivery of spares items. The project has also experienced some minor issues concerning the timing and executing of support contracts.

As the LLC is based on an existing design, one of the additional challenges for this project remains the potential for regulatory changes. The project has a fixed budget for the approved requirements, and any changes to regulations that require change to the vessel or requested capability changes are likely to impact on the project's performance, cost, and schedule outcomes.

Other Current Sub-Projects

JP 2048 Phase 4A/4B - the acquisition of two Canberra Class Amphibious Assault Ships, Landing Helicopter Docks (LHDs) and associated supplies and support. The LLC are required to integrate with the LHD ships.

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies
JP2072 Phase 2	Battle Space Communications Systems	This military communication equipment is needed for compatibility with other Australian Defence Force (ADF) communication equipment. Equipment procured under JP2072 Phase 2 existing contracts are to be supplied to JP2048 Phase 3 for installation into the LLC in Australia by Elbit Systems of Australia (ELSA). JP2048 Phase 3 Final Materiel Release (FMR) will not be impacted by JP2072 Phase 2 non achievement of FMR.
LAND 75 Phase 3.4	Battlefield Command Support System	This Battle Management System equipment is needed for compatibility with other ADF communication equipment. Equipment procured under LAND 75 existing contracts are to be supplied to JP2048 Phase 3 for installation into the LLC in Australia by ELSA. JP2048 Phase 3 FMR will not be impacted by LAND 75 non achievement of FMR.
Project SEA 1430 Phase 2A	Navigation Display Systems	Electronic chart system to be fitted into the LLC in Australia by SEA 1430 Phase 2A contractor L-3 Oceania. JP2048 Phase 3 FMR will not be impacted by SEA 1430 Phase 2A non achievement of FMR.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Jul 09	Original Approved		2.9	1
May 11	Real Variation – Scope	(0.7)		2
Sep 11	**Government Second Pass Approval**	233.5		
Aug 13	Real Variation – Transfer	(7.7)		3
			228.0	
Jul 10	Price Indexation		0.1	4
Jun 14	Exchange Variation		11.8	
Jun 14	**Total Budget**		**239.9**	
	Project Expenditure			
Prior to Jul 13	Contract Expenditure – Navantia	(43.7)		
	Other Contract Payments / Internal Expenses	(5.5)		5
			(49.2)	
FY to Jun 14	Contract Expenditure – Navantia	(33.8)		
	Other Contract Payments / Internal Expenses	(10.7)		6
			(44.5)	
FY to Jun 14	**Total Expenditure**		**(93.7)**	
Jun 14	**Remaining Budget**		**146.2**	

Notes	
1	This project's original DMO budget amount is that prior to achieving Second Pass Government approval.
2	Removal of requirement for Project to fund APS salaries – approved May 2011.
3	A real decrease of ($7.7m) was approved vide MAA V2.1 dated August 2013 as the Second Pass Approval Agreement Price did not match the Transfer Price from Capability Development Group. The real decrease corrected this.
4	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $0.1m.
5	Other expenditure comprises: Operating Expenditure, Pre Second Pass activities ($1.3m), Military Communication System ($3.5m) contracts, Consultants, Contractor Support ($0.5m) and Minor Capital expenditure not attributable to the Prime contract ($0.2m).
6	Other expenditure comprises: Military communication System ($4.3m) and Navigation Display system ($1.9m) contracts, Customs Duty ($2.7m) Consultants, Contractor Support ($0.7m) and Minot Capital expenditure not attributed to the Prime contract ($1.1m).

2.2 In-year Budget \ Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	Year end variance is due to the Navantia milestone related to Planned Maintenance Documentation not being achieved. Expenditure against prime contract escalation was also lower than planned. This was offset by the early achievement of the Navantia milestone related to six out of 12 LLC constructed.
		(2.2)	Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
46.7	44.5	(2.2)	Total Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Navantia	Dec 11	148.9	162.4	Variable	ASDEFCON	1

Notes	
1	Amendments to the Contract since signature include execution of contracted options for long lead time items, spares and training delivery.

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Navantia	12	12	LHD Landing Craft and Support System	

Major equipment received and quantities to 30 Jun 14

Project acceptance of LLC 01-04 in Australia achieved in April 2014. Construction of six out of 12 LLC complete. Construction of LLC 07-12 continues.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirement	Mission System	Dec 11	N/A	Dec 11	0	
	Support System	Dec 11	N/A	Dec 11	0	
Preliminary Design	Mission System	Jun 12	N/A	Aug 12	2	1
	Support System	Jun 12	N/A	Jun 12	0	
	Navigational Display System	Jul 13	N/A	Oct 13	3	1
Critical Design	Mission System	Nov 12	N/A	Nov 12	0	
	Support System	Nov 12	N/A	Dec 12	1	1
	Military Communication System – Mission System	Mar 13	N/A	Jul 13	4	2
	Military Communication System – Support System	Jun 13	Dec 13	May 14	11	3
	Navigational Display System	Oct 13	N/A	Dec 13	2	1

Notes	
1	This design review was formally exited following the completion of actions identified with in the exit criteria and/or other action items identified during the review.
2	Elbit Systems of Australia (ELSA) Mission System Detailed Design Review (DDR) was scheduled to be conducted in late March 2013, however, this coincided with a Navantia Mandated System Review and key project members were not available to attend. The ELSA DDR was rescheduled to the earliest mutually convenient date. This design review was formally exited following the completion of actions identified within the exit criteria during the review.
3	ELSA Support System DDR was not conducted in December 2013 as ELSA's planned prototyping activity in Spain was delayed due to Navantia's delay in production schedule. March 2014 was the earliest mutually convenient date. This design review was formally exited following the completion of actions identified within the exit criteria during the review.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	LLC 01-04	Feb 14	N/A	Feb 14	0	
	LLC 05-08	Dec 14	N/A	Oct 14	(2)	1
	LLC 09-12	Oct 15	N/A	May 15	(5)	1
Acceptance	LLC 01-04 Project Acceptance	Apr 14	N/A	Apr 14	0	
	LLC 05-08 Project Acceptance	Mar 15	N/A	Jan 15	(2)	1
	LLC 09-12 Project Acceptance	Jan 16	N/A	Aug 15	(5)	1

Notes

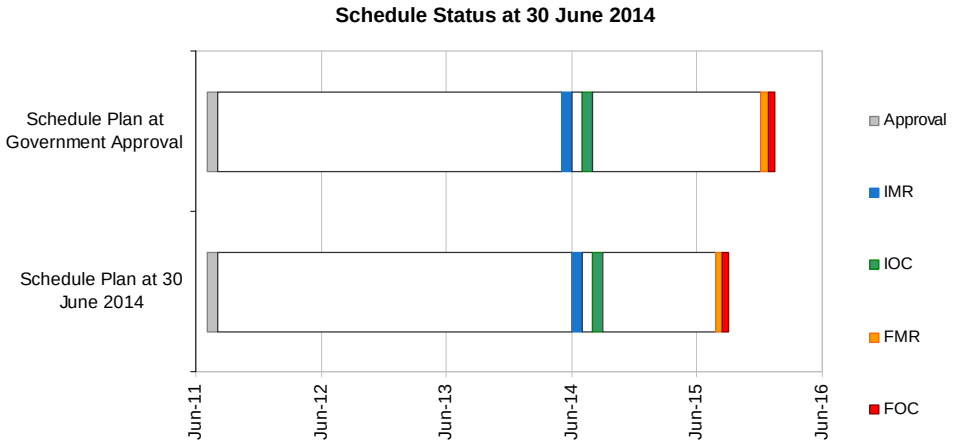
1	The Navantia production schedule at end June 2014 reports production of the second and third batches of 4 LLC as presently well ahead of schedule.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	May 14	Jul 14	2	1
Initial Operational Capability (IOC)	Aug 14	Sep 14	1	1
Final Materiel Release (FMR)	Feb 16	Sep 15	(5)	2
Final Operational Capability (FOC)	Feb 16	Sep 15	(5)	2

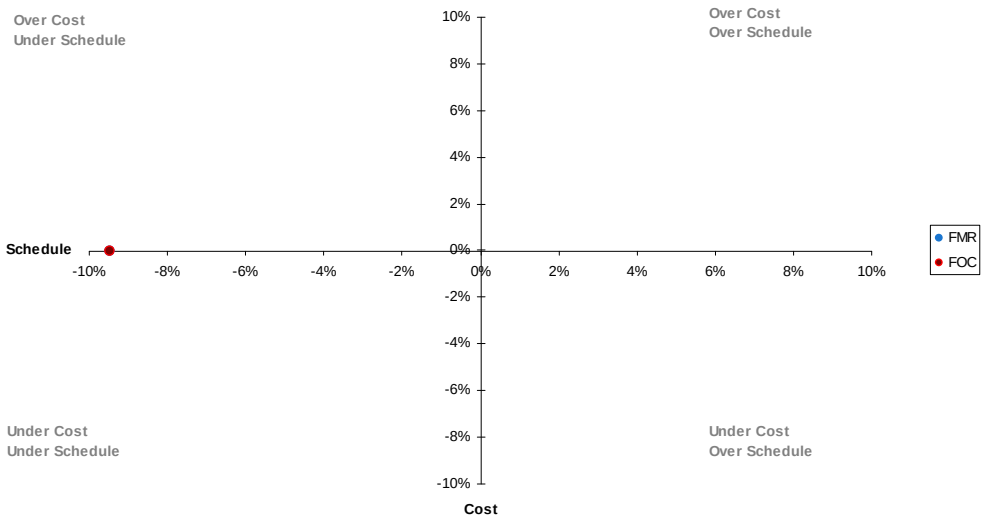
Notes

1	Navy sign off of IMR is pending visibility of Initial Operational Release documentation. This has had a flow on effect to activities on the project critical path, including Initial Operational Capability.
2	The Navantia production schedule at end June 2014 reports production of the third batch of 4 LLC as presently well ahead of schedule.



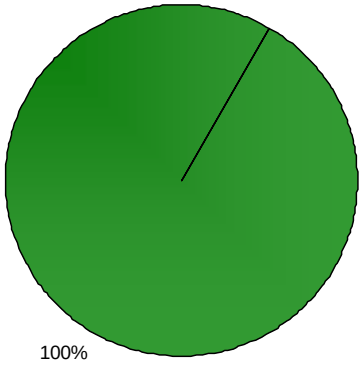
Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status



Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Performance	
	**Green:** Design, production, and acceptance test activities continue to support achievement of project Materiel Capability Performance outcomes. **Amber:** N/A **Red:** N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the DMO are not subject to the ANAO's assurance review.

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
The achievement of IOC for LHD Landing Craft may be delayed due to the lack of understanding of the Safety Case and the associated artefacts.	Stakeholder engagement to better understand the safety risks.
Emergent Risks (risk not previously identified but has emerged during 2013-14)	
Description	Remedial Action
N/A	N/A

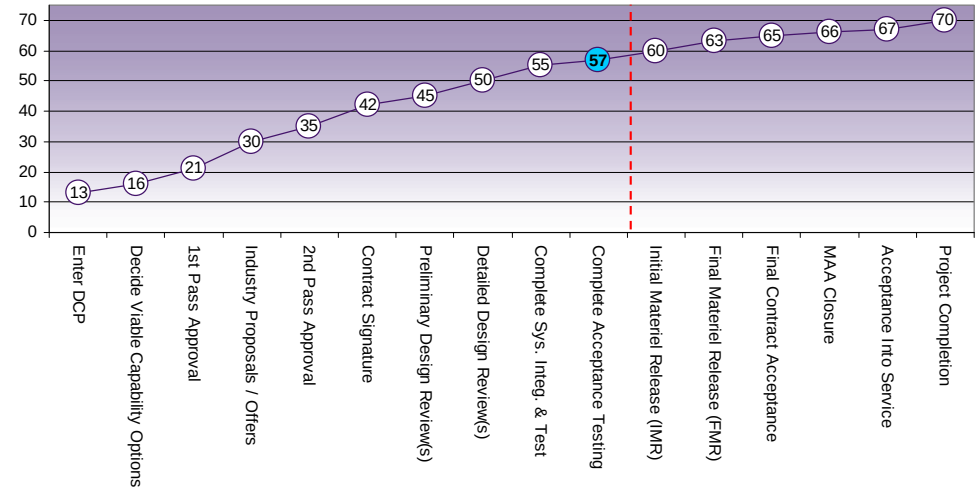
6.2 Major Project Issues

Description	Remedial Action
LLC 01-04 are not correctly supported with supplies.	The project office to fast track the approval process for spares procurement. The project is investigating local acquisition of those spares assessed as critical to initially support the LLC.
Support contracts are not in place by delivery of first four vessels.	The project office has ongoing engagement with the LHD System Program Office for sustainment ensuring interim arrangements are in place.

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	8	8	8	8	9	8	8	57
Complete Acceptance Testing	Project Status	8	8	8	8	9	9	9	59
	Explanation	• Commercial: project acceptance of LLC 01-04 in Australia achieved in April 2014. • Operations and Support: project has commenced transition to sustainment.							



2013-14 DMO MPR Status - - - -

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
N/A	N/A

Section 9 – Project Line Management

9.1 Project Line Management in 2013-14

Position	Name
General Manager	AVM Chris Deeble (Acting to Sep 13) Mr Colin Thorne (Sep 13–current)
Division Head	RADM Mark Purcell
Branch Head	Mr Patrick Fitzpatrick
Project Director	CAPT (RAN) Craig Bourke
Project Manager	Mr Paul Hegarty

Part 4. 2013–14 Major Projects Report Guidelines (endorsed by the Joint Committee of Public Accounts and Audit)

Australian Government
Department of Defence
Defence Materiel Organisation

Australian National Audit Office

2013–14 MAJOR PROJECTS REPORT

GUIDELINES

Introduction

1.1 Consistent with past practice, the Defence Materiel Organisation (DMO) Major Projects Report (MPR) will form part of the Australian National Audit Office's (ANAO) 2013–14 MPR, which is to be tabled in Parliament by the Auditor-General. It reports on the performance of selected major equipment acquisition projects (Major Projects) managed by the DMO. The summary project data in the DMO report is prepared by the DMO and reviewed by the ANAO.[1]

1.2 The Major Projects selected for reporting are proposed by the DMO based on criteria agreed with the Joint Committee of Public Accounts and Audit (JCPAA), and provided by the ANAO to the JCPAA for endorsement. Since its inception, the number of projects included in the MPR is as follows:

- 9 projects in the 2007–08 MPR;
- 15 projects in the 2008–09 MPR;
- 22 projects in the 2009–10 MPR;
- 28 projects in the 2010–11 MPR; and
- 29 projects in the 2011–12 and 2012–13 MPRs.

The 2013–14 MPR will report on 30 projects endorsed by the JCPAA.

1.3 Project data is prepared by the DMO and presented by way of Project Data Summary Sheets (PDSSs) supported by appropriate evidence. The Chief Executive Officer (CEO) DMO is responsible for ensuring that the PDSSs are prepared in accordance with these Guidelines as endorsed by the JCPAA, and for ensuring that the PDSSs and supporting evidence provided to the ANAO for review are complete and accurate.

1.4 The ANAO will review the PDSSs in accordance with the Australian Standard on Assurance Engagements (ASAE) 3000 *Assurance Engagements other than Audits or Reviews of Historical Financial Information.* The ANAO's review is designed to enable the ANAO to obtain sufficient appropriate evidence to form a conclusion that nothing has come to the ANAO's attention which indicates that the information in the PDSSs, that is within the scope of the review, has not been prepared in all material respects, in accordance with the Guidelines.

1.5 These Guidelines:

1 The MPR will include a summary of the ANAO's review and analysis, and the Auditor-General's Independent Review Report.

(a) define the criteria for project selection and provide the list of projects for the 2013–14 MPR;

(b) define the roles and responsibilities of the DMO in the production and review of the 2013–14 MPR;

(c) provide guidance for producing the PDSSs (Attachment A);

(d) provide the PDSS template (Attachment B); and

(e) provide an indicative program schedule in support of a November 2014 tabling (Attachment C).

1.6 Each year the MPR Guidelines are reviewed and amended to reflect lessons learned, in order to improve the MPR processes. As the Guidelines are now a stable document reflecting the requirements of the MPR and in the interests of administrative efficiency, the ANAO has taken administrative responsibility for updating the Guidelines annually and submitting them to the Committee for endorsement.

Criteria for Project Selection

1.7 The inclusion of projects in the MPR is based on the projects included in the Defence Capability Plan and subject to the following criteria:

(a) projects only admitted one year after Year of Decision[2];

(b) a total approved project budget of > $150m;

(c) a project should have at least three years of asset delivery remaining;

(d) a project must have at least $50m or 10% (whichever is greater) of their budget remaining over the next two years; and

(e) a maximum of eight new projects in any one year.

1.8 All projects for inclusion in the MPR will be proposed by the DMO, based on the above criteria, and provided to the JCPAA by the ANAO by 31 August in the year to which the MPR relates, for endorsement.

1.9 The removal of projects from the MPR is based on a post-Final Materiel Release (FMR) risk assessment of the timely achievement of Final Operational Capability (FOC) and subject to the following criteria:

(a) the outstanding deliverables post-FMR, against the relevant Materiel Acquisition Agreement (MAA)[3] and/or Joint Project Directive (JPD)[4];

2 Year of Decision refers to Second Pass Approval. *Defence Capability Plan 2012*, p. 5.

(b) the remaining schedule post-FMR, against the relevant MAA and/or JPD;

(c) the remaining budget post-FMR, against the relevant MAA and/or JPD;

(d) the remaining project risks and issues; and

(e) the Capability Manager's assessment including overall risk rating and the extent to which this risk rating relates to DMO's responsibilities.

1.10 All projects selected for removal from the MPR will be proposed by the DMO, based on the above criteria, and provided to the JCPAA by the ANAO by 31 August in the year to which the MPR relates, for endorsement.

1.11 Once projects have met the exit criteria, they should be removed from the PDSSs and included in the lessons learned section in the subsequent year.

2013–14 Project Selection

1.12 The following table reflects projects selected for addition and removal in the 2012–13 and 2013–14 MPRs. For each project which has been removed, the lessons learned at both the project level and the whole-of-organisation level should be included as a separate section in the following MPR.

3 An MAA specifies the scope (Supplies and Support services), schedule, price, milestone completion criteria and customer (i.e. Defence) furnished supplies for work assigned to DMO for an individual Defence Capability Project, as approved by Government. *Defence Capability Development Handbook,* August 2012, p. 63.

4 Following Second Pass Approval by Government, the Secretary for Defence (SEC) and the Chief of the Defence Force issues a JPD that covers the time from Second Pass Approval to the closure of the acquisition business case. JPDs assign accountability and responsibility to:
a. the Capability Manager and Joint Capability Authority for overall responsibility for the in-service realisation of the capability;
b. the CEO DMO for materiel acquisition, implemented through the terms and conditions in the (post-Second Pass) MAA; and
c. other key enablers, such as the Chief Information Officer, Deputy Secretary (DEPSEC) Defence Support and Reform and Chief Defence Scientist, for the provision of elements of Fundamental Inputs to Capability, and DEPSEC Defence People for the management of the Department's workforce allocations via the Workforce Guidance Trails.

Defence Capability Development Handbook 2012, pp. 80–81.

Table 1: Project Selection for the 2012–13 and 2013–14 MPRs

	New projects added	Project PDSSs removed and lessons learned reported
2012–13 MPR	Battlespace Communications System (LAND) – JP 2072 Phase 2A	C-17 Globemaster lll Heavy Airlifter AIR 8000 Phase 3
2013–14 MPR	Field Vehicles Modules and Trailers (Medium/Heavy Capability) – LAND 121 Phase 3B EA-18G Growler Airborne Electronic Attack Capability – AIR 5349 Phase 3 Battlefield Airlift – Caribou Replacement – AIR 8000 Phase 2 Amphibious Watercraft Replacement – JNT 2048 Phase 3	Bridging Air Combat Capability – AIR 5349 Phase 1/2 Armidale Class Patrol Boat – SEA 1444 Phase 1 Counter-Rocket Artillery & Mortar (C-RAM) – LAND 19 Phase 7A

1.13 The following 26 'repeat' projects appeared in the 2012–13 MPR and will be updated for the 2013–14 MPR:

(a) Air Warfare Destroyer Build – SEA 4000 Phase 3;

(b) Airborne Early Warning and Control Aircraft – AIR 5077 Phase 3;

(c) Multi-Role Helicopter – AIR 9000 Phase 2/4/6;

(d) Amphibious Ships (LHD) – JP 2048 Phase 4A/4B;

(e) Future Naval Aviation Combat System (MH-60R Seahawk) – AIR 9000 Phase 8;

(f) New Air Combat Capability (JSF) – AIR 6000 Phase 2A/2B;

(g) Armed Reconnaissance Helicopter – AIR 87 Phase 2;

(h) F/A-18 Hornet Upgrade – AIR 5376 Phase 2;

(i) Air to Air Refuelling Capability – AIR 5402;

(j) Guided Missile Frigate Upgrade Implementation (FFG) – SEA 1390 Phase 2.1;

(k) Bushmaster Protected Mobility Vehicle – LAND 116 Phase 3;

(l) Field Vehicles and Trailers – LAND 121 Phase 3A;

(m) Next Generation SATCOM Capability – JP 2008 Phase 4;

(n) ANZAC Anti-Ship Missile Defence – SEA 1448 Phase 2B;

(o) High Frequency Modernisation – JP 2043 Phase 3A;

(p) Additional Medium Lift Helicopters – AIR 9000 Phase 5C;

(q) Collins Replacement Combat System – SEA 1439 Phase 4A;

(r) Battlespace Communications System (LAND) – JP 2072 Phase 2A

(s) Indian Ocean Region UHF SATCOM – JP 2008 Phase 5A;

(t) Replacement Heavyweight Torpedo – SEA 1429 Phase 2;

(u) Collins Class Submarine Reliability and Sustainability – SEA 1439 Phase 3;

(v) SM-1 Missile Replacement – SEA 1390 Phase 4B;

(w) ANZAC Anti-Ship Missile Defence – SEA 1448 Phase 2A;

(x) Artillery Replacement – LAND 17 Phase 1A;

(y) Follow On Stand Off Weapon – AIR 5418 Phase 1; and

(z) Battlefield Command Support – LAND 75 Phase 3.4.

1.14 The format of the PDSS is contained at Attachment B.

DMO's Roles and Responsibilities

1.15 The DMO will develop each project's PDSS for the ANAO's review. The CEO DMO is responsible for ensuring that the PDSSs are prepared in accordance with these Guidelines and that the PDSSs and supporting evidence provided to the ANAO for review are complete and accurate. The CEO DMO is also responsible for formally presenting the MPR to the ANAO on completion of the PDSSs and associated commentary.

1.16 The DMO's General Manager Joint, Systems and Air (GMJSA) is the DMO Executive team leader and the Business Process Owner for the MPR. The DMO Chief Audit Executive has management responsibility for the preparation of the MPR and is the key point of contact for the ANAO. The Chief Audit Executive has assigned responsibility to the Director MPR for managing the MPR process with the ANAO's MPR team at the operational level. The DMO is responsible for ensuring information of a classified nature is made available to the ANAO for review, as it relates to the data contained within the PDSSs. Data of a classified nature is to be prepared in such a way as to allow for unclassified publication.

1.17 DMO positions, roles and responsibilities in relation to the MPR are outlined in Table 2.

Table 2: DMO Roles and Responsibilities

Position	Role	Responsibility
Chief Executive Officer	DMO accountability	• Overall responsibility in DMO • Sign off on DMO sections in the MPR including the PDSS suite
General Manager Joint, Systems and Air	Business Process Owner	• Executive direction in DMO
Chief Finance Officer	Financial assurance accountability	• Overall financial responsibility in DMO • Provide overarching sign off on Project Financial Assurance Statements in the PDSS suite
Chief Audit Executive	DMO accountability for the MPR	• Liaison with ANAO senior management • Advice to GMJSA and CEO • Guidance to Director MPR • Clearance of DMO MPR
Director MPR	MPR management, coordination and liaison	• Responsible for the overall coordination, preparation and achievement of DMO MPR • Guidance and direction to project offices • Manage the MPR Program with ANAO MPR team • Configuration management of MPR and PDSS suite • Review of PDSS suite and evidence packs to ensure completeness and accuracy • MPR schedule management • Development of DMO elements of the MPR
Project Directors/Managers	PDSS development and generation of evidence packs	• Develop and produce PDSS and associated evidence packs • Review of PDSS and evidence packs to ensure completeness and accuracy • Actively engage the ANAO MPR team in its reviews of the PDSS suite
Director Capital Investment Programs	Provision and coordination of corporate budget information	• Provide relevant budget data as indicated in the PDSS suite • Assist ANAO team in their reviews of budget data
DMO line management	Assurance	• Assurance of PDSS suite data and content of the DMO element of the MPR

MPR Process

1.18 The JCPAA identified the MPR as a Priority Assurance Review in Report 429 *Review of the 2010–11 Defence Materiel Organisation Major Projects Report*. Consequently, Section 33 of the *Auditor-General Act 1997* requires the DMO to provide full and free access to premises and to any documents in the conduct of the review. This will be facilitated by the Director MPR.

1.19 The DMO has developed an indicative schedule for the MPR program in consultation with the ANAO contained at Attachment C. The schedule provides for a pre-30 June site visit period for the ANAO to conduct PDSS reviews of all projects. All project data should be prepared for this period at the date selected for ANAO's review, without anticipating outcomes for the post-30 June review. A second period will be set aside after the end of the financial year for reviewing completed PDSSs.

1.20 Normally, at least five working days prior to the commencement of a project site visit, the DMO will provide the ANAO with a DMO reviewed copy of the PDSS together with the relevant evidence pack (in soft copy where possible). The evidence pack will be appropriately structured for efficient review of the PDSS.

1.21 In accordance with natural justice provisions, contractors named within a PDSS will be consulted before the DMO finalises the PDSS. The aim of the consultation is to provide the contractor with an opportunity to comment on relevant extracts from a project's PDSS. The DMO will request contractors to provide the ANAO with a copy of their comments including in relation to any errors or misstatements in the PDSS. The DMO may wish to have regard to contractors' comments received within specified reasonable time limits. The DMO will also keep the ANAO apprised on how the DMO intends to deal with the contractors' response in the PDSS.

1.22 The ANAO may also directly engage with contractors to seek any clarification on their comments on the project data, and will keep the DMO apprised on feedback and outcomes.

Other Items to Note

1.23 As the PDSS is part of a public document, the use of acronyms and jargon must be avoided. The following style conventions must be followed:

(a) Acronyms: Acronyms are not to be used where possible. When acronyms are used, the first use must be spelt out in full.

(b) Project Names: Project names should be written in full or the approved DMO abbreviation and should be presented with an initial capital e.g. Hornet.

(c) Costs: All costs should be shown as $m (millions) and be rounded to one decimal place (i.e. to the nearest $100,000) with negatives in brackets.

(d) Dates: Dates in the PDSS narratives should be presented as Month 20yy. Dates in the PDSS tables should be presented as mmm yy (e.g. Jul 09). Time variations should be shown as full months.

(e) No data: Any cells in a table not containing data should be shown as 'N/A'.

Attachments

A. Guidance for the Development of the Project Data Summary Sheets (PDSS)

B. Project Data Summary Sheet Template

C. Indicative 2013–14 MPR Program Schedule

GUIDANCE FOR THE DEVELOPMENT OF THE PROJECT DATA SUMMARY SHEETS (PDSS)

Heading	Data	Definition/Description
SECTION 1 – PROJECT SUMMARY		
Project Header	Project Name	The name of the project as approved by Government.
	Project Number	The number of the project as approved by Government.
	First Year Reported in the MPR	The year the project was first reported in the MPR. Use 20xx-xx date format.
	Capability Type	One of the following: • New; • Replacement; or • Upgrade.
	Acquisition Type	One of the following: • MOTS (Military-Off-The-Shelf); • AMOTS (Australianised Military-Off-The-Shelf); or • Developmental.
	Service	Either one or a combination of: • Royal Australian Navy; • Australian Army; • Royal Australian Air Force; • Chief Information Officer Group; or • Joint Services.
	Government 1st Pass Approval	The date Government First Pass Approval was given.
	Government 2nd Pass Approval	The date Government Second Pass Approval was given.
	Total Approved Budget (Current)	The current approved project budget. This figure should agree to the Total Budget in Section 2.1 Project Budget (out-turned) and Expenditure History.
	2013–14 Budget	The estimated project expenditure for 2013–14 as per the Portfolio Budget Statements (PBS) and/or the Portfolio Additional Estimates Statements (PAES), or other official budget tool when not available in the PBS or PAES.[1] This figure should agree to the Estimate in

1 This amount may include updates since the last PAES, such as foreign exchange under the Government's 'no win, no loss' policy, or budget impacts resulting from other government decisions.

Heading	Data	Definition/Description
		Section 2.2 In-year Budget Expenditure Variance.
	Project Stage	The Life Cycle Gate as reported in the Monthly Reporting System (MRS). This should agree to Section 7.1 Project Maturity Score and Benchmark.
	Complexity	The Acquisition Categorisation (ACAT) level of the project.
	Image	Image of the project to be provided to ANAO by the DMO MPR team in a separate file as a high resolution JPG.
Section 1.1 Project Description	Description	One paragraph description of the project which summarises capability delivery and, where appropriate, equipment quantities. This information should be consistent with other sections of the PDSS.
Section 1.2 Current Status	Cost Performance	In-year: At a strategic level, state the project's current progress against its in-year budget, and provide a succinct explanation of causes for variations. Project Financial Assurance Statement: An additional 'project financial assurance statement' on the project's budget performance should be disclosed, noting whether the budget remaining, together with the estimated future expenditure and current known risks, is sufficient for completing the project.[2] Contingency Statement State whether the project has/has not applied contingency funds this financial year. No figures are to be included. Standard text: [positive case]: The project has applied contingency in the financial year primarily for the treatment of [a DMO risk category, i.e. technical, integration, etc] risk [and where possible include linkage to section 6 – major risks and issues and specified remediation activities] or [negative case]: The project has not applied

2 The Defence Materiel Instruction (Finance) DMI (FIN) 01-0-044 *Project Assurance Statements*, August 2012, provides instructions on the standard of review and expenditure forecasting required, standard text and consultation requirements.

Heading	Data	Definition/Description
		contingency in the financial year. This section must be consistent with the data in Section 2 – Financial Performance, noting that disclosure of contingency amounts is not required in the PDSS.
	Schedule Performance	At a strategic level, briefly describe key schedule milestones achieved so far and issues facing the project in achieving future milestones. Milestone achievements or non-achievements in the current year should also be explained. This section must be consistent with what is stated in Section 3 – Schedule Performance.
	Materiel Capability Delivery Performance	At a strategic level, provide a brief update on the capability delivered. Detailed technical performance of systems is to be avoided and classified information is not to be disclosed in this section.
Section 1.3 Project Context	Background	A succinct summary level statement that covers Government approvals history and any strategic changes that have occurred since approval. For post 2011–12 MPR projects, if the project's classification is not MOTS or COTS, an explanation must be provided to ensure that these options were explicitly considered and eliminated for particular reasons before final procurement decisions have been made.[3]
	Uniqueness	Brief explanation of the particular aspects that make the project unique.
	Major Risks and Issues	Summarise the major risks and issues the project faced in the reporting year including action taken and outcomes, and what it is likely to face in the coming year. The focus should reflect those risks and issues that are of a strategic nature rather than short-term problems.
	Other Current Sub-Projects	List the current approved projects (i.e. Second Pass has been achieved) with the same main project number e.g. SEA xxxx, including the phase of the project, and

3 JCPAA, Report 429, *Review of the 2010–11 Defence Materiel Organisation Major Projects Report*, May 2012, p. 25.

Heading	Data	Definition/Description
		provide a brief description of the capability (i.e. one or two short sentences).
Section 1.4 Linked Projects	Project	The name and number of key linked project. Avoid duplication with Other Current Sub-Projects included above.
	Description of Project	Provide a brief description of the project and how it is linked.
	Description of Any Dependencies	Define the nature of any dependencies, i.e. how the project relies on the linked project to achieve Final Materiel Release (FMR) and Final Operational Capability (FOC).
SECTION 2 – FINANCIAL PERFORMANCE		
Section 2.1 Project Budget (out-turned) and Expenditure History	**Project Budget**	
	Original Approved	The approved estimated cost for the DMO element of the project at Government Approval.
	Real Variation	**"Scope"** changes are attributable to changes in requirements by Defence and Government. These generally take the form of changes in quantities of equipment, a change in requirements that result in specification changes in contracts, changes in logistics support requirements or changes to services to be provided which are accompanied by a corresponding budget adjustment. Where the original approved amount above is not Government Second Pass Approval, Projects are to disclose the actual Government Second Pass Approval amount as such in the description column (in bold) and not as a real scope variation. **"Transfers"** occur when a portion of the budget and corresponding scope is transferred to or from another approved project or sustainment product in DMO or to another Group in Defence in order to more efficiently manage delivery of an element of project scope and to vest accountability for performance accordingly. **"Budgetary Adjustment"** is made to account for corrections resulting from foreign exchange or indexation accounting estimation errors that might occur from time to time. Also included under this heading are administrative decisions that result in variations such as efficiency dividends imposed on project

Heading	Data	Definition/Description
		budgets or adjustments made to fund initiatives such as Skilling Australia's Defence Industry. **"Real Cost Increases"** attributed to any negotiated Foreign Military Sales (FMS) or commercial contracts. These funds have been approved by government to increase the Project's budget. **"Real Cost Decreases"** attributed to any negotiated FMS or commercial contracts. These funds have been handed back to the Defence Portfolio. The elements above are to be subtotalled to give a single amount for all real variations (including Government Second Pass Approvals).
	Price Indexation	Variations to the Original Approved project cost for the DMO element of the project due to price indexation and out-turning adjustments to take account of variations in labour and materiel indices over time. This is disclosed where applicable, i.e. not for projects approved post-July 2010 in out-turned prices.
	Exchange Variation	The variations to the Original Approved project cost for the DMO element of the project due to foreign exchange adjustments brought about by changes in foreign exchange rates for payments in foreign currency.
	Total Budget	The sum of the above.
	Project Expenditure	
	Prior to Jul 13	This item comprises all amounts incurred in all periods prior to the current reporting period (i.e. expenditure up to 30 June 2013). All expenditure is to be presented in brackets to indicate a negative figure. Reporting of expenditure is to be split into the following: **"Contract Expenditure"** against each of the top 5 contracts, restricted to contracts valued at greater than or equal to $10m. Contract expenditure should be listed from highest to lowest value. **"Other Contract Payments/Internal Expenses"** which comprises operating expenditure, contractors, consultants, other

Heading	Data	Definition/Description
		capital expenditure not attributable to the aforementioned contracts. It is generally expected that 'other' expenditure will not exceed 10% of total prior period expenditure. However, in the event that 'other' expenditure exceeds this threshold, additional explanation will be required within the Notes section outlining the key aspects of the expenditure including amounts to bring the amount of unexplained 'other' below 10%. The two expenditure elements above are to be subtotalled to give a single amount for all prior period expenditure.
	FY to Jun 14	This item comprises all amounts incurred in the current reporting period (i.e. contract level expenditure from 1 July 2013 to 30 June 2014). All expenditure is to be presented in brackets to indicate a negative figure. Reporting of expenditure is to be split into the following: **"Contract Expenditure"** against each of the top 5 contracts, restricted to contracts valued at greater than or equal to $10m. Contract expenditure should be listed from highest to lowest value. **"Other Contract Payments/Internal Expenses"** which comprises operating expenditure, contractors, consultants, other capital expenditure not attributable to the aforementioned contracts and minor contract expenditure. It is generally expected that 'other' expenditure will not exceed 10% of total expenditure in the current reporting period. However, in the event that 'other' expenditure exceeds this threshold, additional explanation will be required within the Notes section outlining the key aspects of the expenditure including amounts to bring the amount of unexplained 'other' below 10%. The two expenditure elements above are to be subtotalled to give a single amount for Financial Year (FY) expenditure.
	Total Expenditure	This item discloses total project expenditure as at the reporting date (i.e. 30 June 2014)

Heading	Data	Definition/Description
		and is the sum of prior period and current period expenditure reported above. All expenditure is to be presented in brackets to indicate a negative figure.
	Remaining Budget	The subtraction of total expenditure from total budget, thus showing the unspent portion of the approved budget, as at 30 June.
	Notes	For additional information as required, e.g. the breakdown of 'Other Contract Payments/Internal Expenses'.
Section 2.2 In-year Budget Expenditure Variance	Estimate $m	The estimated project expenditure for 2013–14. The data needs to present the project's 'Year to Date' performance in financial terms. It must explain the difference between the 'Latest Plan' in the MRS Majors Budget Performance Total report and/or the Five Year Defence Program Summary in CEPPlan and the End of Financial Year Actual Expenditure.
	Actual $m	The actual project expenditure incurred in the current reporting period (i.e. 2013–14). This figure should agree to the FY to Jun 14 Total Expenditure in Section 2.1 Project Budget (out-turned) and Expenditure History.
	Variance $m	Budget expenditure variances are to be disaggregated and disclosed separately as per the variance factors described below. The sum of these should give a total variance equal to the difference between the Estimate and Actual expenditure.
	Variance Factor	This section provides a range of factors attributable to the cause of the variances between the Budget Estimate and Actual expenditure. These are expressed as the standard variance factors of: • FMS; • Overseas Industry; • Local Industry; • Brought Forward; • Cost Savings; • FOREX Variation; and • Commonwealth Delays.
	Explanation	Explanations must address all of the variance factors noted above, where relevant.
Section 2.3 Details of	Contractor	List the contractors for the top 5 contracts valued at greater than or equal to $10m.

Heading	Data	Definition/Description
Project Major Contracts		Contractors should be listed in order of signature date (in ascending order).
	Signature Date	The date the contract was signed.
	Price at Signature $m and 30 Jun 14 $m	Signature $m The value of the contract at signature. 30 Jun 14 $m The value of the contract as recorded in ROMAN at 30 June 2014.
	Type (Price Basis)	The usual choices for this include: • Firm (or Fixed); • Variable; or • Reimbursement (for FMS). For further information including definitions refer to the Defence Procurement Policy Manual.
	Form of Contract/Arrangement	This refers to the contract template used i.e. DEFPUR 101, ASDEFCON (Strategic, Complex). For unique arrangements such as Alliance or Public Private Partnership they would need to be specially treated (noting the key signatories to the arrangement). Projects should seek the advice of the DMO Audit Management Directorate. For Foreign Military Sales, declare "FMS". For Memorandum of Understanding, declare "MoU".
	Notes	For additional information as required e.g. description of new contract or contract changes.
	Contractor	List the contractors for the top 5 contracts valued at greater than or equal to $10m. Contractors should be listed in order of signature date (in ascending order), i.e. same order as above.
	Quantities as at Signature and 30 Jun 14	The quantity of major equipment under contract as at the date the contract was signed and also as at 30 June 2014. The quantity of contracted equipment should only be provided at a summary level.
	Scope	Generally only include hardware in this section and restrict it to a platform level summary, disclosing only major prime mission and support system elements (e.g. 4 x C-17 Globemaster III Aircraft).
	Notes	For additional information as required.

Heading	Data	Definition/Description
	Major equipment received and quantities to 30 Jun 14	Detail the major equipment and quantities the project has received to 30 June 2014.
	Notes	For additional information as required.
SECTION 3 – SCHEDULE PERFORMANCE		
Section 3.1 Design Review Progress	Review	The events to be included are shown below as they are applicable to the project: • System Requirements Review; • Preliminary Design Review; and • Critical Design Review.
	Major System/Platform Variant	State the major system that the design review refers to.
	Original Planned	The originally planned achievement dates for the events per the contract at execution.
	Current Planned	Replanned dates as evidenced by a contract amendment.
	Achieved/Forecast	Achieved: The date the event was achieved, or Forecast: The expected date for achievement.
	Variance (Months)	The difference between 'Original Planned' and 'Achieved/Forecast'.
	Notes	A top level description of the reasons for the variance to Achieved/Forecast dates, and any additional background information as required.
Section 3.2 Contractor Test and Evaluation Progress	Test and Evaluation	The events to be included are shown below as they are applicable to the project: • System Integration; and • Acceptance.
	Major System/Platform Variant	State the major system that the Test and Evaluation event refers to. If there are significant variants for the major systems, then state what they are.
	Original Planned	The originally planned achievement dates for the events per the contract at execution.
	Current Planned	Replanned dates as evidenced by a contract amendment.
	Achieved/Forecast	Achieved: The date the event was achieved; or Forecast: The expected date for achievement.
	Variance (Months)	The difference between 'Original Planned' and 'Achieved/Forecast'.

Heading	Data	Definition/Description
	Notes	A top level description of the reasons for the variance to Achieved/Forecast dates, and any additional background information as required.
Section 3.3 Progress Toward Materiel Release and Operational Capability Milestones	Item	Represented at a whole of capability level, unless key milestones are broken out under individual Mission or Support Systems.
	Original Planned	The original date on which the Materiel Release or Operational Capability milestone was scheduled for achievement.
	Achieved/Forecast	Achieved: The date the event was achieved; or Forecast: The expected date for achievement.
	Variance (Months)	The difference between 'Original Planned' and 'Achieved/Forecast'.
	Notes	A top level description of the reasons for and implications of the variance to 'Achieved/Forecast' dates.
Schedule Status at 30 June 14		The DMO Audit Management Directorate will input the projects existing detail on: Second Pass Approval, Initial Materiel Release, Initial Operational Capability, FMR/Operational Release and FOC into the Bar Graph formula and produce the Graph.
SECTION 4 – PROJECT COST AND SCHEDULE STATUS		
Section 4.1 Project Cost and Schedule Status		The DMO Audit Management Directorate will input the 'Project Status' for Cost and Schedule as at 30 June 2014 using data contained in Section 2.1 Project Budget (out-turned) and Expenditure History and Section 3.3 Progress Toward Materiel Release and Operational Capability Milestones.
SECTION 5 – MATERIEL CAPABILITY DELIVERY PERFORMANCE		
Section 5.1 Measures of Materiel Capability Delivery Performance	Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	Capability Pie Chart and associated narratives will provide a percentage breakdown of the Materiel Release Milestones and Completion Criteria, as identified in the MAA and/or JPD, at 30 June 14. The pie chart analysis/narrative (Green, Amber and Red) is to be provided at the strategic level, including: • Issues impacting the achievement of Materiel Release Milestones and Completion Criteria; and

Heading	Data	Definition/Description
		• Remedial activity to recover performance. Where there is no data insert 'N/A'. Detailed technical performance of systems is to be avoided. No classified information is to be disclosed in this section.
SECTION 6 – MAJOR RISKS AND ISSUES		
Section 6.1 Major Project Risks	Identified Risks (risk identified by standard project risk management processes)	Description: A major project risk is one that is rated high or extreme pre-mitigation. Remedial Action: The risk mitigation/treatment proposed for the risk identified (these must be actionable measures). If the risk has been retired or the pre-mitigation rating has been downgraded to medium, this should be documented along with the reason; the risk can then be removed in the subsequent MPR.
	Emergent Risks (risk not previously identified but has emerged during 2013–14)	Description: A major project risk that was not previously identified in the risk log but has emerged this year, rated as high or extreme pre-mitigation. Remedial Action: The risk mitigation/treatment proposed for the risk identified (these must be actionable measures).
Section 6.2 Major Project Issues	Description	Issues are high or extreme risks that have been realised or issues that have arisen that require management action to address.
	Remedial Action	The remediation action proposed for the issue identified. If the issue has been resolved or downgraded to medium, this should be documented along with the reason; the issue can then be removed in the subsequent MPR.
SECTION 7 – PROJECT MATURITY		
Section 7.1 Project Maturity Score and Benchmark	Project Stage	The Life Cycle Gate stage applicable to the project according to the Maturity Score procedure.[4] This should align to the Project Header section.
	Benchmark	Benchmark Maturity Score.
	Project Status	The maturity score recorded in the June 2014 MRS Majors Master Data report.
	Explanation	A short explanation is required for each

4 Refer to the Defence Materiel Standard Procedure (Project Management) DMSP (PROJ) 11-0-007 *Project Maturity Scores at Life Cycle Gates,* September 2010, for guidance.

Heading	Data	Definition/Description
		attribute of the Maturity Score (Schedule, Cost, Requirement, Technical Understanding, Technical Difficulty, Commercial, and Operations and Support) where there is a difference between the project status and benchmark scores.
SECTION 8 – LESSONS LEARNED		
Section 8.1 Key Lessons Learned	Project Lesson	Describe the project lesson (at the strategic level) that has been learned.
	Categories of Systemic Lessons	Select one of the following 'DMO Systemic Lessons' categories: • Requirements Management; • First of Type Equipment; • Off-The-Shelf Equipment; • Contract Management; • Schedule Management; • Resourcing; and/or • Governance.
SECTION 9 – PROJECT LINE MANAGEMENT		
Section 9.1 Project Line Management in 2013–14	Position and names of the Project's Line Management	List the names of the senior management team as appropriate to the project. This should include: • General Manager; • Division Head or Program Manager; • Branch Head; • Project Director; and • Project Manager. This list will contain those persons who occupied their respective position during the course of 2013–14, and applicable dates of change.

Project Data Summary Sheet Template

Project Name	
Project Number	
First Year Reported in the MPR	
Capability Type	
Acquisition Type	
Service	
Government 1st Pass Approval	
Government 2nd Pass Approval	
Total Approved Budget (Current)	
2013–14 Budget	
Project Stage	
Complexity	

Section 1 – Project Summary

1.1 Project Description

1.2 Current Status

Cost Performance In-year Project financial assurance statement
Schedule Performance
Materiel Capability Delivery Performance

1.3 Project Context

Background
Uniqueness
Major Risks and Issues
Other Current Sub-Projects

1.4 Linked Projects

Project	Description of Project	Description of Any Dependencies

Section 2 – Financial Performance

Presentation for Projects who received Government approval PRE JULY 2010:

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m	Notes
	Project Budget		
	Original Approved		
	Real Variation – Scope		
	Real Variation – Transfer		
	Real Variation – Budgetary Adjustment		
	Real Variation – Real Cost Increase/Decrease		
Jul 10	Price Indexation*		
Jun 14	Exchange Variation		
Jun 14	**Total Budget**		
	Project Expenditure		
Prior to Jul 13	Contract Expenditure – Contractor 1		
	Contract Expenditure – Contractor 2		
	Contract Expenditure – Contractor 3		
	Contract Expenditure – Contractor 4		
	Contract Expenditure – Contractor 5		
	Other Contract Payments/Internal Expenses		
FY to Jun 14	Contract Expenditure – Contractor 1		
	Contract Expenditure – Contractor 2		
	Contract Expenditure – Contractor 3		
	Contract Expenditure – Contractor 4		
	Contract Expenditure – Contractor 5		
	Other Contract Payments/Internal Expenses		
Jun 14	**Total Expenditure**		
Jun 14	**Remaining Budget**		

Notes	
1	
2	
3	
4	

*Note – Those projects approved in 'out- turned' dollars will not contain an entry for 'Price Indexation'.

Presentation for Projects who received Government approval POST JUNE 2010:

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m	Notes
	Project Budget		
	Original Approved		
	Real Variation – Scope		
	Real Variation – Transfer		
	Real Variation – Budgetary Adjustment		
	Real Variation – Real Cost Increase/Decrease		
Jun 14	Exchange Variation		
Jun 14	**Total Budget**		
	Project Expenditure		
Prior to Jul 13	Contract Expenditure – Contractor 1		
	Contract Expenditure – Contractor 2		
	Contract Expenditure – Contractor 3		
	Contract Expenditure – Contractor 4		
	Contract Expenditure – Contractor 5		
	Other Contract Payments/Internal Expenses		
FY to Jun 14	Contract Expenditure – Contractor 1		
	Contract Expenditure – Contractor 2		
	Contract Expenditure – Contractor 3		
	Contract Expenditure – Contractor 4		
	Contract Expenditure – Contractor 5		
	Other Contract Payments/Internal Expenses		
Jun 14	**Total Expenditure**		
Jun 14	**Remaining Budget**		

Notes	
1	
2	
3	
4	

2.2 In-year Budget Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Total Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 14 $m			
Contractor 1						
Contractor 2						
Contractor 3						
Contractor 4						
Contractor 5						
Notes						
1						

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 14		
Contractor 1				
Contractor 2				
Contractor 3				
Contractor 4				
Contractor 5				
Major equipment received and quantities to 30 Jun 14				
Notes				
1				

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved / Forecast	Variance (Months)	Notes
System Requirements						
Preliminary Design						
Critical Design						
Notes						
1						
2						
3						
4						

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved / Forecast	Variance (Months)	Notes
System Integration						
Acceptance						
Notes						
1						
2						
3						
4						

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Major System / Platform Variant	Original Planned	Achieved / Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)				
Initial Operational Capability (IOC)				
Final Materiel Release (FMR)				
Final Operational Capability (FOC)				

Notes	
1	
2	
3	
4	

DMO MPR Team to Insert Graph

Section 4 – Project Cost and Schedule Status

4.1 Project Cost and Schedule Status

DMO MPR Team to Insert Graph

Section 5 – Materiel Capability Delivery Performance

5.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
DMO MPR Team to Insert Pie Chart	**Green:**
	Amber:
	Red:

Section 6 – Major Risks and Issues

6.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Emergent Risks (risk not previously identified but has emerged during 2013–14)	
Description	Remedial Action

6.2 Major Project Issues

Description	Remedial Action

Section 7 – Project Maturity

7.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark								
	Project Status								
	Explanation								
DMO MPR Team to Insert Graph									

Section 8 – Lessons Learned

8.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons

Section 9 – Project Line Management

9.1 Project Line Management in 2013–14

Position	Name
General Manager	
Division Head	
Branch Head	
Project Director	
Project Manager	

Indicative 2013–14 MPR Program Schedule

Event	Start Date	End Date
Planning for 2013–14 MPR (including review of outcomes of 2012–13 program)	Dec 13	Jan 14
DMO & ANAO finalise preparations for 2013–14 MPR program for JCPAA Hearing	Jan 14	Mar 14
DMO MPR program briefing to project offices	Feb 14	Feb 14
DMO MPR management finalise preparation with the project offices	Feb 14	Mar 14
Project site visits by ANAO	Mar 14	Jun 14
EOFY briefing to project offices	Jul 14	Jul 14
Post-30 June project reviews	Aug 14	Sep 14
Development of the DMO 2013–14 MPR	Aug 14	Oct 14
CEO DMO submits draft DMO portion of 2013–14 MPR to Auditor-General	Oct 14	Oct 14
ANAO develops its assurance overview and analysis for provision to CEO DMO	Aug 14	Oct 14
DMO response to ANAO assurance overview and analysis to Auditor-General	Oct 14	Nov 14
Period for ANAO internal clearance of 2013–14 MPR (Publication and Tabling)	November 2014	

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