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Project Number	**AIR 6000 Phase 2A/2B**
Project Name	**NEW AIR COMBAT CAPABILITY**
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)	**$15,181.1m**
2014-15 Budget	**$296.5m**
Project Stage	Enter Contract
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.

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, **comprising** the United Kingdom, Canada, Italy, Denmark, Norway, Netherlands and Turkey. Japan, Israel and the Republic of Korea 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 twenty one per cent below budget (an underspend of $63.3m). The major contributors to the variance were the contracting timeframes and the unpredictability of expenditure forecasts for F-35 Joint Program Office (JPO) contracted activity.

Project Financial Assurance Statement

As at 30 June 2015, Project AIR 6000 Phase 2A/2B has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual

219 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

obligations of the project, current known risks and estimated future expenditure, Defence 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

Australia's first two aircraft **were** delivered in 2014, as part of Materiel Release 1 (MR1) commencement of Pilot training in the US.

Facilities works were approved by the Public Works Committee and construction work has commenced at RAAF Base Williamtown.

F-35 Mission System Block 3F software development is showing slippage against the manufacturer's baseline. Reported delays will not impact on Australian Initial Operational Capability (IOC) or Final Operational Capability (FOC) delivery dates but are continuing to be monitored and assessed.

The Australian F-35 sustainment solution is immature. The Government announcement of an F-35 regional support hub in Australia has assisted in planning of Australian Sustainment.

The F-35 Partner Reprogramming Lab contract signature was awarded on 9 April 2015, with risk to Mission Data File delivery in time for IOC being monitored.

The first Australian F-35A pilot has completed training and the second pilot commenced training in May 2015.

System integration of Block 2B Fleet Release is expected to be achieved in July 2015 (US Marine Corps IOC Declaration).

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 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 project 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. 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 **approximately** 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 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 **has contracted** 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 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.
- **Establishing the Reprogramming element of the program.**
- Ensuring required industry outcomes during JSF production and transition into service.
- **Significant workforce challenges in effectively manning the Defence acquisition and sustainment organisations impacts program management activities to establish the JSF capability.**

The major issues facing the NACC Project are:

- Noise associated with the introduction of the JSF at RAAF Base Williamtown.
- **Establishing the training system.**

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.

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 15	Exchange Variation		**1,566.0**	
Jun 15	**Total Budget**		**15,181.1**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – US Government PSFD MoU (**FY 09/10 – 13/14**)	**(181.0)**		**4**
	Contract Expenditure – US Government – LRIP 6 Production	**(161.7)**		**4**
	Contract Expenditure – US Government – LRIP 6 Propulsion	**(38.0)**		**4**
	Other Contract Payments / Internal Expenses	**(70.4)**		**5**
			(451.1)	
FY to Jun 15	Contract Expenditure – US Government – LRIP 6 Production	**(83.8)**		**4**
	Contract Expenditure – US Government – PSFD MoU (FY14/15 – 22/23)	**(70.9)**		**4**
	Contract Expenditure – US Government – LRIP 10 Production	**(18.0)**		**4**
	Contract Expenditure – US Government – LRIP 6 Propulsion	**(9.4)**		**4**
	Other Contract Payments / Internal Expenses	**(51.1)**		**6**
			(233.2)	
Jun 15	**Total Expenditure**		**(684.3)**	
Jun 15	**Remaining Budget**		**14,496.8**	

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	**The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.**
5	Other expenditure for this period is primarily associated with activity to integrate NACC specific information systems into the Defence Information Environment (DIE) **($39.3m)**, the NACC Industry Support Program **(Grants) ($5.7m)**, F-35A base planning and facility design and Environmental Impact Statement development **($3.4m)**, Enterprise Architecture Modelling activity **($2.3m)**, **Reprogramming Laboratory ($1.4m)**, Diminishing Manufacturing Supplies ($1.0m), **Co-operative Program Personnel (US based) expenses ($0.8m), LRIP 7 ($0.3m) and Safety Case ($0.1m)**. The remainder is comprised of expenditure associated with project travel, minor office expenses and contractors.
6	Other expenditure for this period is primarily associated with: **construction services for the F-35 Partner Reprogramming Lab facility ($10.5m),** activity to integrate NACC specific information systems into the Defence Information Environment (DIE) **($7.7m)**, **Diminishing Manufacturing Supplies ($6.2m), LRIP 8 Production Contract ($4.9m), Initial Operational Test and Evaluation MoU ($2.6m), Reprogramming Support ($2.5m), Contractor Support ($2.5m), LRIP 7 ($2.3m), Enterprise Architecture Modelling activity ($1.8m),** NACC Industry Support Program (Grants) **($1.7m)**, **FMS Cases associated with weapons ($1.4m),** Co-operative Program Personnel (US based) expenses **($1.2m)**, **and** F-35 facility design and Environmental Impact Statement development **($0.5m).** The remainder **($5.3m)** is comprised of expenditure associated with **internal Defence activity support**, project travel and minor office expenses.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
237.9	**277.9**	**296.5**	**PBS – PAES - Variation the result of inclusion of new expenditure following Stage 2 approval, revised projections to reflect latest assessments of expected billing against US Government contracts and exchange rate adjustments.** **PAES – Final Plan - Variation is the result of exchange rate adjustments.**
Variance $m	**40.0**	**18.6**	Total Variance ($m): **58.6**
Variance %	**16.8**	**6.7**	Total Variance (%): **24.6**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Variance is primarily due to F-35 JPO contracted timeframes and predictability of expenditure forecasts and Project Office activity not occurring as forecast.**
		(54.8)	Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
		(1.3)	FOREX Variation	
		(7.2)	Commonwealth Delays	
			Additional Government Approvals	
296.5	**233.2**	**(63.3)**	**Total Variance**	
		(21.3)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
US Government PSFD MoU (**FY 09/10 – 13/14**)	Dec 06	167.1	**181.0**	Various	MoU	1, **9, 10**
US Government PSFD MoU (FY 14/15 – 22/23)	**Dec 06**	**253.1**	**486.8**	**Various**	**MoU**	**2, 9, 10**
US Government (LRIP 6 Production)	May 11	22.0	**264.5**	Fixed Price Incentive	USG Contract	**3, 9, 10**
US Government (LRIP 6 Propulsion)	Aug 11	5.8	**50.7**	Fixed Price Incentive	USG Contract	**4, 9, 10**
US Government (LRIP 10 Production)	**Dec 14**	**79.2**	**86.1**	**Fixed Price Incentive**	**USG Contract**	**5, 9, 10**
US Government (AT-P-AZT)	**Feb 15**	**51.0**	**54.8**	**Reimbursement**	**FMS**	**9, 10**
US Government (AT-D-YLC)	**Feb 15**	**22.5**	**24.2**	**Reimbursement**	**FMS**	**9, 10**
US Government (LRIP 10 Propulsion)	**Mar 15**	**13.4**	**12.6**	**Fixed Price Incentive**	**USG Contract**	**6, 9, 10**
US Government (Reprogramming Laboratory Phase 1)	**Mar 15**	**119.0**	**113.6**	**Fixed Price Incentive**	**USG Contract**	**7, 9, 10**
US Government (LRIP 8 Non-Annualised Sustainment)	**Jun 15**	**99.9**	**91.6**	**Fixed Priced Incentive**	**USG Contract**	**8, 9, 10**

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 **2009–10 to 2013–14** as approved by Government in November 2009 **and is now complete**. The PSFD MoU 'contract' is a 'variable' priced 'contract' in that it is updated annually to reflect both estimated shared costs and escalation.
2	**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 2014–15 to 2022–23 as approved by Government in April 2014. The PSFD MoU 'contract' is a 'variable' priced 'contract' in that it is updated annually to reflect both estimated shared costs and escalation. Contract Price increase since signature due to increased tooling replacement cost not previously included; inclusion of scope previously considered country unique; and updated estimates for shared sustainment, Follow-on Development and F-35 Joint Program Office administration.**
3	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'.

4	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'.
5	**Production contract for Australia's next tranche of eight F-35A aircraft for initial Long Lead items. 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'.**
6	**Production contract for eight engines for installation on Australia's next tranche of eight F-35A aircraft. 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'.**
7	**Contract for Phase 1 Reprogramming Laboratory hardware and software tools.**
8	**LRIP 8 Non Annualised Sustainment contract for the provision of training devices, support equipment, non-aircraft spares.**
9	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).
10	**The scope of this contract is explained further below.**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
US Government (PSFD MoU)	N/A	N/A	Australia's contribution to shared costs from 2010 to **2023** 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.	
US Government (LRIP 10 Production)	**8**	**8**	**Procurement of Advanced Acquisition items associated with the next eight F-35A aircraft procurement.**	
US Government (AT-P-AZT)	**N/A**	**N/A**	**Procurement of the AIM-9X Weapon System.**	
US Government (AT-D-YLC)	**N/A**	**N/A**	**Procurement of AIM-120 AMRAAM Weapon System.**	
US Government (LRIP 10 Propulsion)	**8**	**8**	**Procurement of Advanced Acquisition items associated with propulsion systems for the next eight F-35A aircraft procurement.**	
US Government (Reprogramming Laboratory Phase 1)	**N/A**	**N/A**	**Reprogramming Laboratory Hardware and Software tools.**	

US Government (LRIP 8 Non-Annualised Sustainment)	**N/A**	**N/A**	**Training devices, support equipment and non-aircraft spares.**	
Major equipment received and quantities to 30 June 15				
Two F-35A aircraft delivered November 2014 to support commencement of training in the USA.				
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	Jul 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 **four** 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 Contractor Test and Evaluation Progress

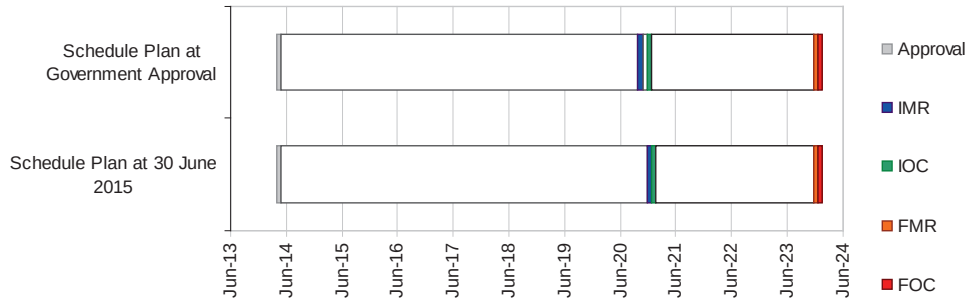
Test and Evaluation	Major System/Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Block 2B Fleet Release (against IMS7 Baseline)	Jun 15	Jun 15	**Jul 15**	**1**	**1**
	Block 3i Initial Release to support LRIP 6 (against IMS7 Baseline)	Mar 14	Nov 14	**Sep 14**	**6**	**2**
	Block 3F Fleet Release (against IMS7 Baseline)	Aug 17	**Dec 17**	**May 17**	**(3)**	**3**
Acceptance	Accept and deliver two (LRIP 6) aircraft to US Pilot Training Centre	Mar 14	Nov 14	**Nov 14**	**8**	**4**
	Accept and deliver aircraft 3-14	Dec 16	**Jun 19**	**Jun 19**	**30**	**5**
	Accept and deliver aircraft 15-72	Dec 23	**Sep 23**	**Sep 23**	**(3)**	**6**
Notes						
1	**Block 2B supports the United States Marine Core IOC declaration currently planned for July 2015.**					
2	Block 3i Initial Release software provides initial pilot training capability for the Low Rate Initial Production (LRIP) 6 aircraft configuration. The **six** 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.					
3	Block 3F Fleet Release is final capability software state under the SDD Program. **The latest software schedule from Lockheed Martin indicates that 3F Fleet Release has been split into variant specific Fleet Release Loads. The F-35A version of 3F Mission Systems Software is planned for Fleet Release in the US during May 2017. Production and retrofit to the Australian F-35A will follow, with projected lead times satisfying the Australian F-35A IOC objective schedule.**					

4	The March 2014 original delivery date was planned on IOC in 2018. The **November** 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.
5	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 **June** 2019 to achieve IOC in December 2020.
6	Variance is due to the expected completion of Aircraft 72 production in **July** 2023, resulting in Aircraft 72 early acceptance and ferry to Australia in **September** 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	**Dec** 20	**0**	
Final Materiel Release (FMR)	Oct - Dec 23	**Dec** 23	**0**	
Final Operational Capability (FOC)	Dec 23	**Dec** 23	**0**	

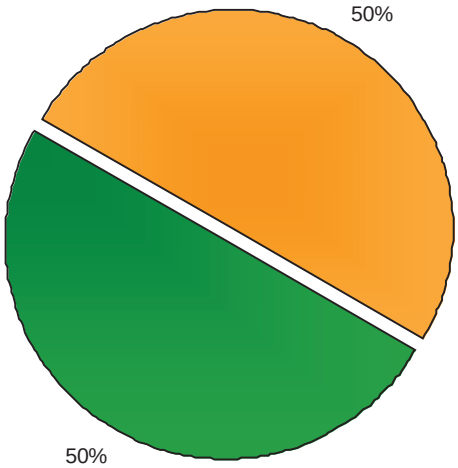
Schedule Status at 30 June 2015



Section 4 – Materiel Capability Delivery Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Delivery Capability Performance



Green:

The project has assessed that the JSF Support Equipment, Alternate Mission Equipment and Spares provision expects to meet the materiel capability delivery performance required for Stages 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 capabilities required to deliver IOC and FOC.

These risks include:

1. Integration of JSF into the ADF system, **mitigated through 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.**
2. Final software builds meeting required functionality by IOC and FOC**, mitigated by pro-active coordination between all organisations with responsibilities for acquiring, integrating and supporting the JSF in-service.**
3. Establishing the sustainment capability**, mitigated by establishing and ramping up the JSF sustainment system.**
4. **Establishing the training system, mitigated by:**
   a. **The Change Control Board process to clarify the requirements to ensure an agreed outcome.**
   b. **Working with all stakeholders and undertake better planning to ensure expectations are clearly understood.**
   c. **Identify any cost impacts.**

Red:

N/A

Note

This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Delivery of 15 aircraft throughout 2020 to support OT&E and the transition of No.3 Squadron (SQN) and No.2 Operational Conversion Unit, when combined with the 12 aircraft returning to Australia on completion of US based training.** **77 SQN facilities fully fitted, accredited, staffed and ready to support flying operations.** **Materiel delivery, OT&E, training, support and transition activities required for IOC completed.**	**Not achieved**
Final Materiel Release (FMR)	**Delivery of final nine aircraft resulting in all 72 F-35A aircraft in Australia.** **Block 4 software and hardware delivered to provide FOC capability.** **Delivery and acceptance, commissioning or contracting in Australia of the aircraft, spares, support systems, and personnel, training, weapons, equipment, contracts and facilities necessary for ongoing operations of three Operational Squadrons and one training Squadron at FOC.** **Materiel delivery, OT&E, training, support and transition activities required for FOC completion.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Possibility of US and JSF Partner Governments altering commitments to the broader JSF Program that impacts Australian JSF acquisition and life-cycle costs.	**Australian membership of the JSF Executive Steering Board provides the opportunity to understand and influence Partner imperatives.**
Integration of the JSF into the ADF 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. **While Public Works Committee approval was achieved on the 29 October 2014,** schedule pressures are still a significant concern. 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.
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.	**The US has released strategies for Australia's involvement in regional support for the JSF but continued** engagement with the JPO **is required** to develop and define **a detailed** JSF sustainment solution **for Australia**. Cost and schedule business cases will be required to define the sustainment baselines.
The NACC Project has identified schedule and cost pressures for the Reprogramming element of the program.	**Australian participation in contract negotiations with Lockheed Martin considerably improved the project's understanding of technical and programmatic issues. Australia will maintain** engagement with the JPO to **monitor performance of Stage 1 and to further improve understanding of issues – particularly schedule - in preparation for Stage 2 contract development.**
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.	**The US has released strategies for Australia's involvement in regional support for the JSF but the project office continues to influence** US JPO sustainment planning to optimise industry participation in F35 Modification Repair Overhaul and Upgrade opportunities.
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
Significant workforce challenges in effectively manning the Defence acquisition and sustainment organisations impacts program management activities to establish the JSF capability.	**Provision of supplemental resources to develop and fully support JSF program management activities.**

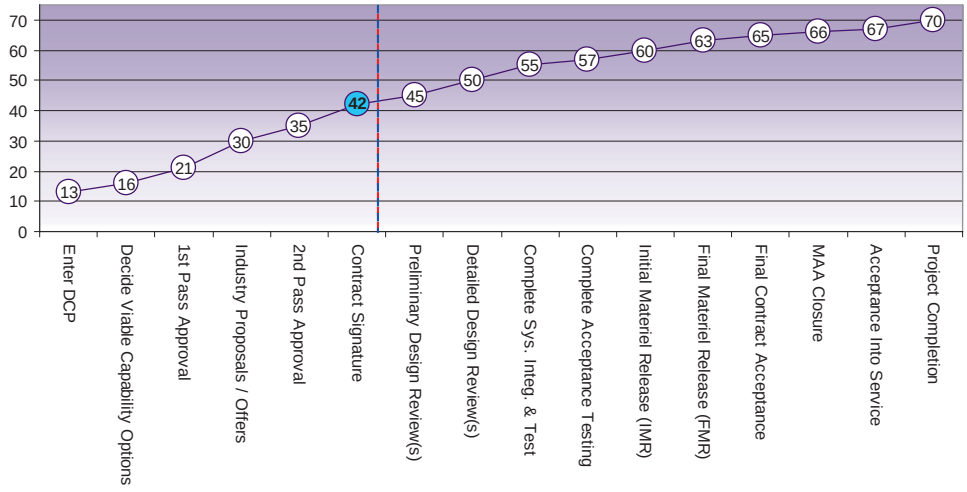
5.2 Major Project Issues

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**, which is anticipated to occur in July 2015**. Public consultation commenced in mid 2014.
The Training System developed by JSF Division has not been adequately planned and resourced. This does not provide RAAF with the necessary Fundamental Inputs to Capability enablers to support Royal Australian Air Force sovereign F-35 training requirements, leading to delay or failure to achieve Australian IOC and FOC.	**Clarify the requirements through the Baseline Control Board process to ensure an agreed outcome.** **Work with all stakeholders to undertake better planning to ensure expectations are clearly understood.** **Identify any cost impacts.**

Section 6 – Project Maturity

6.1 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
Enter Contract	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 (Blocks 3 **and 4**) software. • **Operations and Support:** Global sustainment arrangements are still relatively immature; however they are now becoming a focus for the US Project Office and Lockheed Martin. The NACC Project is refining its own sustainment costs based on JPO analysis and through a series of scenario-based 'war games'.							



2013-14 MPR Status - - - - 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	AVM Chris Deeble
Branch Head	AIRCDRE Catherine Roberts (to **Nov** 14) **AIRCDRE Terry Saunder (Dec 14–current)**
Project Director	GPCAPT John Ibbotson (to Dec 14) **GPCAPT David Scheul (Jan 15–current)**
Project Director	**Mr Todd Russell**
Project Director	**GPCAPT Michael Brown**
Project Manager	Mr Bill Greenwood

Project Data Summary Sheet[220]

Project Number	**SEA 4000 Phase 3**
Project Name	**AIR WARFARE DESTROYER**
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)	**$7,891.1m**
2014-15 Budget	**$763.2m**
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 4 June 2014 the Minister for Defence announced this project as a Project of Concern.

Cost Performance

In-year

The AWD Program Financial Year 2014-15 Budget was underspent by $29m. Approximately $20m was a result of delays against the Platform System Design (PSD) Contract due to schedule slippage of Ship 1 and Navantia's involvement in the AWD Reform. Other delays occurred against various Program Management Office (PMO) contracts including $4.5m of Spares expenditure. The other significant variation was in the Harpoon FMS case where payments of USD $9m have been reprogrammed to Financial Year 2015-16. Implementation of AWD Reform announced in 2014 will require rebaselining both program cost and schedule. The Production Comprehensive Cost Review (CCR) was held in February 2015.

Project Financial Assurance Statement

Notwithstanding the issues disclosed at Section 5.2, as at 30 June 2015, SEA 4000 Phase 3 has reviewed the approved scope and budget for those elements required to be delivered by the program. Having reviewed the current financial and contractual obligations of the program, current known risks and estimated future expenditure, Defence considers, as at the reporting date, **and following the Comprehensive Cost Review, consideration of the budget remaining for the project to complete against the agreed scope**

220 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

is required. This was indicated in the 22 May 2015 joint media release by the Minister for Finance and the Minister for Defence, which suggested that the project will require an additional $1.2 billion to be completed.

Contingency Statement

The project has applied contingency in the financial year primarily for the **offset of indexation funding shortfall and ABTIA Contract Amendment Proposal (CAP) 102 Counter Measure Lockers – the integration of the Magazine locker with the fire main system.**

Schedule Performance

On 6 September 2012, following a stakeholder review **of** resource considerations **and support for a schedule extension**, the then Minister for Defence announced 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.

At this time the new delivery dates represented delays of 15, 18 and 21 months respectively against the **dates contracted in October 2007**.

In addition, following further concerns with AWD delivery, Operational Schedule dates have been determined based on the outcomes of a Comprehensive Cost Review (CCR) held in February 2015. Movements of 15, 12 and 12 months respective to each ship's Provisional Acceptance date were identified by the Industry Participants. It is intended that the revised dates be re-baselined over the June-September 2015 period and subsequently validated through a tailored Integrated Baseline Review. The contractual implications in relation to schedule and cost of the CCR indicated schedule movements have yet to be negotiated. These matters are under review as part of the AWD Reform activities.

Since July **2014** the following major events have occurred:

- **September 2014 – Hull mounted sonar installed to the hull of Ship 1;**
- **September 2014 – Portside propeller blades loaded to Ship 1;**
- **October 2014 – Mast for Ship 3 delivered;**
- **December 2014 – SPY-1D(V) radar array faces for Aegis combat system for Ship 1 installed;**
- **February 2015 – One block delivered by road from Forgacs to Adelaide;**
- **February 2015 – Comprehensive Cost Review for the AWD Alliance Production activities;**
- **March 2015 – Four blocks from Forgacs delivered by barge to Adelaide; and**
- **May 2015 – Hobart Launch (Ship 1).**

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. **Procurement of the** Electronic Warfare Radar – Electronic Attack **(R-EA)** sub-system procurement has been deferred as **its performance based on currently available technology does not represent a cost-capability benefit given that more capable second generation technology is expected to be available in the 2017-18 time frame. The R-EA budget has been preserved to support the more capable system being installed in the AWD.** 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 program 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 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 **Royal Australian Navy** (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.

The Government announced the implementation of an AWD Reform Strategy on 4 June 2014 following an Independent Review of the AWD Program and heightened concern regarding program schedule and forecast cost increases. These concerns resulted in the Program being designated a Project of Concern in June 2014.

The objectives of the Reform strategy are to:

- **Improve shipbuilding productivity at the AWD shipbuilder ASC and its subcontractors BAE Systems, Forgacs and Navantia;**
- **Include the urgent insertion of an experienced shipbuilding management team into ASC; and**
- **After augmented shipbuilding capacity has been put in place, pursue the reallocation of blocks between shipyards to make the AWD program more sustainable.**

The AWD Alliance announced the award of a contract to BAE Systems on 23 October 2014 for the construction of an additional three Guided Missile Destroyer (DDG) blocks at its Williamstown Shipyard.

On 22 May 2015, the Minister for Finance and the then Minister for Defence jointly released a media statement. The statement suggested that the project will require an additional $1.2 billion to be completed and that this would be funded at the expense of other Defence acquisitions.

A limited tender process was initiated on 29 May 2015 seeking proposals to either insert a managing contractor into ASC for the remainder of the AWD build, or to further enhance ASC capability through a partnering agreement.

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 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 **CASG**.

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:

- **Integration of the Hobart Class Combat System;**
- **Capability Acceptance;**
- 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;
- 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; **and**
- **Impacts to Test and Activation and Sea Trials due to equipment failure.**

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. **This project is managed by Helicopter, Tactical, Unmanned Ariel Systems and Guided Weapons Division.**

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 15	Exchange Variation		**(379.6)**	
Jun 15	**Total Budget**		**$7,891.1**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – AWD Alliance	**(3,597.7)**		
	Contract Expenditure – US Government	**(974.1)**		
	Contract Expenditure – Navantia	**(397.4)**		
	Contract Expenditure – NATO Consortium	**(72.4)**		
	Other Contract Payments / Internal Expenses	**(182.6)**		3
			(5,224.2)	
FY to Jun 15	Contract Expenditure – AWD Alliance	**(668.7)**		
	Contract Expenditure – US Government	**(21.5)**		
	Contract Expenditure – Navantia	**(16.0)**		
	Other Contract Payments / Internal Expenses	**(28.0)**		3
			(734.2)	
Jun 15	**Total Expenditure**		**(5958.4)**	
Jun 15	**Remaining Budget**		**1932.7**	

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.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
615.6	**759.3**	**763.2**	**PBS-PAES: The variation reflects the current challenges of the program resulting from increases associated with shipbuilding activities and cost over-runs.** **PAES Final Plan: Variance based on movements in foreign exchange.**
Variance $m	**143.7**	**3.9**	Total Variance ($m): **147.6**
Variance %	**23.3**	**0.5**	Total Variance (%): **23.8**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
		(6.8)	FMS	**The AWD Program Financial Year 2014-15 Budget was underspent by $29m. Approximately $20m was a result of delays against the PSD Contract due to schedule slippage of Ship 1 and Navantia's involvement in the AWD Reform. Other delays occurred against various PMO contracts including $4.5m of Spares expenditure. The other significant variation was in the Harpoon GMS case where payments of USD $9m have been reprogrammed to Financial Year 2015-16.**
		(19.6)	Overseas Industry	
		8.0	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
		(10.6)	Commonwealth Delays	
			Additional Government Approvals	
763.2	**734.2**	**(29.0)**	**Total Variance**	
		(3.8)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
US Government	Oct 05	842.7	**1,071.7**	FMS	FMS	1, 2
AWD Alliance	Oct 07	4,323.1	**5,350.3**	Variable with Pain/Gain Share	Alliance	3
Navantia	Oct 07	373.6	**449.0**	Fixed with indices escalation	Alliance based	2
NATO Consortium	Dec 09	78.5	**72.4**	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 **2015** 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 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).
3	**The variance in value is due to actual and estimated over expenditure in the total cost estimate. Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
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 15
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	**Nov 15**	**Nov 15**	**23**	2, 3, **4**
	Ship 2 – Complete Hull Integration	Mar 14	**Dec 15**	**Dec 15**	**21**	3, **4**
	Ship 2 – Start Combat System Light Off	Mar 15	**Apr 17**	**Apr 17**	**25**	3, **4**
	Ship 3 – Complete Hull Integration	Jun 15	**Aug 17**	**Aug 17**	**26**	3, **4**
	Ship 3 – Start Combat System Light Off	Jun 16	**Sep 18**	**Sep 18**	**27**	3, **4**
Acceptance	Ship 1 – Commencement of Category 5 Trials	Aug 14	**Sep 16**	**Sep 16**	**25**	3, **4**
	Ship 1 – Provisional Acceptance (Initial Materiel Release)	Dec 14	**Jun 17**	**Jun 17**	**30**	3, **4**
	Ship 2 – Commencement of Category 5 Trials	Nov 15	**Dec 17**	**Dec 17**	**25**	3, **4**
	Ship 2 – Provisional Acceptance (Materiel Release 2)	Mar 16	**Sep 18**	**Sep 18**	**30**	3, **4**
	Ship 3 – Commencement of Category 5 Trials	Feb 17	**Jun 19**	**Jun 19**	**28**	3, **4**
	Ship 3 – Provisional Acceptance (Materiel Release 3)	Jun 17	**Mar 20**	**Mar 20**	**33**	3, **4**

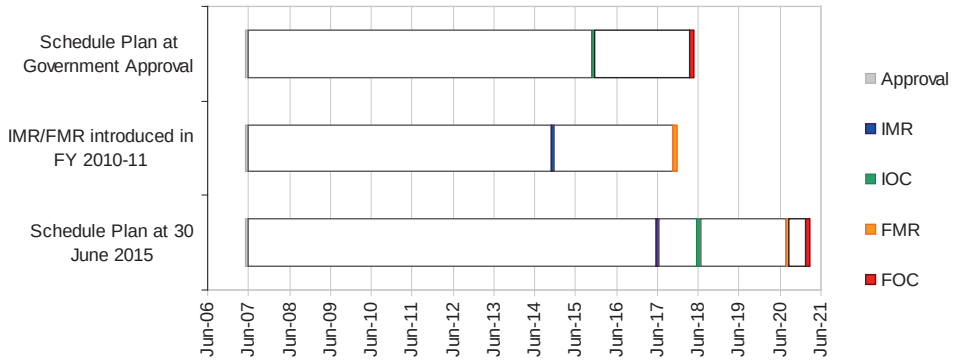
Notes	
1	Complete Hull Integration was achieved when the last erection joint was completed and has been structurally inspected and accepted.
2	Start Combat System Light Off verifies the readiness of the first set of installed combat system equipment for CAT 4 testing.
3	In 2010 difficulties were encountered 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.
4	**Key Event Dates are under review as part of the AWD Reform activities. Operational Schedule dates have been determined based on the outcomes of the Alliance's Comprehensive Cost Review (CCR) held in February 2015 (slip of 15/12/12 months respective to each Ship Provisional Acceptance recognised by the Industry Participants). The revised dates will be baselined over the June-September period and validated through a tailored Integrated Baseline Review to take place after the rebaseline. The rebaseline and Schedule slippage has yet to be negotiated and the ABTIA amended to reflect the outcomes.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved / Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Dec 14	**Jun 17**	**30**	See Note 3 **and 4** above
Initial Operational Capability (IOC)	Dec 15	**Jun 18**	**30**	See Note 3 **and 4** above
Final Materiel Release (FMR)	Dec 17	**Sep 20**	**33**	1**, 4 above**
Final Operational Capability (FOC)	May 18	**Mar 21**	**34**	2**, 4 above**

Notes	
1	FMR is scheduled 6 months after Materiel Release 3 (MR3).
2	FOC is scheduled 12 months after MR3.

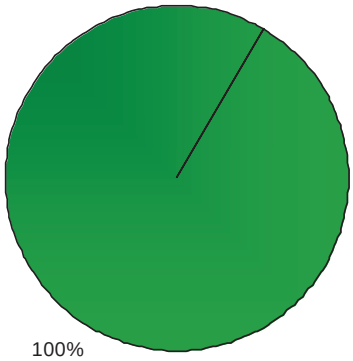
Schedule Status at 30 June 2015



Section 4 – Materiel Capability Delivery Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance



Green:

The Program 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 program are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**One *Hobart* Class Ship System with up to Category 5 (sea acceptance) trials, testing and certification completed.** **Initial sustainment arrangements in place to support IOC.** **Training of the *Hobart* Class Systems for the commissioning crew to support IOC.**	**Not achieved**
Final Materiel Release (FMR)	**All three *Hobart* Class Ship Systems with up to Category 5 (sea acceptance) trials, testing and certification completed.** **All sustainment arrangements in place to provide materiel support to the *Hobart* Class.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
1. Integration of the **Hobart Class 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 – **See Remedial Action at Risk 3.**
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. **All Safety certification required under FMS has been delivered to Alliance, no outstanding data.**
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 **Original Equipment Manufacturer** (OEM) at all levels, including the embedding of Alliance staff on-site to manage risk associated with software

	development and integration. **Sonar schedule is on track. Hardware deliveries will be made in time to support Ship build program. Software delivery is in phases (Build 1 delivered July 2014), Build 2 and 3 will be available to support Combat System Light Off and Sea Trials.**
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 **Life Cycle Cost** (LCC) data, loss of project data that supports Through Life Support).	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. **Logistics Information Management System (LIMS) Management plan completed, implementation has begun including prototype data loading. Working with the Alliance to migrate and validate data between systems.** **Intellectual Property (IP) is no longer considered to be a part of this risk, as the IP contracted requirements are clearly stated. IP remediation is being treated as business as usual between the contracted parties.**
5. 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.
6. 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 3. **Extension of PSD services will be required due to a schedule rebaseline and is currently being investigated.**
7. Inadequate Configuration Management impact on Ship Acceptance.	Early engagement and agreement on the process and expected deliverables is required to support ship Delivery and Acceptance. The Shipbuilder Certification Plan **is in draft with the Alliance** and addresses how conformance will be established. **The Ship Acceptance Plan is also in development with the Alliance and includes the Functional Configuration Audit and Physical Configuration Audit (FCA/PCA) approach as well as the Compartment Completion Inspection process.**
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
1. Impacts to Test and Activation and Sea Trials due to equipment failure.	**Early progressive testing through Verification & Validation phase will mitigate risk if failure experienced. Working with Navantia identifying potential causes early and implementing appropriate contingency plans, OEM support and training, including trials crew training to reduce likelihood of operator errors.**

5.2 Major Project Issues

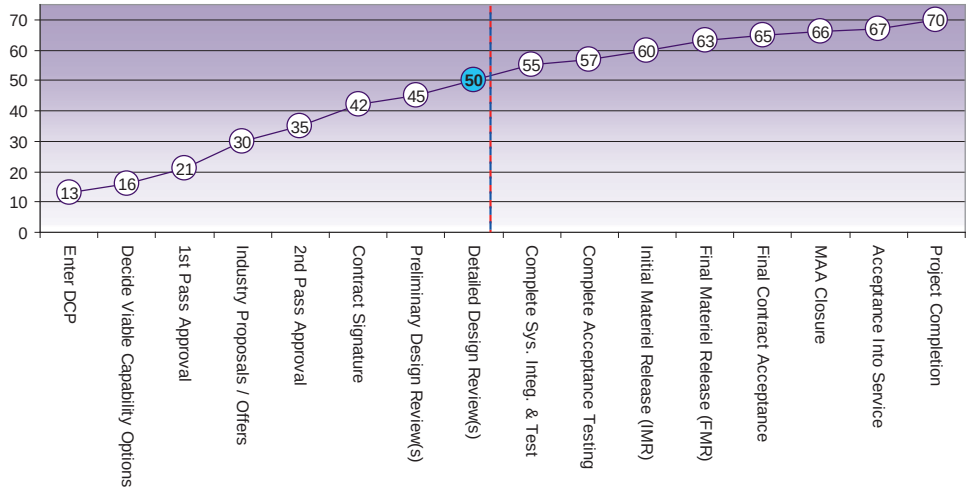
Description	Remedial Action
1. The delivery of FMS elements of the AWD supplies may not be possible, or may be delayed or compromised in integrity, due to the budget for FMS Engineering and Technical Assistance (ETA) not being sufficient.	Working with the US to identify options to reduce cost and provide waterfront support for Ships 2 and 3. **A schedule extension as a result of rebaselining may have a cost impact for the provision of FMS ETA, Indigenous support capability and skills transfer from Ship 1 Integrated Test Team (ITT) will enable a reduction in Ship 2 and 3 ITT teams.**
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 ABTIA and 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. **The true indexation cost will be included in the Real Cost Increase of the AWD Program Budget.**
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 3 as Ship 2. 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. **Implementation of AWD Reform announced in 2014 will require rebaselining program cost and schedule. The Production Comprehensive Cost Review was held in February 2015 and is the first step towards establishing an achievable but challenging cost and schedule baseline. CCR outcomes have informed the basis of an Operational Budget and Schedule being implemented over the June-September period.**
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 **Commonwealth of Australia** 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. **The most recent review was conducted December 2014.** 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. **These areas were revisited during the FMI review in 2014 and included recommendations for renewed focus.** 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. **Insertion of additional Shipbuilding expertise from BAE, Navantia and Raytheon commenced in December 2014 for the duration of the interim Reform period. The long term arrangements of Reform are focused on improving management capability and shipyard productivity to positively improve cost and schedule performance.**
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. **This issue has been retired as the temporary Combat System training facility has been established.**

Section 6 – Project Maturity

6.1 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. **92** 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.							



2013-14 MPR Status - - - - | 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Mr Colin Thorne (Aug 13–current)
Program Manager	Mr Peter Croser (Acting)
Deputy Program Manager	Mr Greg McPherson (Acting)
Deputy Program Manager **General Manager Engineering**	Commodore Steve Tiffen, RAN **(to Dec 14)** **Commodore Craig Bourke, RAN (Dec 14–current)**

Project Data Summary Sheet[221]

Project Number	**AIR 7000 Phase 2B**
Project Name	**Maritime Patrol and Response Aircraft System**
First Year Reported in the MPR	2014-15
Capability Type	Replacement
Acquisition Type	MOTS
Service	Royal Australian Air Force
Government 1st Pass Approval	Jul 07
Government 2nd Pass Approval	Feb 14
Total Approved Budget (Current)	$3,977.8m
2014–15 Budget	$516.4m
Project Stage	2nd Pass Approval
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

AIR 7000 Phase 2B seeks to acquire the materiel elements of the Maritime Patrol and Response Aircraft (MPRA) weapon system, including a Through Life Support (TLS) system, as partial replacement of the AP-3C Orion aircraft.

Eight P-8A Poseidon aircraft will be purchased for the Royal Australian Air Force (RAAF) through a Cooperative Program (CP) with the United States Navy (USN). The scope of the CP includes the Production, Sustainment and Follow-on Development (PSFD) of the United States Navy and RAAF P-8A Poseidon fleet.

1.2 Current Status

Cost Performance

In-year

The project spent $531.5m against a planned in-year budget of $516.4m, a variance of $15.1m or 3.0 per cent. This variance is primarily due to the decision to bring forward $14.8m of 2015-16 expenditure for MK54 Torpedo acquisition (under Foreign Military Sales (FMS) Case AT-P-AZO) into 2014-15. In addition, the project made early aircraft payments of A$19.7m, which were offset by a combined reduction in spend across all remaining project elements of A$19.4m.

Project Financial Assurance Statement

As at 30 June 2015, the AIR 7000 Phase 2B Project Office has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence considers, as at the reporting date, that there is sufficient budget remaining for the project to complete against the agreed scope.

221 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

In August 2014, an Advanced Acquisition Contract (AAC) was signed by the USN, on behalf of Australia, for the first four RAAF P-8A aircraft. The AAC for the second set of four P-8A aircraft was signed in June 2015. The AAC allows the Prime Contractor, Boeing, to acquire long lead items in order to ensure that all required components are available on time for assembly of the Lot 6 P-8A aircraft. The USN currently plans to place the full aircraft production contract for the first four Australian P-8A aircraft with Boeing in third quarter 2015.

The first aircraft, initially scheduled for delivery in January 2017, is now expected to be available in November 2016, which supports the Materiel Acquisition Agreement (MAA) required in-service date range of November 2016 to January 2017. A final contract for the first four aircraft is expected to be signed in the third quarter of calendar year 2015, and the final set of four aircraft is expected to be contracted in Financial Year 2015-16. The USN have advised that all aircraft are expected to be ready for delivery on time or earlier than required.

All other supplies and project events are expected to be delivered/completed in accordance with the agreed MAA schedule.

Materiel Capability Delivery Performance

The P-8A Poseidon is being developed under a spiral development program by the USN. The spiral development consists of an evolution of increments, each of which has a number of Engineering Change Proposals (ECP) that define the maturing configurations of the increment. The variant of the P-8A to be acquired under the scope of Phase 2B is defined as Increment 2, ECP 2.

AIR 7000 Phase 2C proposes to upgrade the aircraft purchased under AIR 7000 Phase 2B to the Increment 3 configuration, subject to future government approval.

The USN declared Initial Operational Capability (IOC) for the Increment 2, ECP 1 aircraft in October 2014, and expects to declare IOC for the Increment 2, ECP 2 aircraft five months prior to the first P-8A delivery to Australia. Through the CP, Australia has had significant insight into, and influence on Search and Rescue Kit and Harpoon 1G integration, the work being undertaken on the Increment 2, ECP 2 configuration, and has high confidence that the aircraft (and supporting systems) will provide the capability required by the MAA.

Note

The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.

1.3 Project Context

Background

Project AIR 7000 Phase 2B is an ACAT II project, seeking to acquire the P-8A Poseidon MPRA capability, as partial replacement for the AP-3C Orion capability, under a CP with the USN. IOC is planned for 2018, allowing the withdrawal of the AP-3C Orion to occur around 2019.

In December 2011, Government approval was provided to participate in the CP for development of P-8A aircraft and, in March 2012, the Project entered into an initial 10-year Memorandum of Understanding (MoU) with the USN for P-8A PSFD. The MoU defines Australia's contribution towards the joint costs for PSFD, and the separate funding of Australian-unique deliverables and effort.

The Increment 3 Project Arrangement was signed in September 2012 to enable Australia to participate in the incremental upgrade to Phase 2B. This upgrade will be incorporated under AIR 7000 Phase 2C.

In February 2014, Government Second Pass Approval was for the Project to acquire eight P-8A Poseidon aircraft, along with associated support and training systems.

The Project Office issues Procurement Requests (PRs) to advise the CP of Australia's intent to acquire materiel through the CP. After an appropriate scope, schedule and cost have been advised by the CP, the Project Office issues a Letter of Authority (LOA) which provides Australia's financial commitment for the

acquisition. The Project formally submitted its first PR through the CP in June 2014, which covered aircraft, aircrew training devices, aircraft spares, aircraft support and test equipment, transition training and other support elements.

On 4 September 2014, Defence signed a LOA authorising the USN to procure Australian P-8A initial aircraft spares.

In May 2015, the USN signed the contract for Australia's P-8A Aircrew Training Devices.

Sustainment and in-service support will provide opportunities for Australian Industry involvement. Further opportunities exist for Australian Industry in facilities and infrastructure development.

In accordance with the approved acquisition strategy, opportunities for Australian Industry participation in the broader USN P-8A Global program will exist on a competitive contracting basis throughout the life-cycle of the P-8A. Opportunities include component manufacture, component repair, and research and design services.

AIR 7000 Phase 2B also seeks to generate Australian industry participation in the acquisition, sustainment and follow-on development phases of the program through the Australian Industry Capability and Boeing Global Supply Chain.

Uniqueness

The RAAF P-8A aircraft will be identical to the USN P-8A aircraft, except for minor configuration differences due to national requirements (such as different aircraft marking schemes). Other support elements, such as training devices and spares, will also be kept as common as technically possible.

AIR 7000 Phase 2B is acquiring, and will sustain, the P-8A capability through a Government to Government Cooperative Program with the USN. This arrangement is distinctly different from the traditional Foreign Military Sales (FMS) or Direct Commercial Sales (DCS) arrangements.

The benefits of a CP include significantly enhanced insight and influence over the development of the weapon system, better awareness and control of project costs drivers and risks, better access to technical and sustainment data, and access to the USN wholesale spares warehouse. A down-side of the CP is some ambiguity in administrative aspects of the project, as described further below.

Major Risks and Issues

The Project is currently mitigating the risks associated with Air Vehicle and Tactical Operation Centre (TOC) integration into the Single Information Environment (SIE) and TOC software configuration. There is also a potential schedule risk associated with the installation of the Aircrew Training System.

A number of risks for the effective and efficient sustainment of the P-8A are also currently being treated through efforts to more closely align the US and Australian sustainment processes. The current aircraft cost risks corresponding to the uncertainty of the aircraft unit price are expected to be retired on signature of the final production contracts in Financial Year 2015-16.

The project has also identified issues with CP process development and aircraft fatigue testing results and are working with the USN to quantify the impact of these issues.

Other Current Sub-Projects

N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Nov 07	Original Approved		144.1	1
Jul 10	Real Variation – Real Cost Decrease	(21.7)		2
Dec 11	Real Variation – Transfer	(37.9)		3
Apr 12	Government Intermediate Consideration	83.5		4
Feb 14	**Government Second Pass Approval**	**3,409.8**		5
			3,433.7	
Jul 10	Price Indexation		20.5	6
Jun 15	Exchange Variation		379.5	
Jun 15	**Total Budget**		**3,977.8**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Increment 1 Contribution	(66.0)		
	Contract Expenditure – PSFD MoU Contributions	(30.4)		
	Other Contract Payments/Internal Expenses	(26.5)		7
			(122.9)	
FY to Jun 15	Contract Expenditure – PSFD MoU Aircraft Acquisition Payments – Lot 6	(121.5)		
	Contract Expenditure – PSFD MoU Aircraft Retail Spares	(119.5)		
	Contract Expenditure – PSFD MoU Aircraft Government Furnished Equipment	(102.5)		
	Contract Expenditure – PSFD MoU Aircrew Training System	(63.9)		
	Contract Expenditure – PSFD MoU Contributions	(38.1)		
	Contract Expenditure – PSFD MoU Aircraft Acquisition Payments – Lot 7	(3.1)		
	Other Contract Payments/Internal Expenses	(82.9)		8
			(531.5)	
Jun 15	**Total Expenditure**		**(654.4)**	
Jun 15	**Remaining Budget**		**3,323.4m**	

Notes	
1	Government First Pass Approval to initiate the Project and progress the project to Intermediate Consideration. At First Pass, AIR 7000 entered the Spiral 1 MoU with the USN for development of the P-8A weapon system.
2	Hand back of contingency funding due to retirement of specific Increment 1 MoU risks.
3	Reallocation of funding from DMO to Defence Support and Reform Group to develop AIR 7000 Phase 2B facilities requirements.
4	Government Intermediate Consideration Funding Approval required to progress the project to 2nd Pass Government approval. Includes costs of project planning documentation development and contractor project support services.
5	Government Second Pass Approval to fund the acquisition of eight P-8A aircraft, and associated support systems and sustainment arrangements.
6	Until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was $17.4m. In addition to this amount, the impact on the project budget as a result of out-turning was a further $3.1m having been applied to the remaining life of the project.

7	Other expenditure to 30 June 2014 was comprised of Commonwealth Project Personnel (CPP) expenses of $8.3m, Mission Support System (MSS) scoping costs of $6.2m, Increment 3 contributions of $3.1m, Contractor expenses of $2.3m and other operating expenditure not attributable to the listed major contracts of $6.6m.
8	Other expenditure to 30 June 2015 was comprised of Increment 3 contributions of $19.8m, MK 54 acquisition costs of $17.0m, MSS acquisition costs of $15.0m, Support and Test Equipment acquisition costs of $14.4m, and other operating expenditure not attributable to the listed major contracts of $16.7m.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
324.0	450.8	516.4	PBS to PAES estimate variance was caused by expenditure being brought forward into Financial Year 2014-15 to procure long-lead aircraft components and initial aircraft spares in alignment with USN contracting timetable. PAES to Final Plan estimate variance was caused by updates to foreign exchange rates, acceleration of payments covering Financial Year 2015-16 financial contributions to the CP and Aircrew Trainer scheduled payment following contract signature in June 2015.
Variance $m	126.8	65.6	Total Variance ($m): 192.4
Variance %	39.1	14.5	Total Variance (%):59.4

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
		14.8	FMS	Variance primarily due to the decision to bring forward $14.8m of 2015-16 expenditure for MK54 Torpedo acquisition (under FMS Case AT-P-AZO) into 2014-15. In addition, the project made early aircraft payments of A$19.7m, which were offset by a combined reduction in spend across all remaining project elements of A$19.4m.
			Overseas Industry	
			Local Industry	
		19.7	Brought Forward	
			Cost Savings	
			FOREX Variation	
		(19.4)	Commonwealth Delays	
			Additional Government Approvals	
516.4	531.5	15.1	**Total Variance**	
		3.0	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
PSFD MoU - Contributions (US Government)	Mar 12	130.4	158.1	Cost Ceiling (Capped)	MoU	1, 8
PSFD MoU - Aircraft Government Furnished Equipment (GFE) (US Government)	Apr 14	142.9	152.9	Variable	MoU	2,7,8
PSFD MoU - AAC Lot 6 (US Government)	Aug 14	159.0	167.4	Variable	MoU	3,7,8
PSFD MoU - Retail Aircraft Spares (US Government)	Sep 14	122.1	122.4	Variable	MoU	4,7,8

PSFD MoU - Aircrew Training Systems (US Government)	Dec 14	275.4	235.6	Variable	MoU	5,7,8
PSFD MoU - AAC Lot 7 (US Government)	Jun 15	182.5	168.2	Variable	MoU	6,7,8

Notes

1	PSFD MoU shared contributions are limited to a cost ceiling, which can only be changed upon mutual written consent of the Participants. Australia is responsible for paying a proportion of the total costs based on the relative number of Australian aircraft in the overall fleet.
2	Aircraft GFE to be procured via contract arrangements between the USN and various suppliers for both Lot 6 and Lot 7 aircraft. Price represents the total value of contracts expected to be awarded and for which Section 23 Commitment Approval has been obtained. The USN are procuring the GFE on behalf of Australia as part of a consolidated US Government purchase.
3	Lot 6 AAC – signature allowed the prime contractor, Boeing, to procure long-lead aircraft components prior to entering into fully defined contract arrangement currently planned third quarter 2015.
4	Retail aircraft spares requirements to be procured via US Naval Supply Systems Command (NAVSUP) contracts, from USN inventory or via other US Government agency arrangements. The majority of retail spares are to be procured via NAVSUP.
5	Aircrew Training Devices - signature allowed the prime contractor, Boeing, to acquire the required long-lead parts, commence engineering and program management activities in support of Australian P-8A training device production. A fully defined contract was signed May 2015.
6	Lot 7 Aircraft AAC – signature allowed the prime contractor, Boeing, to procure long-lead aircraft components prior to entering into fully defined contract arrangement currently planned second quarter 2016.
7	'Contract signature' dates in this table are based on the date each LoA was issued by AIR 7000 Phase 2 project office. LoAs are issued by the project formally authorising the commitment and/or obligation of funds for contract execution or efforts to satisfy Australian-unique requirements.
8	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates.

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
PSFD MoU - Contributions (US Government)	N/A	N/A	Australia's contribution to shared costs from 2012-13 to 2021-22 based on the purchase of eight aircraft. Includes contribution to production, sustainment and follow-on development for common efforts, and project overhead and administration costs.	1
PSFD MoU - Aircraft Government Furnished Equipment (GFE) (US Government	Various	Various	Items to be procured in support of production of Lot 6 (aircraft 1-4) and Lot 7 (aircraft 5-8) P-8A Aircraft.	2
PSFD MoU - AAC Lot 6 (US Government)	Various	Various	Lot 6 long-lead P-8A aircraft components.	3
PSFD MoU - Retail Aircraft Spares (US Government)	Various	Various	Initial spares buy for all eight aircraft.	4
PSFD MoU - Aircrew Training Systems (US Government)	Various	Various	Training Systems Support Centre, Weapons Tactics Trainers, Part Task Trainer, Operational Flight Trainers, Mission Systems Desktop Trainers and Training Support.	

PSFD MoU - AAC Lot 7 (US Government)	Various	Various	Lot 7 long-lead P-8A aircraft components.	5

Major equipment received and quantities to 30 Jun 15
No major equipment received to date.

Notes	
1	No equipment delivered as part of this contract.
2	GFE delivery will be to prime contractor for aircraft production.
3	No equipment delivered as part of this contract. In Financial Year 2015-16, this 'long-lead aircraft components' contract will be modified to contract the delivery of the first four P-8A aircraft.
4	Australia has requested Retail Aircraft Spares delivery to commence August 2015 and conclude by May 2016.
5	No equipment delivered as part of this contract. In Financial Year 2015-16, the 'long-lead aircraft components' contract will be modified to contract the delivery of the final four P-8A aircraft.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System/Platform Variant	Original Planned	Current Planned	Achieved/Forecast	Variance (Months)	Notes
Component Advance Development	Multi-Mission Maritime Aircraft (subsequently called the P-8A Poseidon)	N/A	N/A	2002	-	1
System Design Development (SDD) - Milestone B	P-8A SDD	May 04	May 04	May 04	0	2
Design Readiness Review	P-8A SDD	Jul 07	Aug 07	Aug 07	1	-
Milestone C	P-8A SDD	May 10	Aug 10	Aug 10	3	3
FRP Decision	P-8A Increment 2	Apr 13	Dec 13	Jan 14	8	4,5

Notes	
1	Component Advance Development was a competitive award to multiple contractors to define alternative Multi Mission Aircraft concept system architectures and evaluate associated risks and proposed mitigations.
2	SDD phase was used to design, develop and test the P-8A system.
3	Milestone C represents Low Rate Initial Production (LRIP) Approval and entry into the Production and Deployment Phase.
4	US Defense Acquisition Board approved the deferral of the Full Rate Production (FRP) decision from the original planned to allow for completion of the testing and subsequent reporting as well as adding an additional LRIP (Lot IV).
5	AIR 7000 Phase 2B will be relying on the Design Review processes of the USN.

3.2 Contractor Test and Evaluation Progress

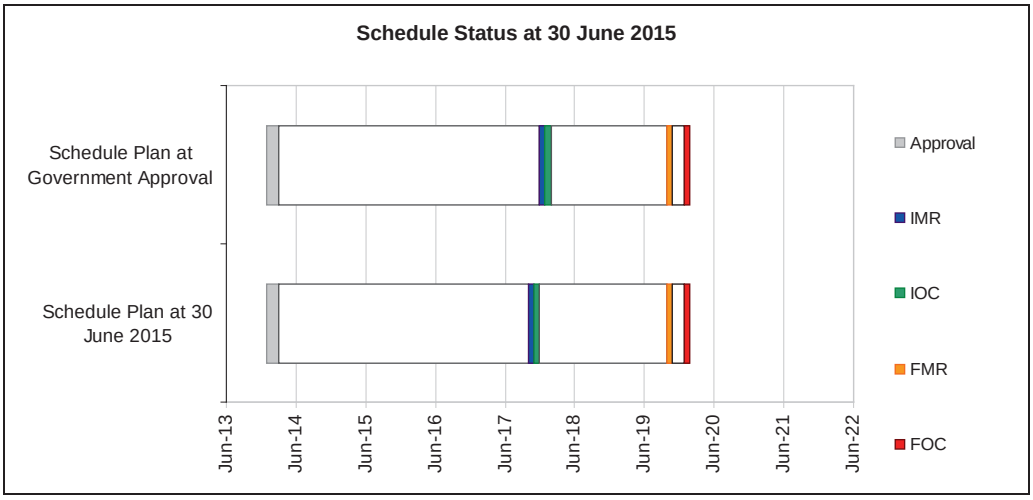
Test and Evaluation	Major System/Platform Variant	Original Planned	Current Planned	Achieved/ Forecast	Variance (Months)	Notes
System Integration	Fleet Release 30 (Increment 2 ECP 1)	Apr 14	Dec 14	Dec 14	8	1
	Fleet Release 40 (Increment 2 ECP 2)	Aug 15	Jun 16	Jun 16	11	1
	Fleet Release 50 (Increment 2 ECP 3)	Apr 17	Apr 17	Apr 17	0	1
Acceptance	Accept and deliver Lot 6 Aircraft (1-4)	Nov 16 – Sep 17	Nov 16 – Sep 17	Nov 16 – Sep 17	0	2,3
	Accept and deliver Lot 7 Aircraft (5-8)	Dec 17 – Sep 18	Dec 17 – Sep 18	Dec 17 – Sep 18	0	2,3
	MSS and two DMSS	Sep 16 – Aug 18	Sep 16 – Aug 18	Nov 16 – Jan 18	(7)	4
	Training System	Jan 18 – Mar 18	Jan 18 – Mar 18	Jan 18 – Jun 18	3	5

Notes	
1	Fleet Releases are the final configurations for the incremental builds of the P-8A Weapon System. Increment 2 is being delivered through a number of smaller Engineering Change Proposals.
2	Australian Lot 6 aircraft are scheduled for delivery in November 2016, March 2017, June 2017, and September 2017. Australian Lot 7 aircraft are scheduled for delivery in December 2017, March 2018, June 2018, and September 2018.
3	Australia will adopt a model of Recognition of Prior Acceptance for Aircraft.
4	Variance from original planned date is due to incorrect capture of milestone in MAA V3.0. This will be corrected in MAA V3.1.
5	Variance from original planned date is due to the inability of the OEM to deliver the Aircrew Training Devices in a timeframe consistent with the MAA. All training devices are contracted to be delivered prior to the commencement of the first conversion training courses.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

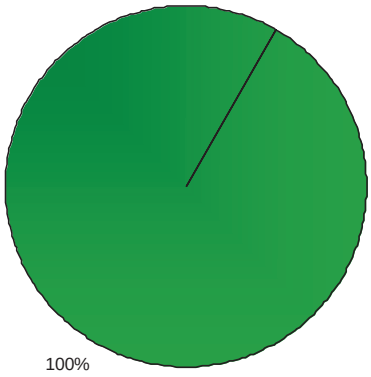
Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Materiel Release 1 (MR1)	Jan 17	Nov 16	(2)	
In Service Date (ISD)	Nov 16	Nov 16	0	
Initial Materiel Release (IMR)	Jan 18	Nov 17	(2)	
Initial Operational Capability (IOC)	Feb 18	Dec 17	(2)	
Materiel Release 2 (MR2)	Dec 18	Oct 18	(2)	
Operational Capability 2 (OC2)	Jan 19	Dec 18	(1)	
Final Materiel Release (FMR)	Oct 19	Oct 19	0	
Final Operational Capability (FOC)	Jan 20	Jan 20	0	

Notes	
1	N/A



Section 4 – Materiel Capability Delivery Performance

4.1 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 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	By IMR the following will be delivered: • 4 x P-8A Increment 2 ECP 2 Aircraft delivered to RAAF Edinburgh (EDN). • Four trained crews to support operations, maintenance and MSS at Main Operating Base (MOB) and Forward Operating Base (FOB). • Two Deployable MSS able to support operations at MOB and FOB. • Spares, Consumables, Ground Support Equipment (GSE) and Support and Test Equipment (S&TE) to	Not achieved

	support MOB and FOB operations. • Appropriate support and sustainment arrangements to support IOC.	
Final Materiel Release (FMR)	By FMR the following will be delivered: • An additional 4 x P-8A Increment 2 ECP 2 aircraft delivered to EDN. • All spares, Ground Support Equipment GSE and S&TE to support the allocated Rate of Effort (ROE) (5,500 hours) at both MOB and FOB. • The full integration into the Single Information Environment of previously delivered two Deployable MSS and one MSS. • 100% Explosive Ordnance to meet agreed war stock requirements. • Appropriate support and sustainment arrangements to support FOC.	Not achieved

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
The Project has identified capability risks associated with respective integration of the Air Vehicle and the Tactical Operations Centres into the Defence Single Information Environment (SIE). An additional capability risk is being closely managed to ensure alignment of the aircraft and Tactical Operations Centre software at aircraft delivery.	• Define SIE integration requirements via working groups with USN to access security accreditation data. • USN agencies working with Boeing to enable midpoint release of software for aircraft enabling integration and testing to proceed as planned. • Scheduled US Site Assistance visits to install latest software prior to first aircraft arrival in Australia.
The Project has identified schedule risks associated with development and timely installation of the Aircrew Training Devices, aircrew training and potential delays importing spares due to export control restrictions.	• Expedited construction of Operational Conversion Facility. • Continued, regular, engagement with USN and Boeing regarding Aircrew Training Device development. • Continued work with US Navy International Programs Office and US Department of State to ensure clear understanding of US export controls for Australian P-8A spares and data.
The Project has identified supportability risks associated with - development of the P-8A Sustainment System (incorporating Engineering, MSS, Supply, Training and Maintenance), and - the acquisition of a suitable range and depth of retail spares to support P-8A operations.	• Continued engagement with relevant USN agencies regarding the integration of USN-provided sustainment services. • Engagement of additional contractor resources to assist development of detailed plans/processes for the Sustainment System. • Analysis of more mature spares modelling data, which will be delivered by December 2015, and a remodelling/adjustment of future spares purchases. • Agreement of access to USN wholesale spares pool.

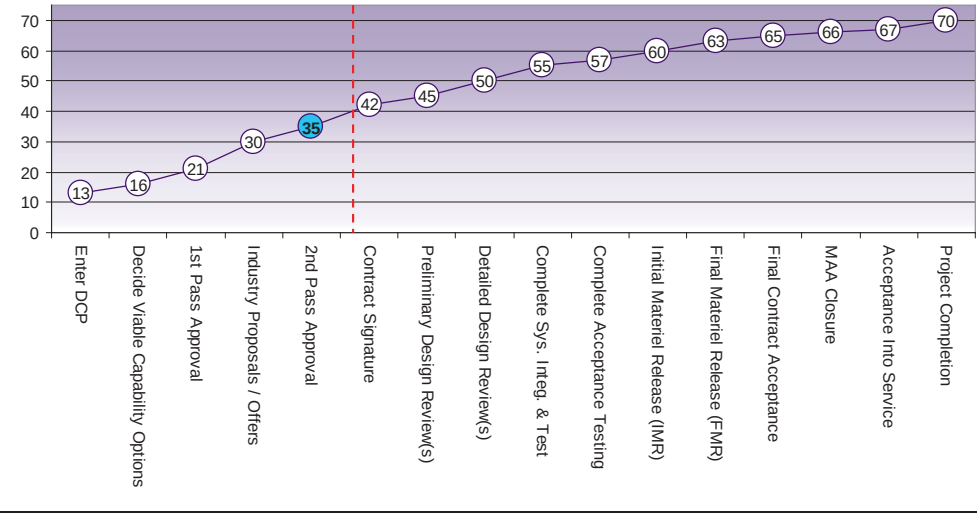
5.2 Major Project Issues

Description	Remedial Action
Cooperative Program process development. The Cooperative Program approach is less regulated than the more conventional FMS or DCS acquisition strategies. As a result, some additional effort is required to develop acquisition and sustainment processes in order to optimise the full benefits of the partnership.	• Work closely with the USN to adapt existing FMS/DCS arrangements, where beneficial for the project. • Identify those areas where existing arrangements are not adaptable or beneficial to the project, and prepare/approve new arrangements as early as possible.
Unexpected fatigue testing results. During a contracted Wing-Fuselage Full Scale Fatigue Test, Boeing discovered unexpected signs of structural fatigue. USN expect this to be a localized issue affecting a finite number of components that will likely require some additional maintenance or replacement during scheduled depot overhauls, but that would not be expected to have widespread consequences for P-8A fleet operations or fleet longevity.	• Ongoing engagement between Australian and USN subject matter experts to understand the causes of the unexpected signs of fatigue and the required remediation actions. • Consideration of incorporating an Operational Loads Monitoring System on at least one P-8A aircraft.

Section 6 – Project Maturity

6.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	5	5	5	5	5	5	5	35
2nd Pass Approval	Project Status	5	5	5	6	8	7	5	41
	Explanation	• **Technical Understanding:** The CP with the USN provides insight and access to the P-8A capability. • **Technical Difficulty:** AIR 7000 Phase 2B will be relying on Design Review processes of the USN. The Full Rate Production decision for Increment 2 aircraft was made in January 2014. • **Commercial:** Australia is leveraging off existing mature USN contract arrangements.							



2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
The signed PSFD MoU does not provide explicit detail on those activities which will be undertaken in the interests of both nations by the CP (paid for by shared funding) and those which are Australian unique (paid for in addition to the shared financial contribution). Clearer definition of this division in the MoU or the subordinate documents would have avoided the subsequent negotiation required to resolve this ambiguity.	Contract Management
The CP model has allowed Australia to work closely with the USN in the future requirements definition and planning for the P-8A. This has been to the significant mutual benefit of both the USN and Australia.	Requirements Management

Section 8 – Project Line Management

8.1 Project Line Management in 2014–15

Position	Name
Division Head	AVM Leigh Gordon
Branch Head	AIRCDRE Adam Brown
Program Director	GPCAPT Leon Phillips (to Dec 14) GPCAPT Debbie Richardson (Jan 15–current)
Project Manager	WGCDR Peter Hay

Project Data Summary Sheet[222]

Project Number	**AIR 5077 Phase 3**
Project Name	**AIRBORNE EARLY WARNING AND CONTROL AIRCRAFT**
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)	**$3,893.2m**
2014-15 Budget	**$53.7m**
Project Stage	**Final Contract Acceptance**
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

This project **provides** 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 enhances 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 (to 30 June 2015) is nine per cent less than budgeted primarily due to slippage of Electronic Support Measures and Radar Improvement activities as key personnel assigned to competing AEW&C Tasks; and delays in delivery of spare parts by the contractor pushing non-subcontractor costs into the next financial year.

Project Financial Assurance Statement

As at 30 June 2015, project AIR 5077 Phase 3 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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 **2014-15** financial year.

222 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

The statement previously reported for the 2013-14 financial year, that the project had not applied contingency, was incorrect. The project had applied contingency during the 2013-14 reporting period, for Salaries related to schedule delay.

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 **conduct** 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 **was** completed **in** December 2014 **in support of Final Materiel Release (FMR). In February 2015 the Capability Manager and Project Sponsor representative agreed that all FMR requirements had been met, representing a 27 month delay.** Final Operational Capability (FOC) **was** achieved **on 26 May** 2015, which **represents** a total delay to this milestone of **77** months.

Materiel Capability Delivery Performance

In service Wedgetail aircraft have participated in a number of local and overseas exercises over the past **four** 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 **needed** to be retired in the mission systems, communications and integration areas by December 2014. **The final element of the** agreed set of residual materiel capability **was** delivered **in** December 2014 through In-Service System Software **Build 3.1 (ISB 3.1)**.

Note

The capability assessments and forecasts by the project 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.

Utilising compensation provided by the commercial settlement, the Commonwealth initiated a remediation program to address the remaining identified shortfalls in Data Forwarding, radar performance and system stability. The outputs from the remediation were delivered via two In-Service System Software Builds, with the final software build (ISB 3.1) delivered in December 2014.

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, **known as the AEW&C Radar Collaborative Study (ARCS)**. 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 through an In Service System Software Build in December 2014.

With delivery of the final remediation products complete, technical risks related to Wedgetail acquisition have been retired. A small number of residual activities will be transitioned to relevant sustainment organisations along with their associated low-medium risks.

Other Current Sub-Projects

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 15	Exchange Variation		**(59.3)**	
Jun 15	**Total Budget**		**3,893.2**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Boeing **(SAC)**	**(3,044.8)**		11
	Contract Expenditure – US Government	(101.7)		**12**
	Contract Expenditure – Boeing **(ARCS)**	**(34.6)**		
	Other Contract Payments / Internal Expenses	**(332.7)**		**13**
			(3,513.8)	
FY to Jun 15	Contract Expenditure – Boeing **(SAC)**	**(14.3)**		
	Contract Expenditure – Boeing **(ARCS)**	**(11.1)**		
	Other Contract Payments / Internal Expenses	**(23.7)**		**14**
			(49.1)	
FY to Jun 15	**Total Expenditure**		**(3,562.9)**	
Jun 15	**Remaining Budget**		**330.3**	

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 **$2,972.6m**; 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	**The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.**
13	Out of the **$332.7m** Life to Date expenditure up to 30 June **2014** the majority of expenditure is associated with Prime & Support Equipment costs of **$80.9m**, Facilities related expenses of $63.2m, other project management support costs (legal, project administration, minor asset and ancillary support equipment costs etc) of **$51.8m**, Independent Verification and Validation Services of $50.3m, In Service Support expenses of **$34.0m**, travel costs of $27.3m, and External Service Provider costs of **$25.2m**.
14	Out of the **$23.7m** expenditure up to **30 June 2015**, the majority is associated with In Service Support expenses of **$13.4m**, Prime and Support Equipment costs of **$7.2m**, External Service Provider costs of **$2.4m**, and other project management support costs (travel, legal, DSTO support, administration etc) of approximately **$0.7m**.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
63.9	**51.1**	**53.7**	**The variation is due to reprogramming of improvements to the fire detection system.**
Variance $m	**(12.8)**	**2.6**	Total Variance ($m): **(10.2)**
Variance %	**(20.0)**	**5.1**	Total Variance (%): **(16.0)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Variation mainly due to slippage of: Electronic Support Measures and Radar Improvement activities as key personnel assigned to competing AEW&C Tasks; delayed delivery of 3 aircraft spares; reduced Electronic Warfare spares cost due to removal of item and cost refinement as final deliveries occur; delays in signature of Reliability Improvement contract; and other items. Offset by increased activity on Broadcast Intelligence remediation due to revised schedule.**
		(4.9)	Overseas Industry	
		(0.8)	Local Industry	
			Brought Forward	
			Cost Savings	
		0.7	FOREX Variation	
		0.4	Commonwealth Delays	
			Additional Government Approvals	
53.7	**49.1**	**(4.6)**	**Total Variance**	
		(8.6)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Boeing **(SAC)**	Dec 00	2,257.7	**3,059.1**	Variable	DEFPUR 101	1, **5**
US Government	Jul 01	97.9	105.7	FMS	FMS	2, **3, 5**
Boeing **(ARCS)**	Jun 10	5.6	**52.9**	Fixed	ASDEFCON (Services)	4**, 5**

Notes	
1	Current SAC Price is now shown as Expenditure to Date (**$3,059.1m** at **30 June 2015**) (includes Performance Incentive Fee and IDA as described at Section 2.1). **The Contract is now complete.**
2	Current US Government Price is shown as Expenditure to Date ($101.7m at 30 June **2015**) plus remaining Balance ($4.0m).
3	**The scope of this contract is explained further below.**
4	Reflects further additions to ARCS for remediation work scope. Contract value as at **30 June 2015** is based on Expenditure to Date **($45.7m at 30 June 2015)** and remaining commitment at current exchange rates **($7.2m)**.
5	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Boeing **(SAC)**	4	6	Boeing 737-700 Increased Gross Weight AEW&C Aircraft	**1**
US Government	N/A	N/A	AEW&C Hardware and US Air Force Support	
Boeing **(ARCS)**	N/A	N/A	Radar Subsystem Performance Remediation	

Major equipment received and quantities to 30 Jun 15
Acceptance of six aircraft, capable of supporting **high-end** War fighting tasking. **Acceptance of Flight and Mission training simulators.** Engineering and maintenance arrangements established.

Notes	
1	**In April 2004, government gave approval to amend the contract for supply of an additional two aircraft.**

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

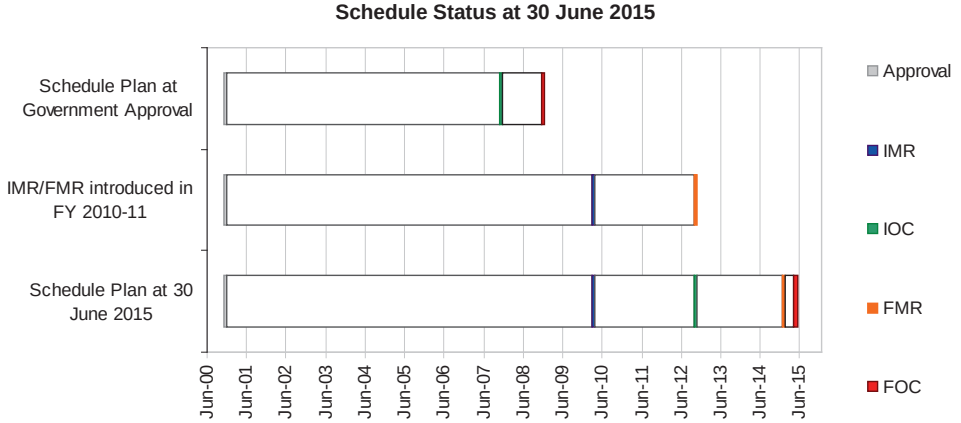
Notes	
1	These dates reflect the completion of testing relating to the Contract Specification and do not include testing associated with the additional compensatory work agreed under the commercial settlements.
2	Airborne Mission System (AMS) integration challenged progress of the AMS development and 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	**Feb 15**	**27**	
Final Operational Capability (FOC)	Dec 08	**May 15**	**77**	

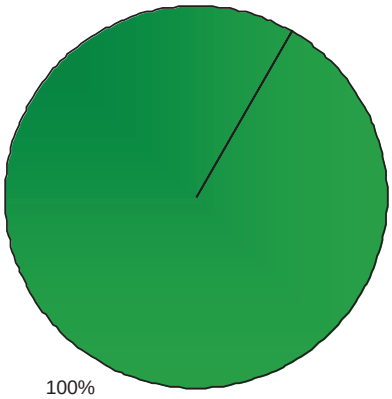
Notes

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 – Materiel Capability Delivery Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
 100%	**Green:** Performance requirements for **FMR and FOC** have been met. **FMR was achieved in February 2015 and FOC was achieved in May 2015.** **Amber:** **N/A** **Red:** N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Initial acceptance of two aircraft.**	**Achieved**
Final Materiel Release (FMR)	**Final delivery of six aircraft capable of high-end war fighting with supporting systems and logistics.**	**Achieved**

Section 5 – Major Risks and Issues

5.1 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 2014-15)	
Description	Remedial Action
N/A	N/A

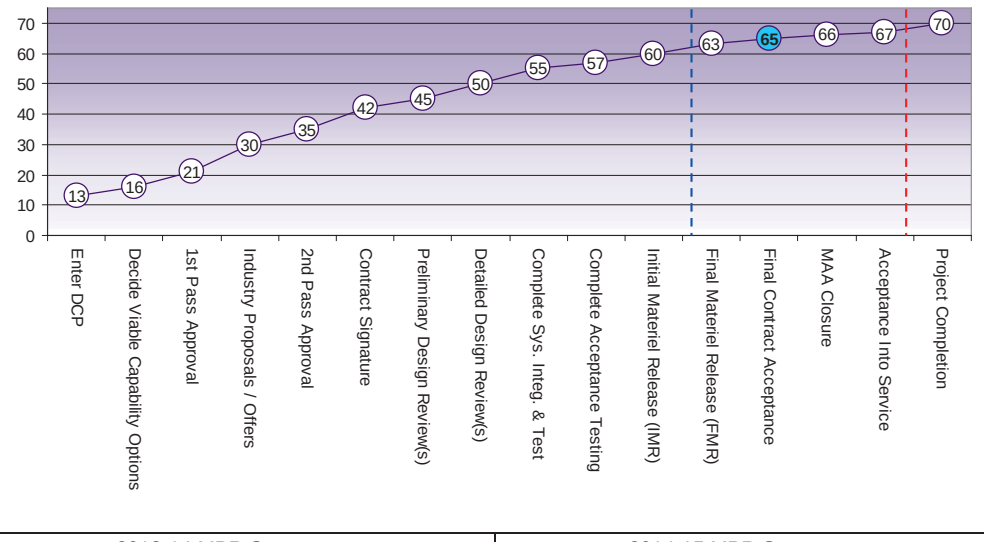
5.2 Major Project Issues

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 **transition to in-service management.**

Section 6 – Project Maturity

6.1 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	10	**9**	**10**	**10**	**10**	**9**	**10**	**68**
	Explanation	• **Technical Understanding: Aircraft is on operations and undergoing modifications to meet operational requirements.** • **Technical Difficulty: Operational Test and Evaluation has been successfully completed.** • **Operations and Support: Materiel and support systems are fully matured with aircraft currently on operations.**							



2013-14 MPR Status - - - - | 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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
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 **Governance**

Section 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	AVM Leigh Gordon
Branch Head	AIRCDRE Adam Brown
Project Director	Mr Peter Kiss
Project Manager	Mr Brian Harrison

Project Data Summary Sheet[223]

Project Number	**AIR 9000 Phase 2, 4 and 6**
Project Name	**MULTI-ROLE HELICOPTER**
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)	**$3,747.5m**
2014-15 Budget	**$299.4m**
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 as a Project of Concern.

Cost Performance

In-year

The project **has spent $300.5m against a budget of $299.4m to June 2015. The positive variance of $1.1m is due to minor adjustments to payment phasings and foreign currency gains.**

Project Financial Assurance Statement

As at 30 June 2015, project AIR 9000 Phase 2, 4 & 6 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

223 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Contingency Statement

The project has applied contingency in the financial year primarily for the treatment of various technical and integration risks**, including acquisition of a replacement cargo hook and Helmet Mounted Sight Display configuration upgrade.**

Schedule Performance

The project stopped accepting aircraft in November 2010 due to a number of technical and reliability issues, which 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 **Airbus Group Australia Pacific's (AGAP), formerly Australian Aerospace**, 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 (#**33**) being accepted in **December** 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. **However, Navy Initial Operational Capability (IOC) was achieved in February 2015 and Army IOC achieved in December 2014.**

Thirty-three aircraft have been accepted into service. 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 **2015 nine** of the thirteen aircraft had been retrofitted and accepted back into service, with the thirteenth aircraft scheduled for February 2016.

Remediation to rectify concerns regarding configuration management issues of production aircraft has slowed the acceptance of production aircraft, this in turn will slow the rate of capability growth. The Chief of Army has agreed to delay introduction of MRH90 into 6th Aviation Regiment by 3 years, extending the Black Hawk fleet to 2022 to mitigate the risk to capability. The delayed introduction to 6th Aviation Regiment will mean the growth in total MRH90 flying hours will temporarily stabilise below the planned mature rate.

Both Full Flight Mission Simulators **have been** accepted **(the first** in August 2013 **and the second in October 2014)**.

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 project 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 **AGAP** 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 **In-Service Date** 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 **AGAP** 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 **AGAP'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

Aircraft system lack of maturity has affected the certification schedule of the MRH90 and subsequently the declaration of capability milestones. **Cabin integration issues**, including the Fast Roping and Rappelling Device, the self defence gun mount **and** the cabin seating have impacted the achievement of these capability milestones.

The growing number of engineering change proposals has impacted aircraft delivery. In addition, the project is managing issues affecting MRH90 Search / Landing Light, software upgrades to the Full Flight Mission Simulators, the Electronic Warfare System and the Identify Friend or Foe Mode 4.

The remediation of these deficiencies and issues through replacement or re-design will draw upon significant engineering, logistic and commercial resources and will therefore form the critical path toward achieving the Final Materiel Release.

Other Current Sub-Projects

AIR 9000 Phase 7 Helicopter Aircrew Training System (HATS): HATS will be an important link in the training continuum for inductees to the MRH 90 training system.

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 15	Exchange Variation		**(247.6)**	
Jun 15	**Total Budget**		**3,747.5**	
	Project Expenditure			
Prior to Jul 14	Contract expenditure – **AGAP**	**(2,140.2)**		
	Contract expenditure – CAE Australia	**(145.4)**		
	Other Contract Payments / Internal Expenses	**(144.1)**		7
			(2,429.7)	
FY to Jun 15	Contract expenditure – **AGAP**	**(234.8)**		
	Contract expenditure – CAE Australia	**(19.6)**		
	Other Contract Payments / Internal Expenses	**(46.1)**		**8**
			(300.5)	
Jun 15	**Total Expenditure**		**(2,730.2)**	
Jun 15	**Remaining Budget**		**1,017.3**	

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 **Full Flight Mission Simulator**.
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.
8	**Other expenditure: $31.5m for Spares and Support and Test Equipment, and $14.6m for operating expenditure, contractors, consultants, contingency and other capital expenditure not attributable to the aforementioned contracts.**

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
285.7	**267.7**	**299.4**	**The variance between PBS and PAES estimates is due to foreign exchange reduction and reprogramming of prime contract milestone deliverables. The variance between PAES and Final Plan estimates primarily reflects delivery of Spares and Support and Test Equipment.**
Variance $m	**(18.0)**	**31.7**	Total Variance ($m): **13.7**
Variance %	**(6.3)**	**11.8**	Total Variance (%): **4.8**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The $1.1m overspend reflects:** • **adjustments to payment phasings across various contracts $1.8m; and** • **foreign currency payment gains to June (-$0.7m).**
			Overseas Industry	
		1.8	Local Industry	
			Brought Forward	
			Cost Savings	
		(0.7)	FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
299.4	**300.5**	**1.1**	**Total Variance**	
		0.0	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
AGAP	Jun 05	846.3	**2,805.1**	VARIABLE	ASDEFCON (Strategic)	1, 2, 3, 4
CAE Australia	Dec 07	180.5	**176.3**	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 System** (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. **Since 1 July 2014, there have been three key CCPs processed for a new cargo hook, for the Aircraft Systems Trainer and for Helmet Mounted Sight Display Modification from Configuration 1 to Configuration 3.**
4	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
AGAP	12	47	MRH90 Aircraft	1
CAE Australia	2	2	Full Flight and Mission Simulator	

Major equipment received and quantities to 30 Jun 15
33 MRH aircraft have been accepted to date **with some remaining for retrofit to achieve the current baseline configuration**. **Both Full Flight Mission Simulators** 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 more developmental nature of the aircraft system, with the MRH90 variant being unique in some ways.
2	Ground Mission Management System software delays are directly attributable to aircraft schedule delivery slip.
3	Full Flight Mission Simulators 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	**N/A**	Dec 07	0	
	MRH aircraft #05 (First Australian built aircraft)	Dec 08	**N/A**	Dec 08	0	
	MRH aircraft #**33** (Most Recent)	**Dec 12**	**Nov** 14	**Dec** 14	**24**	10
	MRH aircraft #**34** (Next aircraft)	**Feb 13**	**Mar 15**	**Oct 15**	**32**	10
	MRH aircraft #47 (Final Aircraft)	Jul 17	Jul 17	Jul 17	0	

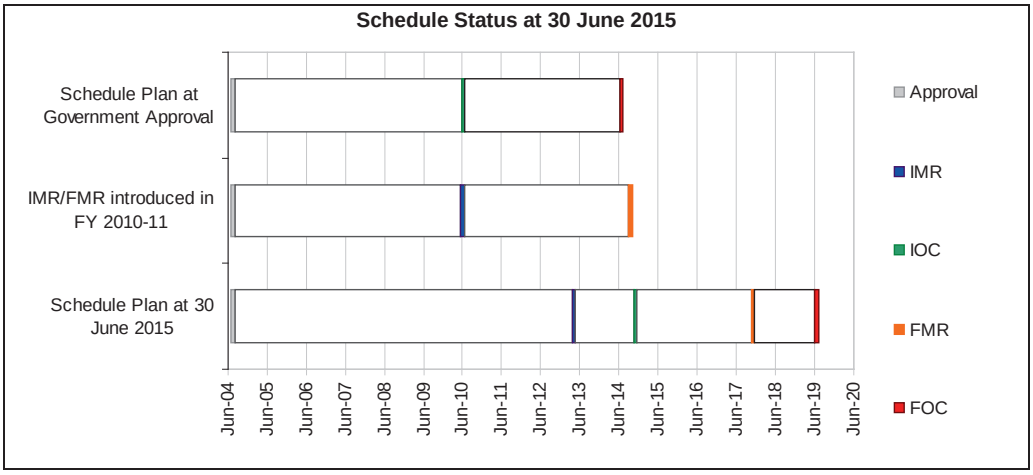
Notes	
1	Phases 4/6 were rolled into the MRH Program from aircraft 13 onwards, which increased the number of aircraft from 12 to 46.
2	The acceptance and test-readiness of the Ground Mission Management System (GMMS) was broken into six lots post contract signature. The lots compose of GMMS deliverables 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. 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 Full Flight Mission 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 **AGAPs** 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 (#**33**) being accepted in **December** 2014.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

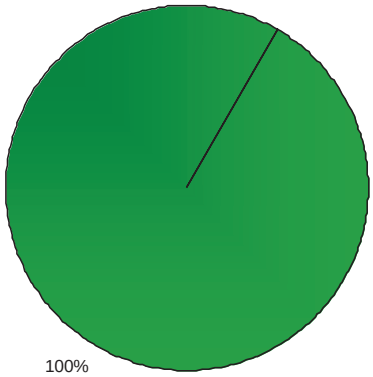
Item		Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Army/Navy	Jun 10	May 13	35	1
Initial Operational Capability (IOC)	Navy	Jul 10	**Feb 15**	**55**	2
	Army	Apr 11	**Dec** 14	**44**	3
Final Materiel Release (FMR)	Army/Navy	Oct 14	Dec 17	38	4
Final Operational 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 **AGAPs** 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 (#**33**) being accepted in **December** 2014. IMR was declared on 13 May 2013, based on 6 Product Baseline **00**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 – Materiel Capability Delivery Performance

4.1 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 **such as cargo hook and the replacement mission troop seats** are being progressed in accordance with agreed operational milestones. **Amber:** **N/A** **Red:** N/A

Note
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	• **Six Product Baseline 003 aircraft with associated role equipment to support Initial Operational Capability milestones;** • **Issue of Australian Military Type Certificate and Service Release;** • **Completion of all MRH90 facilities at Townsville, Oakey and Nowra;** • **Establishment of mature planned contractor support to maintenance and logistics; and**	**Achieved**

	• **Provision and certification of Mission Management systems necessary for Initial Operational Capability milestones.** • **Initial Material Release was achieved in May 2013.**	
Final Materiel Release (FMR)	• **47 aircraft configured to the contractual baseline including configuration amendments specified in Deeds 1 and 2 (one aircraft to be used as a Maintenance Training Device);** • **Role equipment delivered to support aircraft;** • **A mature sustainment organisation capable of discharging all in-service responsibilities; including logistic and training requirements;** • **Mature training system with all training devices accepted, supported by an effective, functioning training organisation; and** • **All facilities and support equipment, required to support the capabilities accepted.** **The project is focused on the timely delivery of capability to meet future operational milestones. This includes the delivery of crucial products such as the replacement Cargo Hook, the Fast Roping and Rappelling Device and a Common Ground Mission Management System.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that 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. 5. Leverage NATO Helicopters 90 (NH90) community solutions.
Achievement of **Initial Operating Capability** (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. **This risk has been retired as a result of achieving IOC.**
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
N/A	**N/A**

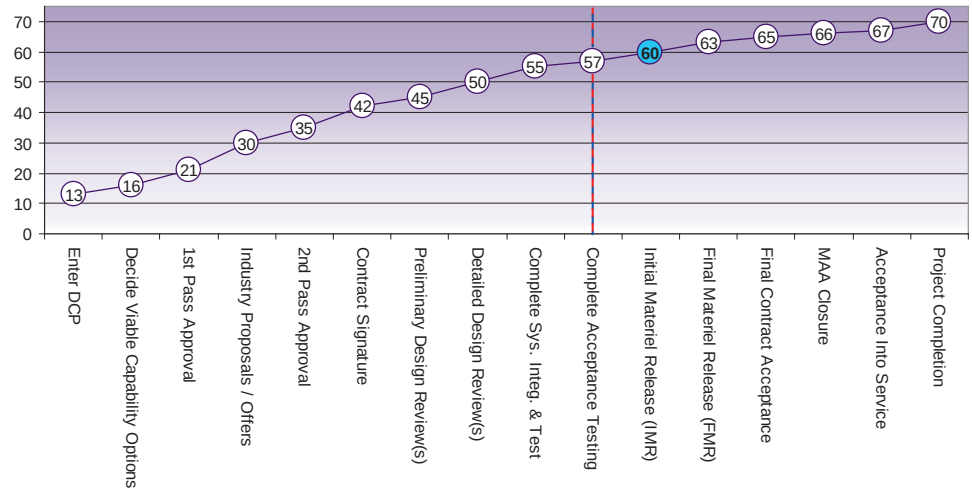
5.2 Major Project Issues

Description	Remedial Action
Upgrading both **Full Flight Mission Simulator** to Sustainment Software Build 1.1 will be delayed due to an inability to negotiate a sustainable upgrade cost.	1. Work with industry to identify and optimise cost drivers. 2. Investigate alternate contracting strategies.
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 electronic warfare system fitted to the MRH90 is not performing to specification during specific aircraft manoeuvres.	**1. Industry to conduct a technical assessment of the issues identified and provide recommendations for remediation.** **2. CoA to assess the validity of the recommendations with system specialists DSTO.** **3. Verification and validation of the remediation activities by Industry.** **4. Implement solution to meet capability requirements.**
The Identification Friend or Foe Mode 4 fitted to the MRH90 is not performing during specific scenarios.	**1. Assessment by Industry to identify the technical issues.** **2. CoA and Industry to assess the validity of the remediation options.** **3. Industry to implement solution across the MRH90 fleet.**
The growing number of engineering change proposals has impacted the timing and effective delivery of aircraft.	**1. Update MRH Configuration Control Board process to achieve Service Release of design changes prior to Commonwealth acceptance of aircraft.** **2. Closer alignment of acquisition and sustainment engineering processes.** **3. Final aircraft configuration implementation plan to be prioritised.**
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. **This issue has been downgraded to medium as a result of the close management and detailed planning of test activities.**
The Service Release and Operational capability will be affected by the **Fast Roping and Rappelling Device** being deemed not suitable leading to an impact on schedule and performance.	1. Interim **Fast Roping and Rappelling Device** solution has been design accepted and service release has been achieved. 2. Identify design options for enduring solution.

Section 6 – Project Maturity

6.1 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: Initial Material Release and Initial Operating Capability milestones have** been achieved and detailed planning for remaining activities to achieve **Final Materiel Release** 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 **are** essentially complete, **with activities on-going for outstanding elements such as cargo hook and mission troop seat.** 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.							



2013-14 MPR Status - - - - 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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
Better arrangements should be put in place to ensure appropriate considerations of contractor performance occur before the Commonwealth enters into similar contracts with the same contractor.	**Contract Management**

Section 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	RADM Tony Dalton
Branch Head	BRIG Andrew Mathewson
Project Director	**COL** James Allen
Project Manager	Mr Hilton Hunter

Project Data Summary Sheet[224]

Project Number	**AIR 5349 Phase 3**
Project Name	**EA-18G GROWLER AIRBORNE ELECTRONIC ATTACK CAPABILITY**
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)	**$3,531.4m**
2014–15 Budget	**$1,202.5m**
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 **(AEA)** capability for the Australian Defence Force (ADF). **In December 2014 the scope of the project was expanded to include Electronic Warfare (EW) training ranges west of Amberley in Queensland and in Delamere in the Northern Territory (Mobile Threat Training Emitter System (MTTES)), plus air-to-air and anti-radiation weapons for raise-train-sustain (RTS) activities.**

1.2 Current Status

Cost Performance

In-year

The project spent $1,241.9m against a revised in-year budget of $1,202.5m, including higher value FMS case payments for aircraft and AEA Kits, of which some was originally planned in Financial Year 2015-16. Exchange loss on the large FMS payment was the main driver to the resultant variance.

Project Financial Assurance Statement

As at 30 June 2015, project AIR 5349 Phase 3 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

224 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

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 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. **Aircraft production remains on schedule, with the first two Australian EA-18Gs due to roll off the Boeing St Louis production line in July 2015. Development and test of aircraft software is well underway and on schedule for completion to meet Australian airworthiness board timelines for Australian flight operations to commence from in-service date (ISD).**

The first Australian aircrew completed conversion onto the EA-18G in early 2015 and are now embedded in USN operational Growler Squadrons gaining experience for the stand-up of a Growler-equipped No. 6 Squadron from January 2017.

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 TJS. 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 Advanced Medium Range Air to Air Missiles (AMRAAM) weapons. Additional AMRAAM tactical missiles and Captive Air Training Missiles (CATMs) are being procured for the expanded air combat fleet. **The AIM-9X Sidewinder Air-to-Air missile as integrated on the F/A-18F Super Hornet is also being integrated onto the EA-18G with additional CATMs and tactical missiles for RTS approved for acquisition in December 2014.**

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. **Further, HARM and AARGM tactical missiles were approved for acquisition in December 2014 for RTS activities.**

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.

The December 2014 approval of MTTES will provide the ability for in-country EA-18G aircrew training through establishment of EW training range capabilities in the Amberley Western Training Area and at Delamere in the Northern Territory. Establishment of these ranges will ensure EA-18G aircrew can train effectively without needing frequent deployments to use United States electronic combat ranges for skills development. The Delamere range in particular will provide opportunities for other ADF units and visiting forces for high-end EW training.

Note

The capability assessments and forecasts by the project 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 Boeing EA-18G Growler aircraft, ALQ-99 TJSs, 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 EW 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.

In December 2014 the scope of AIR 5349 Phase 3 was expanded to include EW training ranges west of Amberley in Queensland and Delamere MTTES in the Northern Territory, plus air-to-air and anti-radiation weapons for RTS activities. Additionally, ongoing EA-18G and F/A-18F aircrew training in the US was approved.

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

Over the last year, the majority of major project risks relating to availability of flight test assets have been successfully mitigated. Establishment of Growler support contracts; in particular, the aircraft sustainment contract is a focus area of the Project Office. Although in the early stages of acquisition, several risks have also been identified with supply of MTTES hardware to meet schedule, as well as the timely establishment of MTTES operation and maintenance support contracts.

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 2, through a Memorandum of Agreement (MOA) with AIR 5349 Phase 3, is managing the acquisition and introduction into service of the EA-18G weapons (AIM-120 AMRAAM, AIM-9X Sidewinder, AGM-88B HARM and AGM-88E AARGM) and expendables.**

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	Subsequent Second Pass Approval – New build aircraft	1,486.1		**2**
Dec 14	**Real Variation – Scope**	**200.6**		**3**
			1,686.7	
Jun 15	Exchange Variation		**689.4**	
Jun 15	**Total Budget**		**3,531.4**	
	Project Expenditure			
Prior to Jul 14	**Contract Expenditure – US Government (AT-P-SCI)**	**(213.8)**		**4**
	Contract Expenditure – US Government (AT-P-LEN)	**(184.0)**		**4**
	Contract Expenditure – US Government (AT-P-GTM)	**(4.8)**		**4**
	Contract Expenditure – US Government (AT-P-AZN)	**(2.4)**		**4**
	Other Contract Payments / Internal Expenses	**(2.2)**		**5**
			(407.2)	
FY to Jun 15	Contract Expenditure – US Government (AT-P-SCI)	**(877.8)**		**4**
	Contract Expenditure – US Government (AT-P-LEN)	**(336.9)**		**4**
	Contract Expenditure – US Government (AT-P-GTM)	**(3.2)**		**4**
	Contract Expenditure – US Government (AT-P-AZN)	**(2.0)**		**4**
	Contract Expenditure – US Government (AT-P-GUW)	**(1.8)**		**4**
	Contract Expenditure – US Government (AT-D-YLB)	**(0.9)**		**4**
	Other Contract Payments / Internal Expenses	**(19.3)**		**5**
			(1,241.9)	
FY to Jun 15	**Total Expenditure**		**(1,649.1)**	
Jun 15	**Remaining Budget**		**1,882.3**	

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	**Government approval in December 2014 for inclusion of Growler Enabling capabilities – MTTES and RTS Weapons.**
4	**The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.**
5	Other expenditure comprises: Operating expenditure, contractors, consultants, other capital expenditure not attributable to the aforementioned contracts and minor contract expenditure.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	DMO's Explanation of Material Movements
797.4	**728.5**	**1,202.5**	**The variation between PBS and PAES estimates is primarily driven by moderated forecast Foreign Military Sales case expenditure. Variance between PAES and Final Plan estimates is due to the higher value June 2015 FMS payment sought to cover forecast aircraft production and AEA kit costs, resulting in bring forward of payments from Financial Year 2015-16.**
Variance $m	**(68.9)**	**474.0**	Total Variance ($m): **405.1**
Variance %	**(8.6)**	**65.1**	Total Variance (%): **50.8**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The final estimate plan was adjusted to reflect the higher value June 2015 FMS payment sought to cover forecast aircraft production and AEA kit costs. Exchange loss on the large FMS payment was the main driver to the resultant variance.**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
		39.4	FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
1,202.5	**1,241.9**	**39.4**	**Total Variance**	
		3.3	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
US Government (AT-P-LEN)	Aug 12	944.2	**870.3**	Reimbursement	FMS	1, **2**
US Government (AT-P-AZN)	May 13	36.2	**45.5**	Reimbursement	FMS	1, **2**
US Government (AT-P-SCI)	Jul 13	1,313.1	**1,517.5**	Reimbursement	FMS	1, **2**
US Government (AT-P-GTM)	Sep 13	19.3	**85.7**	Reimbursement	FMS	1, **2, 3**
US Government (AT-P-GUW)	**Feb 15**	**88.6**	**103.4**	**Reimbursement**	**FMS**	**1, 2**
US Government (AT-D-YLB)	**Feb 15**	**84.6**	**98.9**	**Reimbursement**	**FMS**	**1, 2, 4**

Notes	
1	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).
2	**The scope of this contract is explained further below.**
3	**The large increase in the value of this contract reflects an increase in the training already being procured.**
4	**This contract is for the acquisition of AMRAAM missiles and is being managed by Guided Weapons Branch through an FMS case established as part of the AIR 5349 Phase 2 Bridging Air Combat Capability Project.**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
US Government (AT-P-LEN)	Various	Various	Advanced Electronic Attack Kits, ALQ99 TJSs, 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	
US Government (AT-P-GUW)	**Various**	**Various**	**EW training ranges systems including threat emitter systems, range control and debrief systems, associated IT, spares, support equipment, integration and test services.**	
US Government (AT-D-YLB)	**Various**	**Various**	**Weapons – AIM-120 C7 AMRAAM air-to-air missiles and associated support equipment and infrastructure**	

Major equipment received and quantities to 30 Jun 15
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 Requirements	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	**N/A**	**TBD**	**7**	1, **3**
	New-build TOFTs	Nov 14	**N/A**	**Apr 15**	**5**	**2**
	Modified Integrated Visual Environment Maintenance Trainers (IVEMTs)	Nov 14	**N/A**	**Jul 15**	**8**	**3**
	MTTES – Western Training Area	**TBD**	**N/A**	**TBD**	**0**	**4**

	MTTES – Delamere Air Weapons Range	**TBD**	**N/A**	**TBD**	**0**	**4**
Preliminary Design	EA-18G Aircraft	N/A – Military Off the Shelf				
	Aircraft Software SCS H10A	Jun 14	N/A	Jun 14	0	**5**
	Mission Planning System	Aug 14	N/A	**Sep 14**	**1**	
	ALQ-99 TJS	N/A – Military Off the Shelf				
	Modified TOFTs	May 15	**N/A**	**TBD**	**4**	1**, 3**
	New-build TOFTs	May 15	**N/A**	**Feb 16**	**9**	**2**
	Modified IVEMTs	May 15	**N/A**	**Oct 15**	**5**	**3**
	MTTES – Western Training Area	**TBD**	**N/A**	**TBD**	**0**	**4**
	MTTES – Delamere Air Weapons Range	**TBD**	**N/A**	**TBD**	**0**	**4**
Critical Design	EA-18G Aircraft	N/A – Military Off the Shelf				
	Aircraft Software SCS H10A	Jun 14	N/A	Jun 14	0	**5**
	Mission Planning System	Sep 14	N/A	**Jan 15**	**4**	
	ALQ-99 TJS	N/A – Military Off the Shelf				
	Modified TOFTs	May 15	**N/A**	**TBD**	**4**	1**,3**
	New-build TOFTs	May 15	**N/A**	**Feb 16**	**9**	**2**
	Modified IVEMTs	May 15	**N/A**	**Oct 15**	**5**	**3**
	MTTES – Western Training Area	**TBD**	**N/A**	**TBD**	**0**	**4**
	MTTES – Delamere Air Weapons Range	**TBD**	**N/A**	**TBD**	**0**	**4**

Notes	
1	**Modified TOFT's contract awarded April 2015. Forecast achievement dates to be determined.**
2	**Revised date reflects post contract award schedule.**
3	**Revised date reflects delay in contract award and updated schedule.**
4	**MTTES schedule has not been baselined and US Government work remains pre-contract.**
5	SCS H10A Preliminary Design Review **(PDR)** and Critical Design Review **(CDR)** (held by US Navy) was a combined event, hence dates are the same.

3.2 Contractor Test and Evaluation Progress

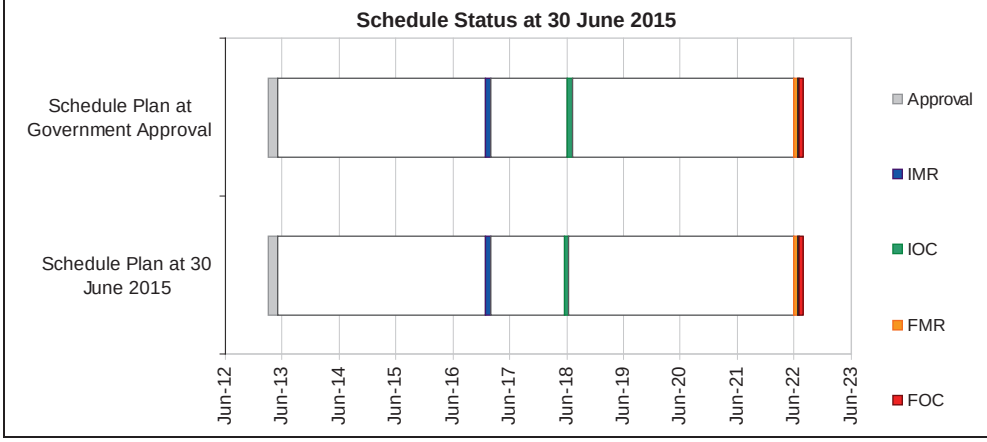
Test and Evaluation	Major System/ Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	EA-18G Aircraft	Jun 16	N/A	**Jul 16**	0	**1**
	Aircraft SCS H10A	Jul 16	N/A	Jul 16	0	**1**
	Mission Planning System	Jul 16	N/A	Jul 16	0	**1**
	ALQ-99 TJS	Jul 16	N/A	Jul 16	0	**1**
	Modified TOFTs	Sep 16	N/A	**TBD**	0	**2**
	New-build TOFTs	Sep 17	N/A	Sep 17	0	
	Modified IVEMTs	Oct 16	N/A	**Sep 16**	0	
	MTTES – Western Training Area	**TBD**	**N/A**	**TBD**	**0**	**3**

	MTTES – Delamere Air Weapons Range	**TBD**	**N/A**	**TBD**	**0**	**3**
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	**TBD**	0	**2**
	New-build TOFTs	Sep 17	N/A	Sep 17	0	
	Modified IVEMTs	Nov 16	N/A	Nov 16	0	
	MTTES – Western Training Area	**TBD**	**N/A**	**TBD**	**0**	**3**
	MTTES – Delamere Air Weapons Range	**TBD**	**N/A**	**TBD**	**0**	**3**

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.
2	**Modified TOFTs contract awarded April 2015. Forecast achievement dates to be determined.**
3	**MTTES schedule has not been baselined and US Government work remains pre-contract.**

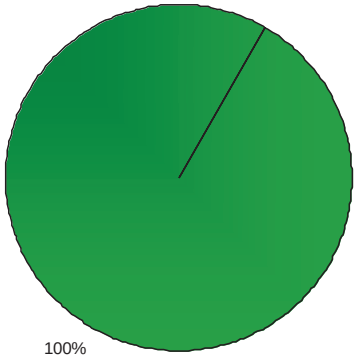
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	**Feb 17**	**Feb 17**	0	
In-Service Date (ISD)	**Jan 17**	**Jan 17**	**0**	
Materiel Release 2 (MR2)	**Oct 17**	**Oct 17**	**0**	
Materiel Release 3 (MR3)	**Jul 18**	**May 18**	**0**	
Materiel Release 4 (MR4)	**Mar 19**	**Feb 19**	**0**	
Materiel Release 5 (MR5)	**Jul 19**	**Jun 19**	**0**	
Materiel Release 6 (MR6)	**Mar 20**	**Feb 20**	**0**	
Initial Operational Capability (IOC)	Jul 18	**Jun 18**	0	
Final Materiel Release (FMR)	Jul 22	Jul 22	0	
Final Operational Capability (FOC)	Jul 22	Jul 22	0	



Section 4 – Materiel Capability Performance

4.1 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:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	• **At least six new-build EA-18G aircraft in USA and associated equipment delivered to support Initial Operational Test and Evaluation (IOT&E) programs.** • **Sufficient aircrew and maintenance personnel to support Growler operations from ISD.** • **Initial in-country aircrew training.** **IMR is a future dated milestone projected for February 2017.**	**Not achieved**
Final Materiel Release (FMR)	• **All 12 EA-18G aircraft delivered.** • **All assets, equipment and spares delivered.** • **All acquisition tasks completed and transitioned to sustainment organisation completed.** **FMR is a future dated milestone projected for July 2022.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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.	**The contract for delivery of the test asset was awarded in July 2014 and the post contract delivery schedule meets the need date for integration testing. The contractor remains on track to deliver the asset on schedule. Accordingly, this risk has reduced in likelihood over the last year and has been downgraded, now rated medium.**
Emergent Risks (risk not previously identified but has emerged during 2014–15)	
Description	Remedial Action
There is a possibility that the Growler support contract will not be in place to support post ISD activities.	**Growler Statement of Work (SOW) requirements included in SOW and negotiated with contractor for Super Hornet and Growler sustainment. Early engagement with selected contractor to ensure contact negotiated and in place to meet Growler ISD requirement.**
There is a risk that the level of Australian unique development required to meet the MTTES requirements will need design and manufacture effort that cannot be completed within the MAA milestone dates (MR2, MR4 & MR6).	**MTTES is currently in initial design phases. During the scoping phase of the project, the team will aim to identify areas of greatest technical risk and treat as appropriate.**
There is a possibility that the support contract for MTTES – Western Training Area will not be established in time to meet MR2 (October 2017) schedule.	**A Contract Change Proposal (CCP) to an in-place contract is being considered to cover initial MTTES support in the Western Training Area.**

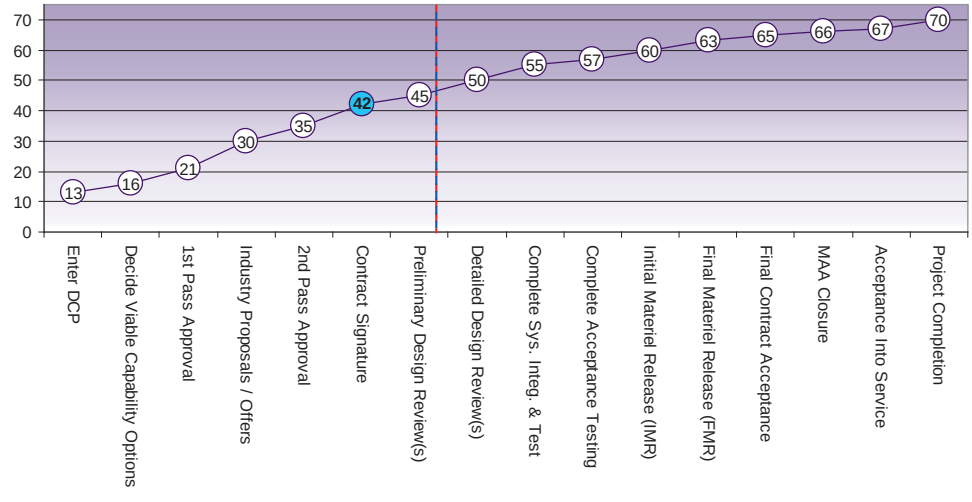
5.2 Major Project Issues

Description	Remedial Action
N/A	N/A

Section 6 – Project Maturity

6.1 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 **increasing** 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 MPR Status - - - - | 2014–15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014–15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	AVM Leigh Gordon
Branch Head	AIRCDRE Axel Augustin **(to Dec 14)** **AIRCDRE Catherine Roberts (Dec 14–current)**
Project Director	Mr Gavin Healy
Project Manager	WGCDR Steve Green **(to Nov 14)** **WGCDR Darren Spee (Dec 14–current)**

Project Data Summary Sheet[225]

Project Number	**AIR 9000 Phase 8**
Project Name	**FUTURE NAVAL AVIATION COMBAT SYSTEM**
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)	**$3,408.5m**
2014–15 Budget	**$670.8m**
Project Stage	**Initial Materiel Release**
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

AIR 9000 Phase 8 **is acquiring** 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 **(Mk)** 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

In-year variance of $14.7m was mainly due to earlier than expected payments against the acquisition FMS case for the MH-60R Seahawk helicopters. This has been offset by slow billing for non-FMS procurements, and minor delays with ANZAC Ship Integration. The project also experienced a foreign exchange loss of $16.6m for the 2014-15 Financial Year.

Project Financial Assurance Statement

As at 30 June 2015, project AIR 9000 Phase 8 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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.

225 Notice to the reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Schedule Performance

The next major milestone will be Initial Materiel Release (IMR), defined as five aircraft in United States Navy (USN) configuration accepted, **with** sufficient Explosive Ordnance **(EO)** to support Introduction Into Service and one flight at sea during first quarter 2015. **The project declared IMR in March 2015, three months ahead of schedule and expects Capability Manager sign-off of IMR in July 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 **twelve** aircraft have now been accepted**, with aircraft six remaining in the USA with industry as the prototype aircraft for ADF Unique Mission System Options – Phase 1 verification activities**. 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 i**n Australia having spent 12 months operating up to four aircraft alongside the USN in Florida, USA. The Seahawk Simulation and Warfare Centre and new MH-60R Squadron complex at HMAS *Albatross* were accepted in September and December 2014 respectively.**

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. 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 **202** MH-60Rs and flown in excess of **292,000** flight hours as at **June 2015**. The Australian Defence Force (ADF) has accepted delivery of **twelve** MH-60R aircraft, as of **30 June 2015** 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 project 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 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 USN will develop the modifications for incorporation in Australian and USN MH-60R aircraft.**

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

The Project Office (PO) is currently managing seven open risks with the highest level of pre-mitigation risk being medium, whilst also managing seven open issues. However, there are currently no major risks or issues in achieving the MH-60R operational capability **milestones** on schedule.

Other Current Sub-Projects

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.

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 15	Exchange Variation		**418.0**	
Jun 15	**Total Budget**		**3,408.5**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – US Government (AT-P-SCF)	**(850.2)**		**5**
	Contract Expenditure – US Government (AT-P-AHV)	**(20.0)**		**5**
	Contract Expenditure – US Government (AT-B-ZBZ)	**(8.9)**		**5**
	Contract Expenditure – Navy – Empire Test Pilots' School	**(4.8)**		**6**
	Contract Expenditure – US Government (AT-P-GTC)	**(2.1)**		**5**
	Other Contract Payments / Internal Expenses	**(35.4)**		**7**
			(921.4)	
FY to Jun 15	Contract Expenditure – US Government (AT-P-SCF)	**(592.8)**		**5**
	Contract Expenditure – US Government (AT-P-AHV)	**(46.5)**		**5**
	Contract Expenditure – US Government (AT-B-ZBZ)	**(10.6)**		**5**
	Contract Expenditure – US Government (AT-P-GTC)	**(1.4)**		**5**
	Contract Expenditure – Navy – Empire Test Pilots' School	**(3.9)**		**6**
	Other Contract Payments / Internal Expenses	**(30.3)**		**7**
			(685.5)	
Jun 15	**Total Expenditure**		**(1,606.9)**	
Jun 15	**Remaining Budget**		**1,801.6**	

Notes	
1	This amount represents the **project** 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	**The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.**

6	Project contribution to reimburse Navy for the training of a Test Pilot and Flight Test Engineer at the Empire Test Pilots' School.
7	Other includes travel, contractor support, legal support, **Non-FMS Procurements, ANZAC and AWD Ship Modifications,** and general support activities.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	DMO's Explanation of Material Movements
504.7	**511.7**	**670.8**	**The variation is primarily due to an acceleration of FMS payments for MH-60R Seahawk helicopters which resulted in a foreign exchange loss of $14.8m for the case for this financial year.**
Variance $m	**7.0**	**159.1**	Total Variance ($m): **166.1**
Variance %	**1.4**	**31.1**	Total Variance (%): **32.9**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
		0.5	FMS	**Year end variance was due to earlier than expected payments against FMS case for the MH-60R Seahawk helicopters which has been partially offset by payments not progressing as planned for the Jacksonville Deployment (AT-P-GTC) and Hellfire Missiles (AT-P-AZP) due to disbursement data not warranting payment. In addition there has been slow billing for the non-FMS procurements, and minor delays with ANZAC Ship Integration. The project also experienced a foreign exchange loss of $16.6m.**
			Overseas Industry	
		(2.4)	Local Industry	
			Brought Forward	
			Cost Savings	
		16.6	FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
670.8	**685.5**	**14.7**	**Total Variance**	
		2.2	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
US Government (AT-P-SCF)	Jun 11	2,090.3	**2,410.0**	Variable	FMS	**1, 3**
US Government (AT-P-AHV)	Aug 11	168.1	**208.7**	Variable	FMS	**1, 3**
US Government (AT-B-ZBZ)	Jan 12	12.3	**21.7**	Variable	FMS	1, 2, **3**
US Government (AT-P-GTC)	Feb 13	10.9	**14.3**	Variable	FMS	**1, 3**

Notes	
1	**The scope of this contract is explained further below.**
2	Increased quantity of Tactical and Training Missiles in FMS Case.
3	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
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 15
Spares and Support Equipment deliveries
Aircraft 1 and 2 delivered in December 2013
Aircraft 3 and 4 delivered in February 2014
A quantity of Mk 54 Torpedos delivered in August 2014
A quantity of Hellfire Missiles delivered in August 2014
Aircraft 5 delivered in October 2014
'BRomeo' Seahawk Training Device delivered in October 2014
Aircraft 7 and 8 delivered in January 2015
Tactical Operational Flight Trainer 1 delivered in February 2015
Aircraft 9 and 10 were accepted in January 2015
Aircraft 11 and 12 were accepted 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	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	**3**	2
	ADF Unique Mission System Options – Phase 2	TBA	TBA	**Nov 14**	**0**	2
	Air Warfare Destroyer	**Dec 14**	**Dec 14**	**Jan 15**	**1**	**3**
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	**3**	2
	ADF Unique Mission System Options – Phase 2	**Mar 15**	**Mar 15**	**Apr 15**	**1**	2
	Air Warfare Destroyer	**Dec 15**	**Dec 15**	**Dec 15**	**0**	**3**
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	**0**	2
	ADF Unique Mission System Options – Phase 2	**May 15**	**May 15**	**May 15**	**0**	2
	Air Warfare Destroyer	**Dec 16**	**Dec 16**	**Dec 16**	**0**	**3**

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 PO, USN, Sikorsky and Lockheed Martin. Director General Technical Airworthiness 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**, and contract signature with Lockheed Martin being achieved in October 2014**.
3	**The AWD requires modification to enable the MH-60R aircraft to operate at full capability as the AWD certification baseline is based on a classic Seahawk aircraft. The modification works required to integrate the MH-60R aircraft will be conducted following the delivery of each AWD.**

3.2 Contractor Test and Evaluation Progress

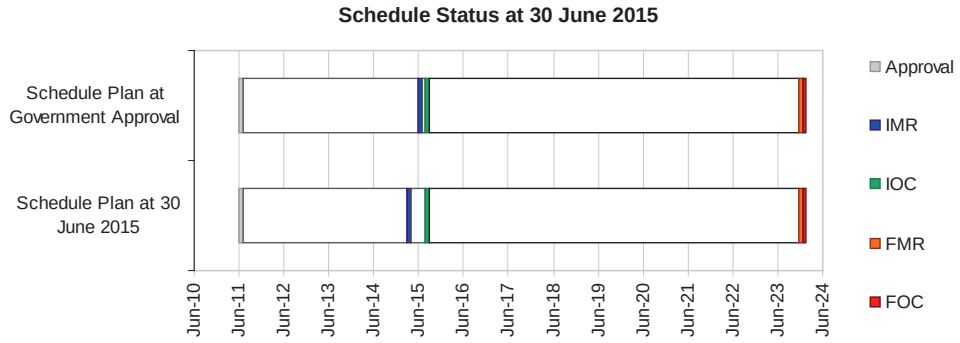
Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	ADF Unique Mission System Options **– Phase 1**	**Aug 15**	**Aug 15**	**Aug 15**	**0**	1
	ADF Unique Mission System Options – Phase 2	**TBA**	**TBA**	**TBA**	**TBA**	**1**
	Air Warfare Destroyer	**TBA**	**TBA**	**TBA**	**TBA**	
Acceptance	ADF Unique Mission System Options – **Phase 1**	**Feb 16**	**Feb 16**	**Feb 16**	**0**	1
	ADF Unique Mission System Options – Phase 2	**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)	
	Air Warfare Destroyer	**TBA**	**TBA**	**TBA**	**TBA**	

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 PO, USN, Sikorsky and Lockheed Martin. SOW for Phase 2 was released as part of USN request for tender 26 February 2014**, and contract signature with Lockheed Martin being achieved in October 2014**.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

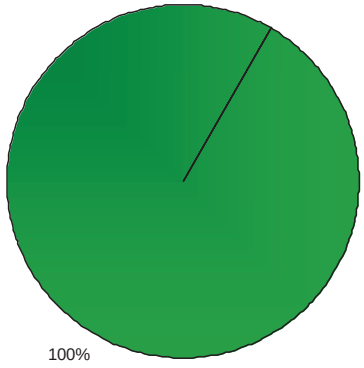
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
In-Service Date (ISD)	Jun 14	Jan 14	(5)	1
Initial Materiel Release (IMR)	Jun 15	Mar 15	(3)	**2**
Initial Operational Capability (IOC)	Aug 15	Aug 15	0	
Materiel Release 2 (MR2)	Dec 16	Dec 16	0	
Materiel Release 3 (MR3)	Jun 19	Jun 19	0	
Materiel 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.
2	**The project declared IMR in March 2015, three months ahead of schedule and expects Capability Manager sign-off of IMR in July 2015.**



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	• **Five aircraft in USN configuration, Tactical Operational Flight Trainer and supporting systems,** • **Establishment of key Sustainment organisations,** • **Initial stock of Mk 54 Torpedos and Hellfire Missiles, and** • **Modification of one ANZAC class ship for interoperability with MH-60R Seahawk helicopter.**	**Achieved**
Final Materiel Release (FMR)	• **All 24 aircraft delivered and Australian Unique Mission System Options implemented,** • **Full EO fit-out and all Mk 54 Torpedos and Hellfire Missiles delivered,** • **All ANZAC class ships and Air Warfare Destroyers modified for interoperability with MH-60R Seahawk helicopter, and** • **Final Training Management Package.** **Achievement is scheduled for December 2023.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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. **This risk was retired following the Commonwealth's acceptance of the training and squadron complex on 29 September 2014 and 19 December 2014 respectively.**
Training System. Materiel Release 2 milestone may be affected by lack of an **Australian** 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 **Australian** training system remains severe despite reduction of likelihood. **This risk was retired following Commonwealth's acceptance of the first Tactical Operational Flight Trainer and the Avionics Maintenance and Weapons Loading Trainer on 27 February 2015. These training devices along with a BRomeo (whole aircraft maintenance trainer) enable the RAN to commence an Australian training program required to satisfy the Initial Operating Capability requirements.**
MH-60R capability Baseline. 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 **(CAP)** in the Defence Capability Plan. **As planning for the MH-60R CAP has progressed, this risk has been downgraded to a medium level risk.**
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. **This risk has been retired following the establishment of the HUMS support infrastructure enabling the transfer of aircraft data between the RAN and USN.**
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. **This risk has been retired following the receipt, installation and successful testing and use of the USN courseware on the Defence Protected Network and Defence Secret Network.**
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. **This risk was identified as being misleading with its current title, as it indicates poor budget management from a PO perspective, when in reality it is the USN management of**

	quarterly FMS billing that creates uncertainty in forecasts. The risk has been retitled Variable FMS Financial Forecasts Financial Year 2014–15 and Following. **This is an ongoing issue as opposed to a risk and has been retired and transferred to the issues log as a medium rated issue.**
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
N/A	**N/A**

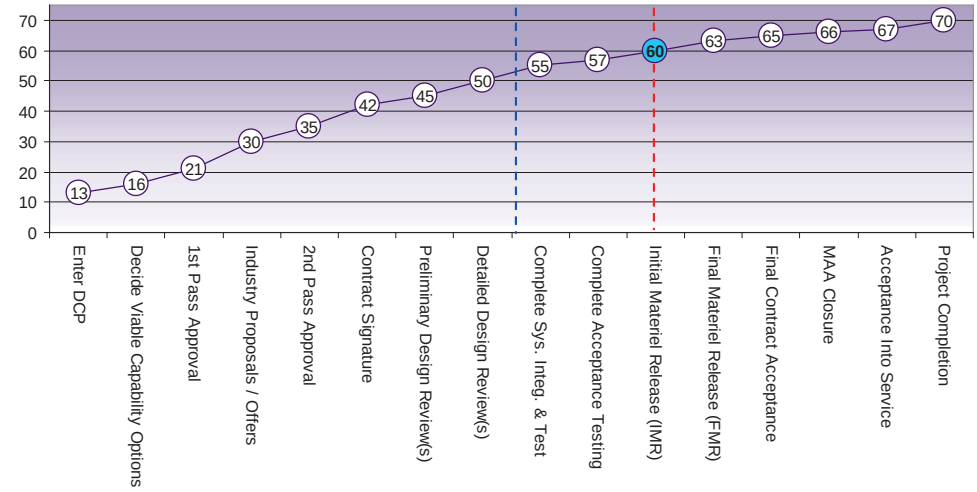
5.2 Major Project Issues

Description	Remedial Action
Crashworthiness. Exemptions are required to allow the final Crashworthiness certification for a MOTS Aircraft against the requirements of **Airworthiness Directive (AD)** AD 03/2009 and the changes provided via Defence Airworthiness Advisory Circular 001/2012. An Airworthiness Issue Paper has identified this issue. **However, AD 003/2014 dated 11 December 2014, which superseded AD 03/2009, did not allow for an exemption on the previously planned grounds in the issues paper.**	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. **Following the release of AD 003/2014 dated 11 December 2014, the project intends updating the subject Issue Paper to comply with current requirements and Technical Airworthiness Authority advice to Operational Airworthiness Authority on the effects of AD 003/2014 Defence Aircraft Crash Protection Policy, which removes support for Limited Configuration Control exemptions to ADF aircraft. The RAN and USN share a common aircraft baseline.** **This issue has been retired following advice being received from the Commander Australian Fleet that the Airworthiness Issue Paper has been closed and that MH-60R crash protection is to be reviewed against Contemporary Crash Protection Design Requirements every five years or when significant changes are proposed to the aircraft Configuration, Role and Environment.**

Section 6 – Project Maturity

6.1 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**	**8**	8	**9**	**8**	**9**	**60**
	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.							



2013-14 MPR Status - - - - | 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	RADM Tony Dalton
Branch Head	CDRE Colin Lawrence
Project Director	CAPT Peter Ashworth
Project Manager	CMDR Michael Rainey

Project Data Summary Sheet[226]

Project Number	**LAND 121 Phase 3B**
Project Name	**OVERLANDER VEHICLES (MEDIUM AND HEAVY VEHICLES AND TRAILERS)**
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)	**$3,387.6m**
2014–15 Budget	**$107.5m**
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.

LAND 121 Phase 3B will upgrade and replace the existing medium and heavy vehicle and trailer fleet. Vehicles (protected and unprotected) consisting of nine variants and multiple capacities, will be introduced by the project including cargo, tractor, recovery and tanker functions. Ten trailer variants for general cargo, equipment transport, and tanker capacity will also be acquired. Fleet flexibility will be supplemented by flatracks and modules that will permit the rapid deployment of stores (including maintenance and combat engineering), fuel and water tankers and specialist bridging capabilities.

Vehicles, **trailers** and modules will be acquired from the following:

- 2,536 MHC vehicles **and 2,999 modules** supplied by Rheinmetall MAN Military Vehicles Australia (RMMVA);
- **1,704 trailers will be acquired from Haulmark Trailers (Australia).**
- 122 Geländewagen (G-Wagon) **and maintenance modules** supplied by Mercedes-Benz Australia / Pacific Pty Ltd **and associated trailers supplied by Haulmark Trailers (Australia) Pty Ltd (HTA)**, acquired by LAND 121 Phase 3A; and
- 49 **in-service** Bushmaster Protected Mobility Vehicles **upgraded to customised General Maintenance**

226 Notice to the reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Vehicle variants;

- **18 Line Laying Modules acquired by LAND 121 Phase 3A; and**
- **A further 719 specialist modules to be acquired which are not yet in contract.**

1.2 Current Status

Cost Performance

In-year

As at **30 June 2015**, financial year **2014–15** expenditure was **$106.1m** against the forecast expenditure of **$107.5m. The variation is primarily due to an exchange rate gain (EURO) of $0.9m and the delay to executing the Global Supply Chain Agreement.**

Project Financial Assurance Statement

As at 30 June 2015, Project LAND 121 Phase 3B has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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) Pty Ltd (trailers) continue to provide deliverables as required under the contracts. Both **contractors continue to progress through** the design phase **and verification testing has commenced on selected trailers**. Due to **early** delays with RMMVA, **schedule performance is closely monitored but the Project is confident it will achieve the** Initial Materiel Release (IMR) **milestone on or before the originally planned date of December 2018.**

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 project 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 percent 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 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 **and contracts were executed shortly after**.

RMMVA has exited the Integrated Baseline Review as contracted and secured Holmwood Highgate and Thales Australia as subcontractors.

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 issues concerning the project are the **performance** of key subcontractors, **interface issues between vehicles, trailers and modules.**

Other Current Sub-Projects

LAND 121 Phase 3A will deliver 2,146 lightweight (4x4) and light (6x6) Mercedes-Benz 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.

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 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 15	Exchange Variation		**102.9**	
Jun 15	**Total Budget**		**3,387.6**	
	Project Expenditure			
Prior to Jul 14	**Contract Expenditure – Rheinmetall MAN Military Vehicles Australia (Acquisition)**	**(17.3)**		
	Contract Expenditure – Haulmark Trailers (Aust) Pty Ltd (Acquisition)	**(10.3)**		
	Other Contract Payments / Internal Expenses	**(13.7)**		**7**
			(41.3)	
FY to Jun15	Contract Expenditure – Rheinmetall MAN Military Vehicles Australia (Acquisition)	**(54.7)**		
	Contract Expenditure – Haulmark Trailers (Aust) Pty Ltd (Acquisition)	**(12.6)**		
	Other Contract Payments / Internal Expenses	**(38.8)**		8
			(106.1)	
Jun 15	**Total Expenditure**		**(147.4)**	
Jun 15	**Remaining Budget**		**3,240.2**	

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 **$9.0m** for salaries and **$4.7m** for other project office costs not associated with the prime contracts.
8	Expenses comprise of **$26.2m** for **the acquisition of G-Wagons by LAND 121 Phase 3A on behalf of LAND 121 Phase 3B, $5.7m for** salaries and **$6.9m** for other project office costs not associated with the prime contracts.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
118.8	**107.4**	**107.5**	**Variance between PBS and PAES estimates includes rescheduling of system engineering reviews, foreign exchange adjustments and re-programming of minor contract activities. In addition, the Global Supply Chain Agreement was not executed this financial year.**
Variance $m	**(11.4)**	**0.1**	Total Variance ($m): **(11.3)**
Variance %	**(9.5)**	**0.0**	Total Variance (%): **(9.5)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The variation is primarily due to an exchange rate gain (EURO) of $0.9m and the delay to executing the Global Supply Chain Agreement.**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
		(0.9)	FOREX Variation	
		(0.5)	Commonwealth Delays	
			Additional Government Approvals	
107.5	**106.1**	**(1.4)**	**Total Variance**	
		(1.2)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Rheinmetall MAN Military Vehicles Australia (Acquisition)	Jul 13	1,585.9	**1,809.0**	Variable	ASDEFCON	1, 2
Haulmark Trailers (Australia) Pty Ltd (Acquisition)	Jul 13	397.7	**475.9**	Variable	ASDEFCON	1, 2
Rheinmetall MAN Military Vehicles Australia (Support)	Jul 13	32.3	46.2	Variable	ASDEFCON	1, 2

Notes

1	Additional commitments of **$28.4m and $4.9m are** included in the Mercedes Benz Australia Pacific Pty Ltd **and Haulmark Trailers contracts** in Section 2.3 of the LAND 121 Phase 3A Project Data Summary Sheet. **These items are** being procured by LAND 121 Phase 3A, on behalf of the LAND 121 Phase 3B project. **Commitments** in relation to General Maintenance Vehicles will be funded by LAND 121 Phase 3B.
2	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Rheinmetall MAN Military Vehicles Australia (Acquisition)	2,536	2,536	MHC vehicles with associated modules.	1
Haulmark Trailers (Australia) 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 15

Two MHC vehicles have been received to support design and verification activities.

Notes	
1	The quantity figures being communicated publically **excludes module and vehicle** 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	Dec 14	**Sep 15**	**Feb 16**	**14**	**1, 2, 3, 6**
	Modules	**Aug 14**	**Feb 15**	**Mar 15**	**7**	**1, 3, 4**
	Trailers	Jun 16	**N/A**	Jun 16	0	1, 5
Detailed Design	**Vehicles**	**May 15**	**Jan 16**	**Jun 16**	**13**	**1, 3, 6**
	Modules	**Nov 14**	**Jul 15**	**May 16**	**18**	**1, 4, 6**
	Trailers	**Jan 17**	**N/A**	**Jan 17**	**0**	**1, 5**
Critical Design	Vehicles	Aug 15	**May 16**	**Oct 16**	**14**	1, **3, 6**
	Modules	**Mar 15**	**Dec 15**	**Sep 16**	**18**	**1, 3, 6**

Notes	
1	All dates represent **the last vehicle, module and trailer variant completed by.**
2	**Eight of nine vehicle variants have exited preliminary design review.**
3	Delays by RMMVA to secure its subcontractor has impacted the completion of nominated review.
4	**All contracted modules have exited preliminary design review, and are now progressing to critical design review.**
5	**Two trailer variants have exited all design reviews, four variants have exited preliminary design review. Work has not yet commenced on the remaining four variants.**
6	**Senior management attention (Defence and the RMMV Board) is expected to improve the schedule performance for completion of preliminary, detailed and critical design reviews for vehicles and modules.**

3.2 Contractor Test and Evaluation Progress

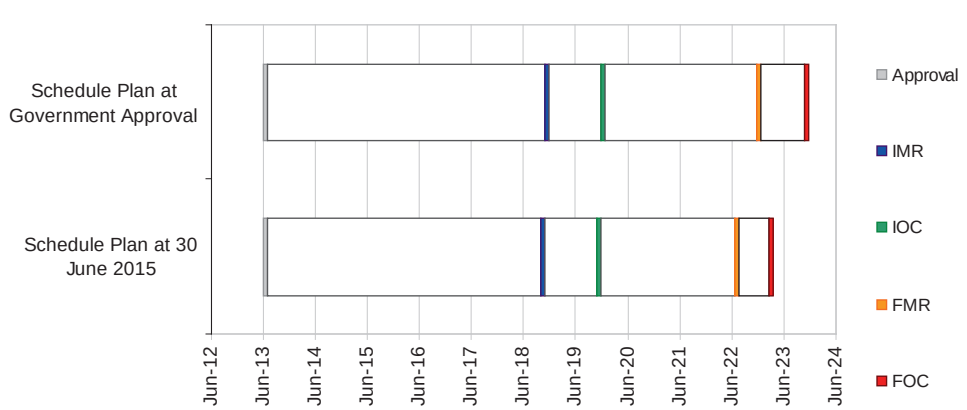
Test and Evaluation	Major System/Platform Variant	Original Planned	Current Planned	Achieved/ Forecast	Variance (Months)	Notes
System Integration, Acceptance Test and Evaluation (AT&E)	Vehicles	**Jul** 16	**Apr 17**	**Nov 17**	**16**	1, 2, **3**
	Modules	**Nov 15**	**Aug 16**	**Jun 17**	**19**	**1, 2, 3**
	Trailers	**Nov** 17	N/A	Oct 17	**(1)**	1

Notes	
1	All dates represent 'completed by' **of the last vehicle, module and trailer variant.**
2	**Delays by RMMVA to secure its subcontractor has impacted the completion of AT&E.**
3	**Senior management attention (Defence and the RMMV Board) is expected to improve the schedule performance for completion of acceptance test and evaluation.**

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	**Mar 23**	**(9)**	

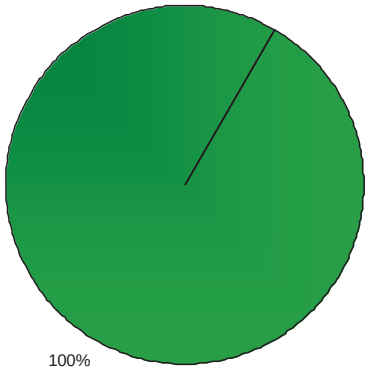
Notes	
1	All variances are forecast to be achieved ahead of planned dates and are a reflection of estimated planned work required to achieve MAA milestones.



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**IMR requires the following to be delivered: 101 medium and heavy vehicles, 250 modules, 59 trailers, sufficient training for operators and maintainers to support Army's introduction into service plan and adequate logistic support arrangements. Forecast achievement November 2018.**	**Not achieved**
Final Materiel Release (FMR)	**FMR requires the following to be delivered: 2,707 medium and heavy vehicles, 3,858 modules, 1,704 trailers, achieve the Directed Training Requirement across the entire medium and heavy capability for operators and maintainers and logistic support arrangements. Forecast achievement July 2022.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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 **specifications** 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. **The project team has worked with relevant stakeholders to assess proposed changes resulting from design reviews. While a number of Contract Change Proposals have been generated to reflect agreed outcomes of the design reviews, there has been no impact on schedule, and costs are being managed within the approved budget.**
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. **RMMVA have entered into commercial arrangements with Raytheon and Harris to minimise any impact whilst a Technical Assistance Agreement (TAA) is being established.**
Access to Public Roads. There is a chance that **the** MHC will be affected by the States and Territories (S&Ts) 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 and agree to a strategy with States and Territories.** The vehicles & trailers acquired under LAND 121 Phase 3B will be incorporated into the Defence Road Transport Exemption Framework. **A** Project developed data pack has been provided to **support** engagement with the **S&Ts**. **All S&Ts have been briefed and are expected to respond by the end of July 2015.**
Emergent Risks (risk not previously identified but has emerged during 2014–15)	
Description	Remedial Action
N/A	N/A

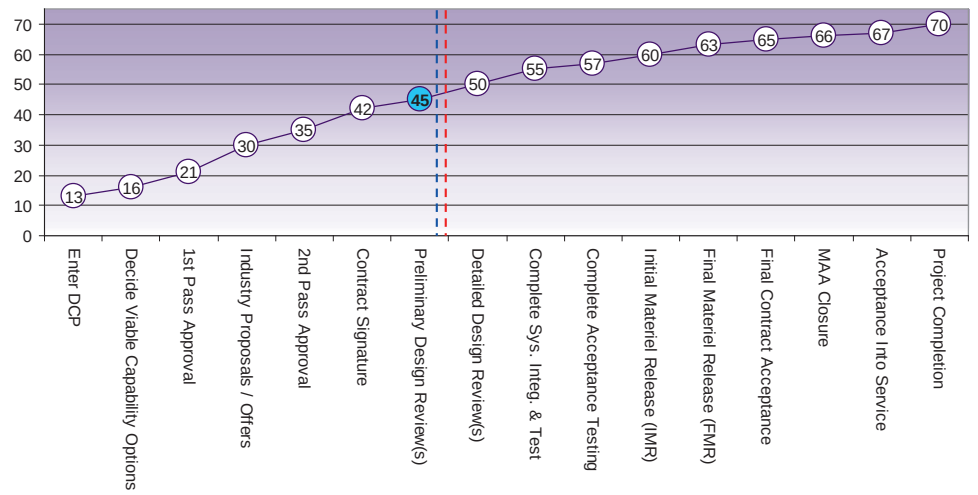
5.2 Major Project Issues

Description	Remedial Action
Subcontractor engagement. The project has been affected by **the** delay **to subcontractor engagement** impacting on schedule, cost, performance and reputation.	**CoA to undertake financial, capacity and viability assessment of subcontractors.** **All key subcontractors have now been engaged. The delay in engaging the subcontractors has impacted on the conduct of design reviews for some module elements; however this is not currently impacting the overall performance of the project.** **This issue is being closely managed at Director General level and weekly updates are sought from RMMVA to assess progress and where the option is available further negotiation may occur.**
Project interface and integration issues. The MHC has encountered technical engineering and project management integration and interface issues. Integration issues include issues between vehicles, modules and/or trailers.	**Establish an Interface Control Working Group.** **These risks are being managed through the establishment of Interface Control Working Group meetings between the Commonwealth and the prime contractors, RMMVA and HTA. They are held on a regular basis to discuss and resolve integration issues and facilitate information sharing.** **Interface Control Documents have also been drafted for vehicles, modules and trailers, and designs are under constant review.** **Prototype vehicles are being acquired to support trailer verification testing.**

Section 6 – Project Maturity

6.1 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	7	6	7	7	45
Preliminary Design Review	Project Status	8	7	**7**	6	7	6	6	**47**
	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. • **Requirement: Confidence is increasing that requirements are being realised as design reviews progress.** • **Technical Understanding: Technical data and Intellectual Property provisions will allow Defence to operate, support, maintain, modify and dispose the materiel elements of the capability.** • **Technical Difficulty:** Preliminary Design Reviews are confirming the achievability of the requirement. • **Commercial:** Contractor is improving its situation with engaging subcontractors to ramp-up its resources. • **Operations and Support:** Detailed operational and support requirements have been specified and In-Service Contracts are in place.							



2013-14 MPR Status - - - - 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 Management
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 (OQE) during tender evaluation, so claims of fitness for purpose are supportable and evidence required during Design Acceptance, and AT&E 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 Management
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 Army Logistic Training Centre 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
'Mancats' is a vehicle diagnostic tool that can be used with the fleet of RMMVA vehicles being acquired. A lesson learned from LAND 121 Phase 3A (G-Wagons) was to lease, and not buy, the vehicle diagnostic tool. Leasing reduces the risk of hardware and firmware redundancy, and is a better value for money option for the Commonwealth. LAND 121 Phase 3B is negotiating an appropriate lease arrangement with RMMVA for 'Mancats'.	**Contract Management**

An AT&E program should consider risk and performance requirements to determine whether OQE can be provided by prime contractors and their parent companies to support claims of fitness for purpose in lieu of testing. **During negotiations all claims of compliance should be reflected in the qualification method to be used in the AT&E program.**	**Contract Management**

Section 8 – Project Line Management

8.1 Project Line Management in 2014–15

Position	Name
General Manager	Mr Colin Thorne
Division Head	MAJGEN Paul McLachlan
Branch Head	BRIG Haydn Kohl
Project Director	COL Greg McGlone
Project Manager Vehicles and Modules	Ms Jacquie Menzies
Project Manager Trailers	Mr Jonathan McGuigan

Project Data Summary Sheet[227]

Project Number	**JP 2048 Phase 4A/4B**
Project Name	**AMPHIBIOUS SHIPS (LHD)**
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)	**$3,091.0m**
2014–15 Budget	**$86.6m**
Project Stage	**Integration and Test**
Complexity	ACAT I

Section 1 – Project Summary

1.1 Project Description

The JP 2048 Phase 4A/4B project **is providing** 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 **underspend of $5.3m** is **predominantly** due to the **delayed** achievement of the **milestones** related to LHD 02 **production and testing.**

Project Financial Assurance Statement

As at 30 June 2015, project JP 2048 Phase 4A/4B has reviewed the approved scope and budget for those elements required to be delivered. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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 to deliver** the **second LHD within the third quarter of 2015, representing an anticipated**

227 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

delay of approximately two months to the original planned **date** of August 2015.

Major project milestones achieved in **2014–15** include:

- Recommended Provisioning List Contract Change Proposals;
- LHD 01 Harbour Acceptance Trials **80 per cent complete**;
- LHD 01 Sea Acceptance Trials **80 per cent complete**;
- **Delivery of LHD 01 Safety Case;**
- **Delivery and Acceptance of LHD 01;**
- **Achievement of Initial Materiel Release (IMR);**
- **Commissioning of LHD 01 as HMAS *Canberra*;**
- **Commencement of LHD 02 Crew Training; and**
- **Settlement of Liquidated Damages for LHD 01 late delivery.**

Progress of these milestones demonstrates schedule performance and supports the achievement of project **completion, after full transition to in-service sustainment agency, as planned.**

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 **a combination of** low electrical trade productivity**, timeliness of documentation and complexity involved in the integration of the platform and combat system solutions**, continue to support achievement of project capability outcomes with later than planned acceptance **dates** for **both LHD 01 (achieved) and LHD 02 (forecast)**.

Note

The capability assessments and forecasts by the project 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. **A combination of lower** than expected electrical trade productivity**, timeliness of documentation and complexity involved in the integration of the platform and combat system solutions**, resulted in delays to sea trials and acceptance of the first LHD. **Despite the application of productivity lessons learnt from LHD 01 and a focus on LHD 02 following delivery and departure of LHD 01 in late 2014, the production schedule for LHD 02 did not regain all lost time, with a follow on delay to delivery of LHD 02 expected.**

While the LHD ships are based on the existing Spanish LHD design, the Australian combat and communication capability **required** 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 **was** complex. Additional time **was** required to address integration issues and resulted in some minor movement of combat and communication system integration milestones. This **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.

The project has engaged regulators and relevant safety subject matter experts to progress delivery / acceptance of LHD Safety Program artefacts.

As the project moves towards closure a reduction in the strategic risk profile is anticipated, with many existing risks to be retired upon delivery of LHD 02 and the associated integrated logistics support products. Such risks include the identification and treatment of technical issues, major ship system or equipment failure, indices escalation, supplies, lack of project personnel, severe weather conditions during sea trials, non-acceptance of the LHD Safety Case and any non-supply of Government Furnished Equipment or Services.

Other Current Sub-Projects

JP 2048 Phase 3: Watercraft system acquisition to be used in conjunction with the JP 2048 Phase 4A/4B Amphibious Ships (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.

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
			2,964.5	
Jul 10	Price Indexation		428.4	5
Jun 15	Exchange Variation		**(305.0)**	
Jun 15	**Total Budget**		**3,091.0**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – BAE Systems	**(2,535.7)**		
	Other Contract Payments / Internal Expenses	**(102.5)**		6
			(2,638.2)	
FY to Jun 15	Contract Expenditure – BAE Systems	**(75.2)**		
	Other Contract Payments / Internal Expenses	**(6.1)**		6
			(81.3)	
Jun 15	**Total Expenditure**		**(2,719.5)**	
Jun 15	**Remaining Budget**		**371.5**	

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.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
142.6	**85.6**	**86.6**	**The variation is primarily due to a combination of cost savings and the movement of activities and milestones associated with LHD 01 Acceptance.**
Variance $m	**(57.0)**	**1.0**	Total Variance ($m): **(56.0)**
Variance %	**(40.0)**	**1.2**	Total Variance (%): **(39.3)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Year-to-date variance is predominantly due to delay of production and testing milestones.**
			Overseas Industry	
		(5.3)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
86.6	**81.3**	**(5.3)**	**Total Variance**	
		(6.1)	**% 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 15 $m			
BAE Systems	Oct 07	2,268.1	**2,710.6**	Variable	ASDEFCON	1, 2

Notes	
1	Contract Price at Revision **98**. Amendments to Contract since signature include execution of contracted options for Training and Spares.
2	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
BAE Systems	2	2	LHD ships and integrated support systems.	

Major equipment received and quantities to 30 Jun 15

LHD 01 Delivery and Acceptance achieved. Production and fit-out activities for LHD 02 **continue** and **LHD 02** Sea Acceptance Trials **are in progress**.

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 Contractor 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	**Sep 15**	**6**	1
Acceptance	LHD Ship 1 Project Acceptance	Jan 14	Feb 14	**Oct 14**	**9**	2
	LHD Ship 2 Project Acceptance	Aug 15	Aug 15	**Oct 15**	**2**	**3**
	LHD Final Acceptance	Sep 15	Sep 15	**Nov 15**	**2**	**4**

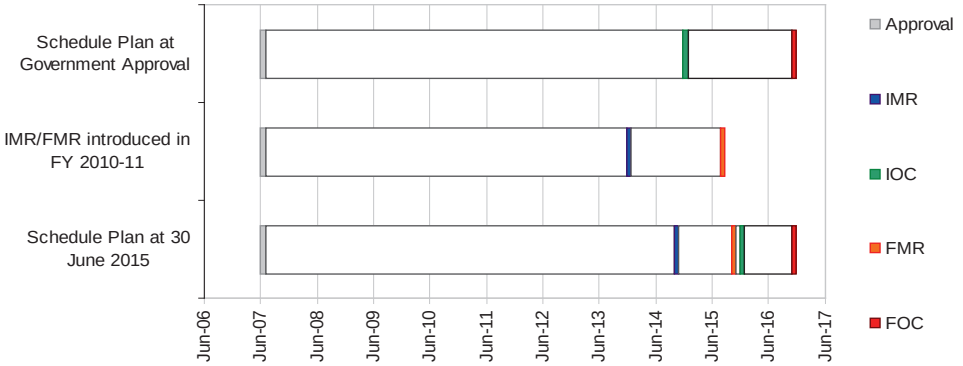
Notes	
1	LHD 01 production delays have impacted System Integration and set to work activities, however, System Integration relates to the whole capability, commencing with LHD 01 and completion at LHD 02.
2	Project Acceptance for LHD 01 **occurred** later than planned. The delay **was** a direct result of **a combination of** low productivity in the set to work of electrical systems**, timeliness of documentation and complexity involved in the integration of the platform and combat system solutions**.
3	**A combination of lower than anticipated production and testing performance, timeliness of documentation and complexity involved in the integration of the platform and combat system solutions**, **delayed the planned Sea Acceptance Trials for LHD 02, with an associated follow-on impact of delayed delivery and acceptance of LHD 02.**
4	**Further delay to Final Acceptance is anticipated due to the relationship this has with LHD 02 Project Acceptance.**

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	**Oct 14**	**9**	1
Initial Operational Capability (IOC) (LHD 01)	Dec 14	**Dec 15**	**12**	2, **3**
Materiel Release 2 (MR2) (LHD 02)	**Aug 15**	**Oct 15**	**2**	**4**
Final Materiel Release (FMR)	Aug 15	**Oct 15**	**2**	**4**
Final Operational Capability (FOC) (LHD 02)	Nov 16	Nov 16	0	

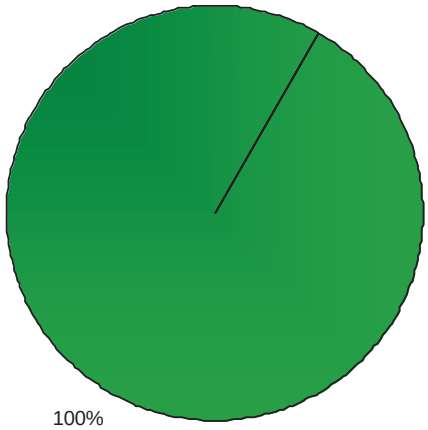
Notes	
1	LHD 01 production delays impacted System Integration and set to work activities **resulting in the delay to achievement of IMR.**
2	The change is a direct result of **a combination of** low productivity in the set to work of electrical systems**, timeliness of documentation and complexity involved in the integration of the platform and combat system solutions**. **IOC is a Capability Manager responsible milestone which is constituted by an operational capability level delivered through a range of Defence assets. LHD 01 and the associated Integrated Logistic Support products contribute to the achievement of IOC.**
3	**IOC (LHD 01) occurs after FMR, however this is as a result of late delivery of LHD 01 and the programmed workup of operational capability level during the year by the Defence Forces. This delay is not related directly to LHD 02 delivery or dependent on FMR.**
4	**A further variance is anticipated as this is related directly to a combination of lower than anticipated production and testing performance, timeliness of documentation and complexity involved in the integration of the platform and combat system solutions, and delayed LHD 02 delivery to the project.**

Schedule Status at 30 June 2015



Section 4 – Materiel Capability Delivery Performance

4.1 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 **overall** project Materiel Capability Delivery Performance outcomes. **Defects and associated operational capability limitations identified against Materiel Capability Delivery Performance requirements were identified during harbour and sea trials of LHD 01 and declared to the Capability Manager prior to LHD 01 acceptance. All limitations have allocated remediation plans to address and achieve all Materiel Capability Delivery Performance requirements.** **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	• **LHD 01 delivered ready for Operational Test and Evaluation.** • **DMO Elements of Fundamental Input to Capability Support System, including Technical Documentation, Spares Support and Training Support (DMO portion).**	**Achieved**
Final Materiel Release (FMR)	• **Completed delivery of LHD 02 and all remaining Acquisition Project Support Deliverables.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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 **LHD 02**.	• Raise Contract Change Proposals. • Seek Real Cost Increases to Project Funding where affected by Legislative change. • Seek waivers as necessary.

The delivery **of LHD 02** 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).
Contracted indices escalation exceeds the specialist military supplementation provision.	• **Contingency allocation.** • Reduce contracted scope.
The contractor is unable to deliver supplies in accordance with the deliverable schedule **for LHD 02**. **This is also disclosed as an issue for LHD 01 in Section 5.2.**	• 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).
The delivery **LHD 02** 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.
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
Acceptance Testing during sea trials on LHD 02 will be delayed due to severe weather conditions.	• **Reschedule activity.** • **Ensure BAE planning has sufficient flexibility to accommodate adverse weather conditions.** • **Reallocate Commonwealth resources as required.**
The acceptance test conduct for LHD 02 will be impacted due to the failure or non supply of Government Furnished Equipment or Services required to support testing, resulting in non completion of testing and/or claim by contractor for excusable delay.	• **Maintain regular communications with relevant Government Furnished Equipment or Service stakeholders and suppliers.** • **Seek alternative third-party suppliers.**
The delivery of LHD 02 may be affected by the Contractor failing to inform the Commonwealth of technical issues in a timely manner.	• **Assess the severity of technical issues and determine if they impact acceptance.** • **Apply additional resources into assessment of technical issues in timely manner to lessen impact to schedule.** • **Respond on issues that prevent excusable delay.**
The LHD 01 will be affected by a major ship-system or equipment failure during Delivery that will result in the non-availability of systems post delivery.	• **Contingency budget allocation for CoA to attend re-testing activities.** • **CoA monitoring of Contractor due diligence and quality of manufacture.** • **Contractor issues management provided by on-site construction staff and/or additional sub-contract assistance.**

There is a chance that RAN Regulators may not approve LHD Safety Program process and/or artefacts for LHD 02.	• **Project systematically engaging with RAN regulators and relevant safety subject matter experts to progress delivery/acceptance of LHD Safety Program artefacts.** • **Ship 02 Safety Case built upon Ship 01 basis.**

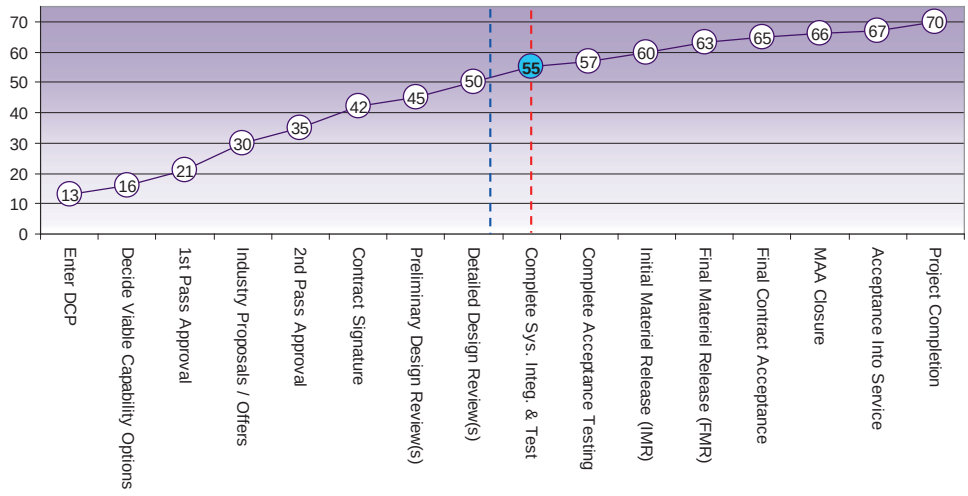
5.2 Major Project Issues

Description	Remedial Action
Intellectual Property (IP) management between BAE and Navantia.	An Intellectual Property Deed was signed by Tenix, BAE Systems, Navantia, and the Commonwealth detailing how **IP** will be managed for the LHD Project. The management of IP will be monitored through **IP** audits. **This issue is retired as the IP Plan has been accepted and IP Records approved with minor amendments.**
Delay of LHD 01 during delivery to Australia.	• **Settlement of Liquidated Damages.** • **Alignment of Contract.** **This issue is proposed for closure due to the settlement of Liquidated Damages.**
The contractor is unable to deliver supplies in accordance with the deliverable schedule for LHD 01.	• **RAN accepted late delivery.** • **Extension of HMAS Tobruk service.** • **Settlement of Liquidated Damages.** **This issue is proposed for closure due to the settlement of Liquidated Damages.**

Section 6 – Project Maturity

6.1 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	**6**	**8**	**8**	8	8	8	**9**	**55**
	Explanation	• **Schedule: BAE Systems delivered LHD 01 late, and are forecasting a two month delay to delivery of LHD 02 and Final Acceptance.** • **Cost: The Project is on track to achieve outcomes within the allocated budget.** • **Operations and Support: LHD 01 integration is complete and the capability has transitioned to Sustainment.**							



2013-14 MPR Status - - - -	2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
N/A	N/A

Section 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Mr Colin Thorne
Division Head	RADM Mark Purcell
Branch Head	Mr Patrick Fitzpatrick
Project Director	**CAPT (RAN) Craig Bourke (to Dec 14)** **Mr Patrick Fitzpatrick (Dec 14–current)**
Project Manager	CAPT (RAN) Craig Bourke **(to Dec 14)** **Mr David Kingston (Dec 14–current)**

Project Data Summary Sheet[228]

Project Number	**AIR 87 Phase 2**
Project Name	**ARMED RECONNAISSANCE HELICOPTER**
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)	**$2,032.7m**
2014–15 Budget	**$1.2m**
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 **delivered** 22 aircraft including an instrumented aircraft (permanently fitted with in-flight test instrumentation), a Full Flight and Mission Simulator, two Cockpit Procedures Trainers, Groundcrew Training Devices, 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 2015**, Final Plan estimate of **$1.2m was achieved. Variance from PAES is attributable to discounts on upgrades to Ground Mission Equipment received as Liquidated Damages.**

Project Financial Assurance Statement

As at 30 June 2015, project AIR 87 Phase 2 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project incorrectly advised no application of contingency in Financial Year 2013-14 when it had applied contingency in support of the Deployable Aircraft Maintenance Rig capability. The project has **also** applied contingency in financial year **2014-15 for discounts on upgrades to Ground Mission**

228 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Equipment received as Liquidated Damages.

Schedule Performance

The Final Materiel Release (FMR) Approval Certificate was signed by all stakeholders on 19 March 2014, with Army caveats**, (20 months behind schedule).**

Project Closure activities are in progress**, with Final Operational Capability (FOC) planned to be achieved by January 2016 (79 months behind schedule).**

Materiel Capability Delivery Performance

As at 30 June **2015**, 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 **to raise, train and sustain** the operational squadron**s** in Darwin **in order to maintain directed levels of capability and to continue capability growth to achieve FOC**. All three simulators have been accepted and are being used for aircrew training in Oakey and Darwin.

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 **readiness** of the delivered ARH capability is being progressed by Army. The Operational Capability (OC) 2 milestone, a deployable squadron, was granted by the Chief of Army on 11 July 2013. **The OC3 milestone, a deployable squadron plus troop by land into a non-permissive environment, was granted by the Chief of Army on 2 December 2014.** The delivery of the remaining items are being managed **by the Tiger sustainment organisation** and **is expected to have** minimal impact on the overall ARH capability**, noting that the deficiency in the Electronic Warfare System will be corrected in aircraft available to the Capability Manager required to meet FOC**.

Note

The capability assessments and forecasts by the project 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 Trainers 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.

Airbus Group Australia Pacific (formerly 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 **Airbus Group Australia Pacific** 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

All major risks identified in the **2013-14** Major Projects Report have been retired from an Acquisition perspective and AIR 87 Phase 2 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, **are being managed by the Tiger sustainment organisation and** 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 Tiger sustainment organisation** 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. **The Capability Manager has also reassessed the Rate of Effort required to raise, train and sustain the ARH Capability and has reduced the annual planning targets from 7,147 hours to 6,227 hours. Industry has agreed to rectify the Electronic Warfare System performance issue at no cost to the Commonwealth with all modifications planned to be completed by end of March 2016. A Viability Review Deed of Agreement was signed between Airbus Group Australia Pacific and the Commonwealth in December 2014 that will see the implementation of a more rigorous performance based contract and up to a 50 per cent reduction in the cost per flying hour by Financial Year 2016-17 when the mature Rate of Effort that is planned to be flown is achieved.**

Other Current Sub-Projects

AIR 9000 Phase 7 Helicopter Aircrew Training System (HATS): HATS will be an important link in the training continuum for inductees to the ARH training system.

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 15	Exchange Variation		**121.5**	
Jun 15	**Total Budget**		**2,032.7**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – **Airbus Group Australia Pacific**	**(1,710.3)**		8
	Other Contract Payments / Internal Expenses	**(154.0)**		9
			(1,864.3)	
	Other Contract Payments / Internal Expenses	**(1.2)**		**10**
			(1.2)	
Jun 15	**Total Expenditure**		**(1,865.5)**	
Jun 15	**Remaining Budget**		**167.2**	

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	Other **expenditure includes discounts on upgrades to Ground Mission Equipment received as Liquidated Damages and** to Nova Aerospace for engineering support.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
3.8	**0.2**	**1.2**	**PBS to PAES: Return of $2.5m to Contingency and the re-phasing of the Deployable Aircraft Maintenance Rig milestone payments in accordance with the signed Contract.** **PAES to Final Plan: Variance is attributable to discounts on upgrades to Ground Mission Equipment received as Liquidated Damages.**
Variance $m	**(3.6)**	**1.0**	Total Variance ($m): **(2.6)**
Variance %	**(94.7)**	**500.0**	Total Variance (%): **(68.4)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**N/A**
			Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
1.2	**1.2**	**0.0**	**Total Variance**	
		0.0	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Airbus Group Australia Pacific	Dec 01	1,139.9	**1,710.3**	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 **Airbus Group Australia Pacific** Prime Contract was signed on 28 May 2013.
2	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Airbus Group Australia Pacific	22	22	Tiger Armed Reconnaissance Helicopter	

Major equipment received and quantities to 30 Jun 15
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 project'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

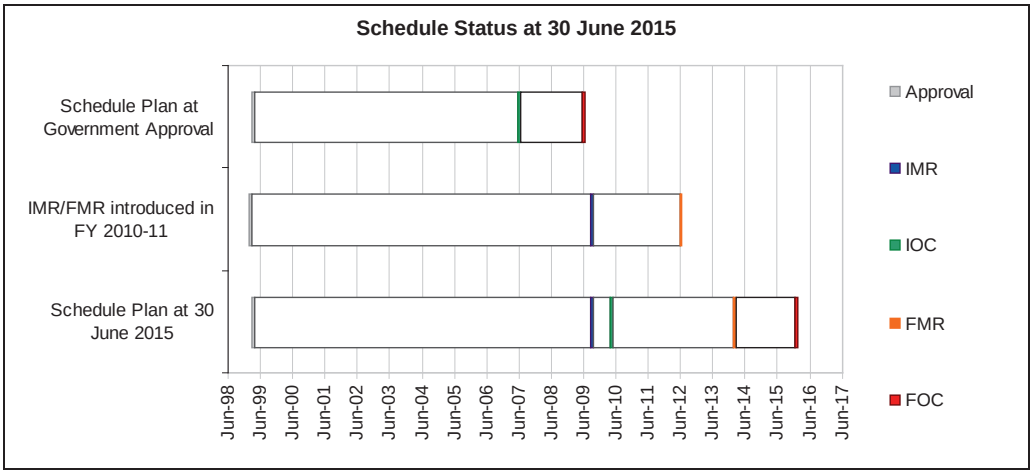
	Full Flight and Mission Simulator (Full Training capability)	Feb 05	N/A	Nov 09	57	1
	Cockpit Procedures Trainer Oakey	Feb 05	N/A	Nov 09	57	1
	Cockpit Procedures Trainer Darwin	Feb 05	N/A	Feb 10	60	1
	Acceptance					
	ARH #11	Jul 06	N/A	Apr 08	21	1
	ARH #22	Apr 08	N/A	Nov 11	43	1, 2

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

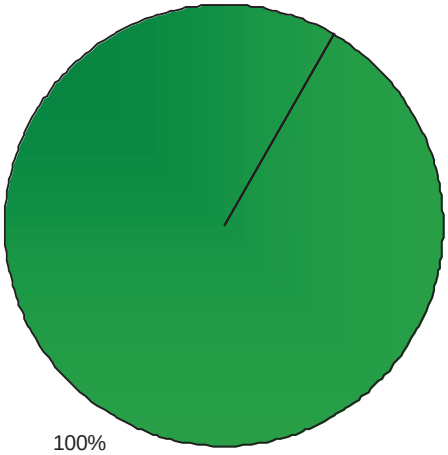
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Sep 09	N/A	
Initial Operational Capability (IOC)	Jun 07	Apr 10	34	1
Final Materiel Release (FMR)	Jul 12	Mar 14	20	2
Final Operational Capability (FOC)	Jun 09	Jan 16	79	3

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. Delays in the achievement of the Final Acceptance Milestone under the contract with **Airbus Group Australia Pacific, delays** in the formal transition of capability components to the respective in-service management agencies and the time taken to get all stakeholders to sign off on the FMR Approval Certificate contributed to the delay in achieving FMR. The FMR Approval Certificate was signed by all stakeholders on 19 March 2014, with Army caveats **that are being managed by the Tiger sustainment organisation**.
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. **The FOC milestone, full regiment (16 aircraft) by land into a medium threat, non-permissive environment, is progressing to plan with Chief of Army granting the OC2 milestone, a deployable squadron (eight aircraft), on 11 July 2013 and the OC3 milestone, a deployable squadron plus troop (11 aircraft) by land into a non-permissive environment, on 2 December 2014. FOC remains forecast to be achieved by January 2016.**



Section 4 – Materiel Capability Delivery Performance

4.1 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. **The GPS receivers have been delivered and are in-service.** Deliveries of **remaining** 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. **All 40** additional Ammunition Bins have been delivered **and are in service.** **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	• **Three ARH in the Initial Operational Test and Evaluation Readiness configuration;** • **Aircraft Availability and Reliability parameters met;**	**Achieved**

	• **Initial Integrated Logistic Support elements in place to support three ARH flying an annual Rate of Effort of 325 airframe hours/ARH; and** • **Trained aircrew, groundcrew, and technicians.**	
Final Materiel Release (FMR)	• **Remaining 19 ARH (22 in total) in the Initial Operational Test and Evaluation Readiness configuration delivered;** • **Aircraft Availability and Reliability parameters met;** • **All Initial Integrated Logistic Support elements in place to support remaining 19 ARH (22 in total) flying an average annual Rate of Effort of 325 airframe hours/ARH.** • **Trained aircrew, groundcrew, and technicians; and** • **Additional requirements as endorsed by Capability Development Group as being in scope of the project delivered.** **FMR was agreed achieved provided the following Army caveats are addressed:** • **Rate of Effort Generation;** • **Groundcrew Training Devices;** • **Electronic Warfare System; and** • **Cost of Ownership.**	**Achieved with caveats**

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a chance that the FOC milestone will be affected by the inability to generate the required Rate of Effort **(ROE)** leading to an impact on cost and schedule.	This risk has been transferred to sustainment **and is being managed by the Tiger sustainment organisation**. **An ARH Repairable Item Support and Cost Improvement Plan has been established by Airbus Group Australia Pacific to address shortfalls in the availability of critical Repairable Items and deficiencies in its Maintenance and Supply Support Networks. Additional Repairable Items have also been provided to the Commonwealth at no cost. Availability of Repairable Items to support maintenance activities has improved.** **The above mitigation activities have been initiated by the Tiger sustainment organisation to enable improved ROE. Following the declaration by Army that the ROE envisaged at project approval would never be achieved, the Capability Manager has also reassessed the ROE required to raise, train and sustain the ARH Capability and has reduced the annual planning targets from a maximum 7,147 hours to 6,227 hours. This risk is now considered to be a low risk to project AIR 87 Phase 2**.

Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
N/A	**N/A**

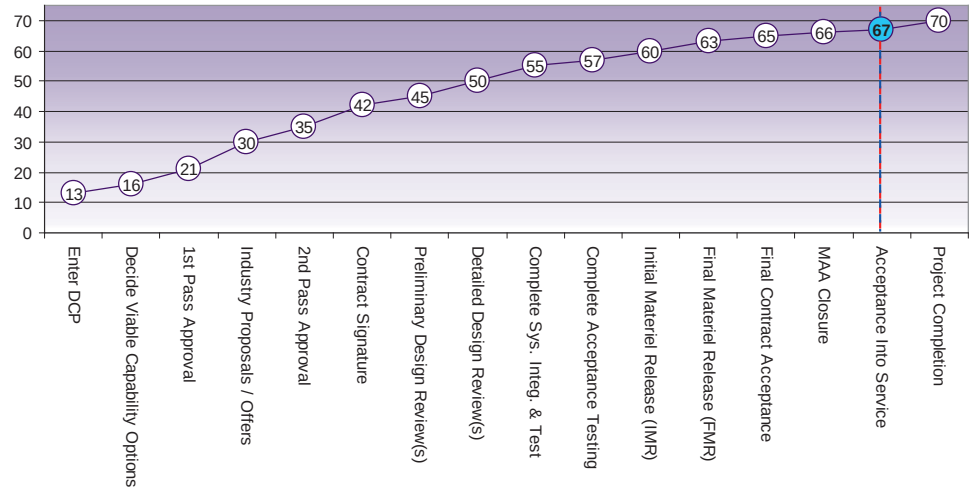
5.2 Major Project Issues

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. **Industry has agreed to rectify the Electronic Warfare System performance issue at no cost to the Commonwealth with all modifications planned to be completed by end March 2016. Acceptance testing by Defence is planned for completion by October 2015, with aircraft modifications planned to be completed by end-2015, prior to FOC declaration.** This issue is being managed **by the Tiger sustainment organisation**.
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 **(TLS)** 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 **by the Tiger sustainment organistion with the first Strategic Review under the TLS Contract being conducted in late 2014. A Viability Review Deed of Agreement was signed between Airbus Group Australia Pacific and the Commonwealth in December 2014 that will see the implementation of a more rigorous performance based contract and up to a 50 per cent reduction in the cost per flying hour in Financial Year 2016-17 when the mature Rate of Effort that is planned to be flown is achieved.**

Section 6 – Project Maturity

6.1 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							



2013-14 MPR Status - - - -	2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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

The AIR 87 TLS Contract needs constant management by experienced contract management staff with ready access to legal support. The Commonwealth must challenge the contractor on performance and must not enter into contract change discussions with the contractor where the Commonwealth will not receive value for money for the contracted services.	**Contract Management**
In respect of the out-sourced Systems Program Office core functions, the notion that the Commonwealth can optimise resource availability by outsourcing activities needs to be challenged. This value for money hypothesis is flawed.	**Resourcing** **Contract Management**
Better arrangements should be put in place to ensure that appropriate consultations occur before the Commonwealth enters into similar contracts with the same contractor. AIR 9000 did not consult AIR 87 to any significant extent before signing the Multi-Role Helicopter Sustainment Contract and over time this contract has proven to be similarly flawed.	**Contract Management**
Defence needs to re-evaluate its policy in relation to the use of 'cost-plus' contracts. A cost-plus contract for the initial years of the AIR 87 TLS Contract would have ensured effective performance parameters could be set for a more robust mature-state stage of the contract.	**Contract Management**
The Commonwealth must seek adequate evidence from the Contractor that its sustainment arrangements with its suppliers/subcontractors are in place and effective and that any provisions contained in the head contract have been adequately flowed down into any subcontracts. Demonstration should be linked to sustainment contract signature or as an entry obligation to the achievement of In-Service Date.	**Contract Management**

Section 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	RADM Tony Dalton
Branch Head	BRIG Andrew Mathewson
Project Director	COL Anthony McWatters (Nov 13–current)
Project Manager	Mr Cliff Meyer

Project Data Summary Sheet[229]

Project Number	**AIR 5402**
Project Name	**AIR TO AIR REFUELLING CAPABILITY**
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)	**$1,822.3m**
2014-15 Budget	**$107.4m**
Project Stage	**Initial Materiel Release**
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

This project **has provided** 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.

On advice that all remediation activities identified in the Project of Concern remediation plan have been resolved, on 25 February 2015 the Minister for Defence agreed to remove Project AIR 5402 from the Project of Concern list.

Cost Performance

In-year

The $3.6m variance is attributable to a reduction in spend against Overseas Industry contracts ($10.4m), a reduction in salaries payments ($3.7m), an undisclosed amount to recognise assets received as Liquidated Damages, a ($0.1m) reduction in FMS payments, a $6.4m increase in spend for Heavy AirLift Systems Program Office (HALSPO) spares and the modification program and FOREX which contribute to the remaining variation.

229 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Project Financial Assurance Statement

As at 30 June 2015, project AIR 5402 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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 risks associated with the modification program and spares required by the project.**

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.

The ARBS Qualification flight test program was successfully completed in July 2014 with Contractual acceptance of the ARBS achieved in December 2014. In February 2015 MRTT#1 was ferried to Australia by a crew from Airbus Defence and Space. This means, all five aircraft are now with RAAF.

FMR is currently forecast for May 2016, 39 months behind the original planned date.

Materiel Capability Delivery Performance

To meet Defence strategic goals, the project 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**.**

The ARBS Qualification flight test program was successfully completed in July 2014 with Contractual acceptance of the ARBS achieved in December 2014 as per the exit criteria for milestone 26A (Boom Acceptance).

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 project 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

All of the project's major risks and issues have been retired or downgraded to below high/extreme.

Other Current Sub-Projects

Project AIR 7403 Phase 3 for the purchase of two A330 aircraft and conversion to MRTT aircraft, was implemented in June 2015 through a CCP to the current contract.

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 15	Exchange Variation		**(449.3)**	
Jun 15	**Total Budget**		**1,822.3**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Airbus Defence and Space	**(1,464.0)**		
	Other Contract Payments / Internal Expenses	**(124.0)**		6
			(1,588.0)	
FY to Jun 15	Contract Expenditure – Airbus Defence and Space	**(62.0)**		
	Contract Expenditure – Northrop Grumman Integrated Defence Services	**(6.8)**		**7**
	Other Contract Payments / Internal Expenses	**(35.0)**		**8**
			(103.8)	
Jun 15	**Total Expenditure**		**(1,691.8)**	
Jun 15	**Remaining Budget**		**130.5**	

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	**The Northrop Grumman Integrated Defence Services contract covers work under the modification program to upgrade three aircraft to the final configuration via a Through Life Support contract.**

8	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 $6.7m for spares, $4.3m for engineering support, $1.5m for purchase of aircraft loaders, $0.6m for project office costs, $21.9m for Additional Work Tasking Orders, non cash LD expense, and other miscellaneous orders.**

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
141.9	**103.7**	**107.4**	**The variation between PBS and PAES estimates is primarily due to prime contract milestone slipping from 2014-15 to 2015-16; cost savings associated with contract changes; spares no longer required; as well as the delay in the delivery of spares. Variance between PAES and Final Plan estimates is due to exchange rate variations.**
Variance $m	**(38.2)**	**3.7**	Total Variance ($m): **(34.5)**
Variance %	**(26.9)**	**3.6**	Total Variance (%): **(24.3)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
		(0.1)	FMS	**The $3.6m variance is attributable to a reduction in spend against Overseas Industry contracts ($10.4m), a reduction in salaries payments ($3.7m), an undisclosed amount to recognise assets received as LDs, a ($0.1m) reduction in FMS payments, a $6.4m increase in spend for HALSPO spares and the modification program and FOREX which contribute to the remaining variation.**
		(10.4)	Overseas Industry	
		6.4	Local Industry	
		5.6	Brought Forward	
			Cost Savings	
		(5.1)	FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
107.4	**103.8**	**(3.6)**	**Total Variance**	
		(3.3)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Airbus Defence and Space formerly Airbus Military	Dec 04	1,413.4	**1,573.0**	Variable	ASDEFCON	1,**2**
Northrop Grumman Integrated Defence Services	**Jan 15**	**15.0**	**15.0**	**Fixed**	**ASDEFCON**	1,**3**

Notes

1	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustment for indexation (where applicable).
2	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.
3	**The contract price includes a provision for direct materiel purchases and additional labour.**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
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.	**1**
Northrop Grumman Integrated Defence Services	**3**	**3**	**Modification to upgrade three aircraft to the final configuration.**	

Notes

1	**CCP 131 - purchase of two A330 aircraft and CCP 132 - conversion to MRTT aircraft, raised and signed to update the existing acquisition contract with Airbus Defence and Space for the two aircraft and associated conversion at a cost of AUD $408m. This acquisition will be managed under Project Air 7403 Phase 3.**

Major equipment received and quantities to 30 Jun 15

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**. Technical acceptance of MRTT#1, the first aircraft modified with the final boom configuration was achieved on 14 April 2015.**

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 **continue to be achieved.**

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	**Jul 15**	**65**	2
	Aerial Refuelling Boom System	Dec 12	Dec 12	**Dec 14**	**24**	3
	Contract Final Acceptance	Feb 11	**Jul 15**	**Oct 15**	**56**	4

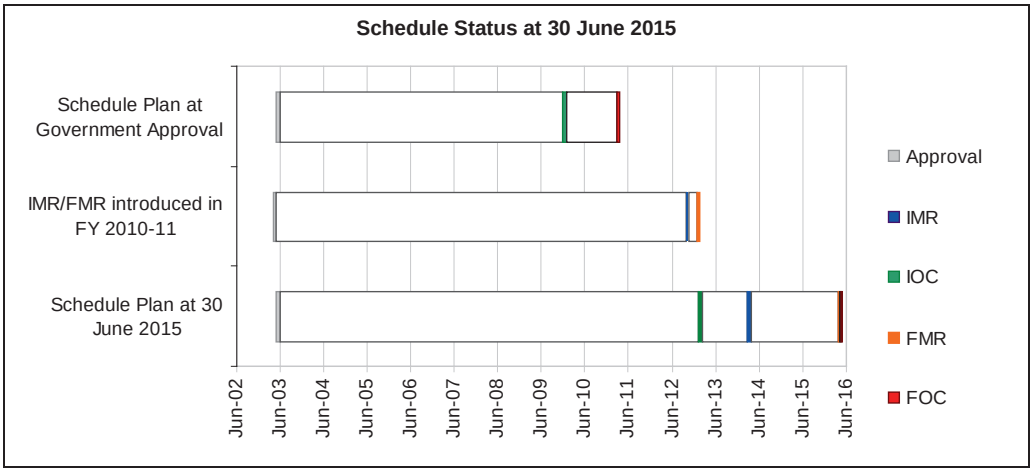
Notes	
1	Originally planned as a single-phase activity, the system integration test program for the first-of-type A330 MRTT was split into two phases to accommodate changes to the Remote Aerial Refuelling Operator console. The first phase, for civil certification of the modified aircraft, was successfully 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. **Delivery of some final parts and data is expected to impact the Contract Final Acceptance date.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

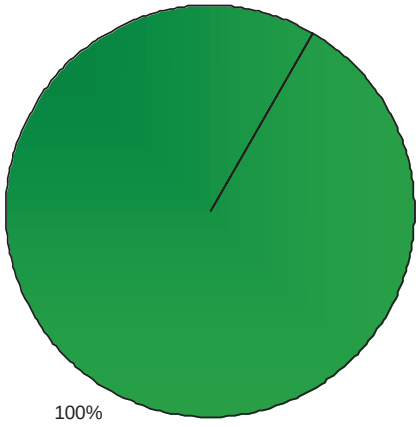
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Oct 12	May 14	19	1, 5
Initial Operational Capability (IOC)	Dec 09	Feb 13	38	2
Final Materiel Release (FMR)	Feb 13	**May 16**	**39**	3, 5
Final Operational Capability (FOC)	Mar 11	**May 16**	**62**	4

Notes	
1	DMO milestone for delivery and acceptance of two aircraft, and issue of a Special Flight Permit (SFP) 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	**Completion of the KC-30A fleet modification program will be delayed due to a combination of impacts from supporting operations and contractor performance. Scheduling of the Airworthiness Board for Service Release of the Boom Capability in March 2016 will impact achievement of FOC, albeit operations will be conducted under the boom SFP and the impacts are therefore minor.**
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.



Section 4 – Materiel Capability Delivery Performance

4.1 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; • **Acceptance of boom and MPS capability;** and • Aircraft and TLS system capable of sustaining initial prescribed annual rate of effort. **Amber:** **N/A** **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**IMR constitutes the acceptance of two MRTT aircraft and SFP for Air Logistics Services and AAR (pods only). IMR was declared in May 2014.**	**Achieved**
Final Materiel Release (FMR)	**FMR constitutes the acceptance of five MRTT aircraft with KC-30A type capable of achieving all Measure of Effectiveness requirements, acceptance of Simulation Devices, and Australian Military Type Certificate (AMTC) and Service Release (SR) achievement.** **FMR is predicted for May 2016 linked to completion of the aircraft modification program and Service Release of the Boom Capability.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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. **This risk has been retired due to the contractual acceptance of Milestone 26A (ARBS) achieved in December 2014.**
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. **This risk has been retired due to the completion of the HMI program.**
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. **This risk has been retired due to contractual acceptance of Milestone 26A (ARBS) achieved in December 2014.**
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. **This risk has been retired due to the contractual acceptance of Milestone 26F (MPS v6.3) achieved in December 2014.**
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 AMTC and 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. **This risk has been retired due to the maturity of the management of the non conformances and issue of AMTC / SR for KC-30A and SFP for Aerial Refuelling Boom Operations by the Defence Aviation Authority.**
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. **This risk has been retired due to Defence Aviation Authority issue of AMTC / SR for KC-30A and SFP for Aerial Refuelling Boom Operations.**
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. **This risk has been downgraded to medium due to the acceptance of all five KC-30A aircraft and maturity of Airbus Defence and Space processes for the issue of Service Bulletins through the Through Life Support 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 **(OAAR)** to ensure requirements and schedule are understood and can be achieved. **This risk has been retired due to Operational Airworthiness assessments completion, with OAAR endorsement in support of AMTC / SR.**
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
N/A	N/A

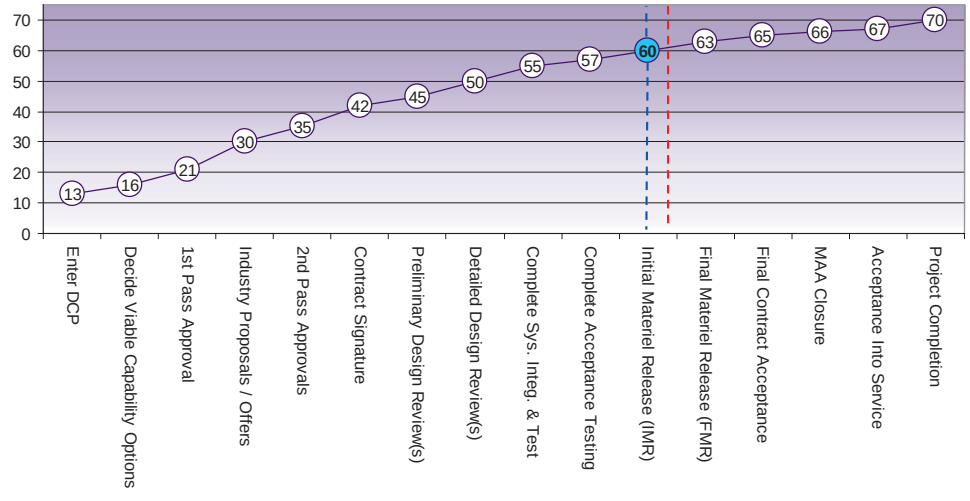
5.2 Major Project Issues

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. **This issue has been retired due to the completion of the HMI program.**
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. **Under the agreed Contractor Master Schedule delivered as part of Deed of Settlement 4 there were a number of contractual milestones successfully completed and accepted that included both ARBS and MPS as well as completion of modification programs on two KC-30A aircraft that bought both aircraft to a common configuration for Air Force to commence Air to Air refuelling operations.** **This issue has been retired.**
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. **This issue has been retired due to the contractual acceptance of Milestone 26F which was accepted in December 2014.**

Section 6 – Project Maturity

6.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	**10**	8	8	8	9	8	**9**	**60**
Initial Materiel Release	Project Status	9	**8**	9	9	9	8	9	**61**
	Explanation	The project has completed acceptance and hand over to Air Force of **five** aircraft in a configuration able to support the achievement of an Initial Operational Capability. • **Schedule: FMR is predicted to run five months behind the current planned delivery date of December 2015 as specified in the Material Acquisition Agreement. This is linked to completion of the aircraft modification program and Service Release of the Boom Capability.** • **Requirement: Project requirements have been successfully tested with acceptance of MPS and the Aerial Refuelling Boom after completion of the flight test program. Project has been removed from Projects of Concern Listing.** • **Technical Understanding:** Air Force is fully cognisant of the delivered capability and publications for operation and maintenance of the KC-30A tanker capability.							



2013-14 MPR Status - - - - 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	AVM Leigh Gordon
Branch Head	AIRCDRE Philip Tammen
Project Director	Mr Luke Brown
Project Manager	Mr Grant Cameron

Project Data Summary Sheet[230]

Project Number	**AIR 8000 Phase 2**
Project Name	**BATTLEFIELD AIRLIFT – CARIBOU REPLACEMENT**
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)	**$1,369.2m**
2014-15 Budget	**$271.5m**
Project Stage	**Integration and Test**
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 **from aircraft In-Service Date (ISD), through** Initial **Operational** Capability (IOC) **to Final Operational** Capability (FOC)**.**

1.2 Current Status

Cost Performance

In-year

Year end variance of ($113.0m) is driven by an underspend in FMS forecasts primarily associated with delay in some spares and Ground Support Equipment (GSE) deliveries; slippage in production milestones for Aircraft five through 10; commencement of training and acquisition of mature training system devices.

Project Financial Assurance Statement

As at 30 June 2015, project AIR 8000 Phase 2 has reviewed the approved scope and budget for those

230 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence considers, as at the reporting date, **whilst** there is sufficient budget remaining for the project to complete against the agreed scope, **yet to execute contracts carry cost risk.**

Contingency Statement

The project has applied minor contingency funding in the Financial Year **for the treatment of divestiture and contracting risk listed in Section 5.2.**

Schedule Performance

Maintainer and aircrew training did not commence in 3rd quarter 2014 as originally planned. L-3 PID experienced delays in relocating the C-27J training school to its Texas facilities. Relocation of the school house from Robins Air Force Base (AFB) was an unexpected USAF requirement following confirmation of its decision to divest of C-27J. Training commenced end of 4th quarter 2014. Due to the delay in start of training, the 35 Squadron ISD was achieved end of 2nd quarter 2015 with the first aircraft delivered to RAAF Base Richmond **on 25 June 2015. Following USAF C-27J divestiture, Alenia has recapitalised C-27J production by consolidating to one facility. Alenia advised significant delays to aircraft production, of 10-20 months, from Aircraft 5 onwards due to the closure of the Naples fuselage production plant and the consolidation of C-27J production at the Turin plant. Notwithstanding these delays, an IOC of December 2016 remains achievable, however this is with no remaining schedule contingency. FOC at end of year 2017 is now considered unachievable as a result of: Alenia aircraft production delays; reduced training throughput, due to the delayed start to US based training; and delays associated with establishing the mature training system at RAAF Amberley. Two factors contribute to the latter, FMS delays in establishing contracts for acquisition of necessary training devices and the risk that approval for construction of new 35 Squadron facilities at RAAF Amberley will be delayed. The current schedule indicates FOC is expected to be achieved by September 2018 (nine months behind schedule); however, this is considered high risk and is currently the subject of a detailed planning review within the project office in order to appropriately re-baseline the project schedule.**

Materiel Capability Delivery Performance

The 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. **Two aircraft have been accepted to date and a total of four are expected to be delivered by December 2015.**

Note

The capability assessments and forecasts by the project 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 **contractor** 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 resulted in **a three month delay to ISD (achieved June 2015).**

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 **novelty** 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). USAF contracting of US based initial training from L-3 PID utilising the ADF Airworthiness Management System **is also atypical**. 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 **initial** project strategies and plans. **However, the accelerated pace of USAF C-27J divestiture resulted in greater impact to the program than originally anticipated.**

Current major project residual risks **and issues** are as follows:

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. **However, there is a risk that not all elements will be able to be addressed within the current project budget or FOC schedule.**

Training Devices. Delays in establishment of contracts between the US Government and L-3 for suitable devices has led to a risk that mature devices will not be available at RAAF Amberley in time for FOC leading to a requirement for increased training on-aircraft or an extension to US based training.

Facilities. Delay in approval for construction of the new 35 Squadron facilities at RAAF Amberley currently represents a risk to FOC estimated to be up to nine months. A delay in establishing mature training facilities at Amberley will result in a requirement for increased training on-aircraft or an extension to US based training.

USAF Divestiture of C-27J. The C-27J capability delivery **has been** 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 **effectively decreases the global fleet by approximately 150 aircraft to an estimated 80 aircraft, reducing** opportunities for sustainment and training cost sharing. **The requirement to move the training facility from Robins AFB to L-3 facilities at Waco and Arlington has had an impact on acquisition cost and schedule. The impact to cost will be understood once contracts are finalised between the US Government and L-3, until final cost impact is known there remains additional risk to the overall project budget.**

Contracting. The **US Government** contracting processes to establish initial training and support arrangements **took** longer than planned, **resulting in a delay to the start of training and to ISD**.

Aircraft Production Delays. The risk of aircraft production delays was not anticipated to represent a

significant risk to project IOC or FOC given the significant schedule contingency contained in the original production schedule. However, Alenia's decision in May 2015, based on commercial considerations, to close its C-27J fuselage production facility and consolidate all C-27J production at its Turin facility will delay delivery of Aircraft 5 through 10 by up to 20 months. A delay in production of this magnitude places IOC at high risk and results in a December 2017 FOC being unachievable.
Other Current Sub-Projects 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 15	Exchange Variation		**212.7**	
Jun 15	**Total Budget**		**1,369.2**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – US Government	**(406.1)**		1
	Contract Expenditure – Alenia Aermacchi	(13.6)		
	Other Contract Payments/Internal Expenses	**(4.7)**		2
			(424.4)	
FY to Jun 15	Contract Expenditure – US Government	**(141.2)**		
	Contract Expenditure – Alenia Aermacchi	**(10.1)**		
	Other Contract Payments/Internal Expenses	**(7.2)**		2
			(158.5)	
FY to Jun 15	**Total Expenditure**		**(582.9)**	
Jun 15	**Remaining Budget**		**786.3**	

Notes	
1	The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.
2	Other expenditure comprises: operating expenditure, minor contract expenditure and other capital expenditure not attributed to the listed contracts.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
313.8	**255.4**	**271.5**	**The main driver of the variation between PBS and PAES estimates is an FMS case Termination Liability (deposit) payment brought forward into 2013-14 from 2014-15 ($54.0m). The difference between the PAES and Final Plan estimates is the result of foreign exchange supplementation under the normal no win no loss arrangements for foreign exchange funding processed in May 2015.**
Variance $m	**(58.4)**	**16.1**	Total Variance ($m): **(42.3)**
Variance %	**(18.6)**	**6.3**	Total Variance (%): **(13.5)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
		(96.0)	FMS	**Year end variance ($113.0m) is driven by an underspend in FMS forecast ($96.0m) primarily associated with delay in some spares and GSE deliveries; slippage in production milestones for Aircraft 5 through 10; commencement of training and acquisition of mature training system devices. Delays in acceptance of Aircraft 3 and 4 resulted in non-achievement of Intellectual Property and Technical data milestones ($10.6m) and delays in GSE and Tools procurement ($9.5m) also contributed. This has been partially offset by Foreign Exchange losses of $3.2m incurred within the Financial Year.**
		(10.6)	Overseas Industry	
			Local Industry	
			Brought Forward	
		(0.1)	Cost Savings	
		3.2	FOREX Variation	
		(9.5)	Commonwealth Delays	
			Additional Government Approvals	
271.5	**158.5**	**(113.0)**	**Total Variance**	
		(41.6)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
US Government	May 12	882.4	**1,068.1**	Reimbursement	FMS	1,2
Alenia Aermacchi	May 12	62.0	**69.8**	Firm Price	Modified ASDEFCON (Complex)	1

Notes	
1	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).
2	The scope of this contract is explained further below.

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
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 15

Two aircraft accepted plus a substantial amount of the IP rights and Technical data received.

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 for the acquisition of the training devices have yet to be established.**

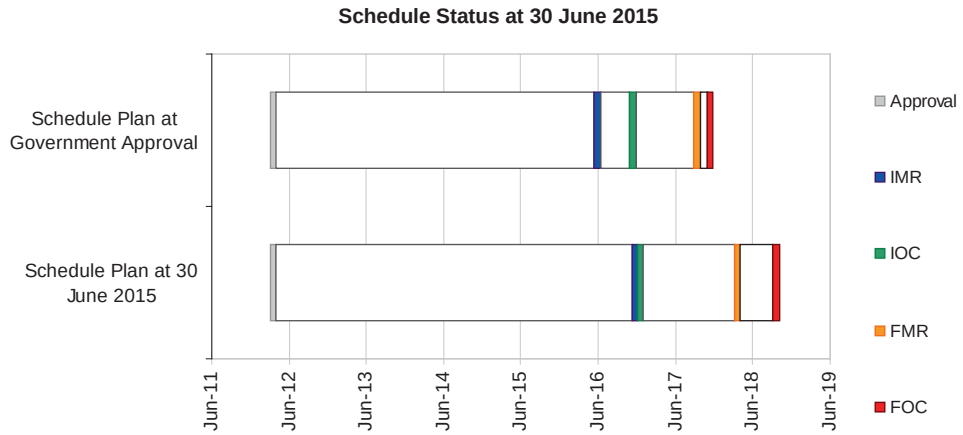
3.2 Contractor Test and Evaluation Progress

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	**Nov 14**	**4**	2
	C-27J Aircraft 2 (A34-002)	Sep 14	Sep 14	**Dec 14**	**3**	2
	C-27J Aircraft 3 (A34-003)	Nov 14	Nov 14	**Aug 15**	**9**	3
	C-27J Aircraft 4 (A34-004)	Feb 15	Feb 15	**Sep 15**	**7**	3
	C-27J Aircraft 5 (A34-005)	Aug 15	Aug 15	**Jun 16**	**10**	**4**
	C-27J Aircraft 6 (A34-006)	Oct 15	Aug 15	**Nov 16**	**13**	**4**
	C-27J Aircraft 7 (A34-007)	Dec 15	Dec 15	**Dec 16**	**12**	**4**
	C-27J Aircraft 8 (A34-008)	Feb 16	Feb 16	**Jul 17**	**17**	**4**
	C-27J Aircraft 9 (A34-009)	Apr 16	Apr 16	**Sep 17**	**17**	**4**
	C-27J Aircraft 10 (A34-010)	May 16	May 16	**Jan 18**	**20**	**4**
	Operational Flight Trainer	TBA	TBA	TBA	TBA	1
	Fuselage Trainer	TBA	TBA	TBA	TBA	1

Notes	
1	**Contracts for the acquisition of the training devices have yet to be established.**
2	**Aircraft 1 and 2 have been Accepted by the Commonwealth of Australia and have been placed on the Australian State Register.**
3	**Delivery of Aircraft 3 is delayed due to the requirement for repair of the life raft door following damage sustained during the acceptance test flight. Aircraft 4 is delayed pending availability of required spares from Alenia.**
4	**Alenia's decision to close its Naples fuselage production facility and consolidate all C-27J production at its Turin facility will result in up to a 20 month delay to delivery of Aircraft 5 through 10.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
In-Service Date (ISD)	Mar 15	**Jun 15**	**3**	1
Initial Materiel Release (IMR)	Jun 16	**Dec 16**	**6**	**2**
Initial Operational Capability (IOC)	Dec 16	Dec 16	0	
Final Materiel Release (FMR)	Oct 17	**Mar 18**	**5**	**3**
Final Operational Capability (FOC)	Dec 17	**Sep 18**	**9**	**3**

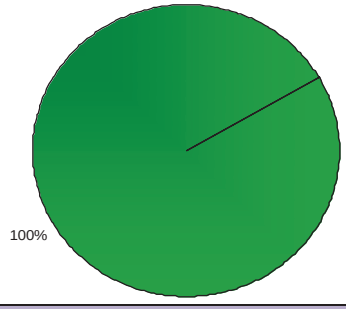


Notes	
1	**Variance due to delays in establishing FMS support and training arrangements in the US.**
2	**Variance due to delay in anticipated delivery of Aircraft 6.**
3	**Variance due to delays in aircraft production, acquisition of Mature Training System devices and construction approval of facilities at RAAF Amberley. A substantial delay to FMR/FOC is anticipated as a result of the decision by Alenia to consolidate aircraft production at its Turin facility. Noting this delay, and in conjunction with other USAF C-27J divestiture considerations, the project office has commenced a detailed planning review to enable an appropriate rebaseline of the project schedule.**

Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Delivery of four aircraft, Air Logistics Support and Airborne Operations roles enabled, aircrew and maintainer training system established, and logistics support established. IMR is forecast for December 2016.**	**Not achieved.**
Final Materiel Release (FMR)	**All 10 aircraft delivered Aeromedical Evacuation and Search and Rescue roles enabled, and logistics support available at the final MOB. FMR is forecast for March 2018.**	**Not achieved.**

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
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.	**This risk has been merged with the USAF JCA C-27J Capability Baseline risk.**
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.	**This risk has been retired, as it was mitigated through the application of** additional project resources to this task. **As a result a SFP was issued in time to support the start of flying operations.**
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 2014-15)	
Description	Remedial Action
Training Devices. Delays in the establishment of contracts between the US Government and L-3 for suitable devices has led to a risk that mature devices will not be available at RAAF Amberley in time for FOC, leading to a requirement for increased training on-aircraft or an extension to US based training.	**The project is continuing to work closely with the USAF FMS Program Office to minimise delays to the delivery of training devices.**
Facilities. There is a chance that the construction of facilities at RAAF Amberley will not meet the schedule for FOC, leading to a delay in establishing mature training facilities in Australia	**Air Force is working closely with Defence Support and Reform Group to understand the root causes of the delay and to explore ways of getting the schedule for facilities back on track.**

resulting in a requirement for increased training on-aircraft or an extension to US based training.	

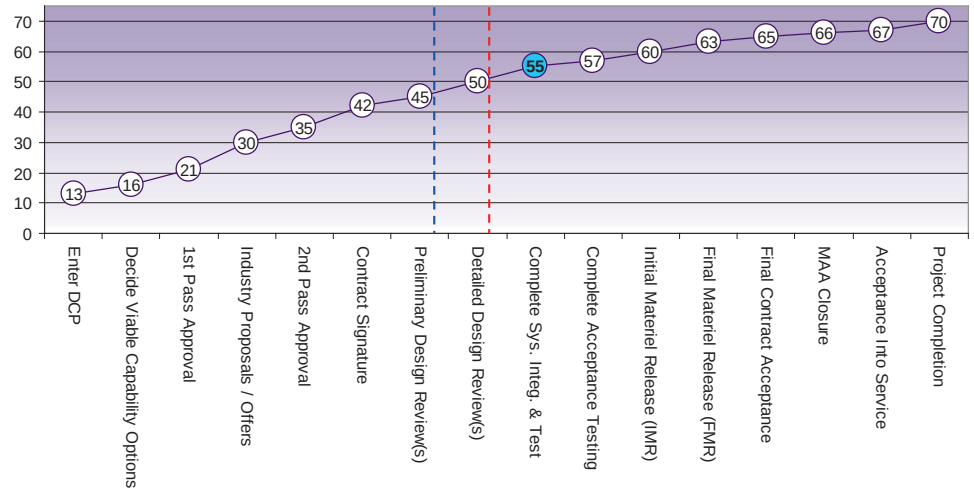
5.2 Major Project Issues

Description	Remedial Action
USAF Divestiture of C-27J. The risk that USAF C-27J divestiture would have a greater than anticipated impact on project budget and schedule has been realised. Accelerated USAF divestiture resulted in incomplete military type certification by the USAF and the unanticipated requirement for interim training to be relocated from Robins Air Force Base to L-3 facilities in Texas, with conduct of flying training to be contracted by the USAF utilising the ADF Airworthiness Management System (AMS) rather than the USAF AMS as originally planned.	**In the absence of USAF Military Type Certification, completion of AMTC has required additional resourcing to be applied. AMTC will be achieved with nil impact to IOC/FOC schedule.** **Implementation of ADF AMS requirements in USAF contracts with L-3 took longer than anticipated and L-3 under estimated the time required to relocate and re-establish the training school at its Texas facilities resulting in approximately a six month delay to the planned start of training. The delayed start to training translated to a three month delay to achievement of the planned ISD at 35 Squadron.** **Remediation of the interim training system is ongoing between Commonwealth of Australia, USAF and L-3 with the USAF training delivery contract yet to be definitised and L-3 yet to demonstrate it can meet throughput requirements.** **The final impact to cost will be understood once contracts have been finalised between the US Government and L-3, until final cost impact is known this remains a risk to the overall project budget.**
Contracting. The contracting processes to establish initial training and support arrangements **took** longer than planned, **which has had an impact on project schedule and remains an affordability risk.**	The project **continues to work** closely with the USAF FMS Program Office to **contain the cost and schedule impact.**
Aircraft Production. The unlikely risk that significant aircraft production delays would occur to impact the project IOC/FOC schedule has been realised as a result of Alenia's commercial decision to close its Naples fuselage production facility and consolidate all C-27J production at its Turin facility. This decision by Alenia in May 2015 will affect delivery of Aircraft 5 through 10 by up to 20 months placing IOC at high risk and resulting in FOC becoming unachievable by December 2017.	**The Project is working with USAF and L-3 to implement a mitigation strategy that maximises available aircraft utilisation in support of training and 35 Squadron to support IOC and minimise impact on FOC.** **Noting the substantial delay to FMR/FOC which is anticipated, and in conjunction with other USAF C-27J divestiture considerations, the project office has commenced a detailed planning review to enable an appropriate rebaseline of the project schedule.**

Section 6 – Project Maturity

6.1 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	6	6	9	8	9	6	7	51
	Explanation	• **Schedule:** Critical path activities understood. **Delay to IMR anticipated however IOC remains on schedule.** • **Cost: Progress of USAF contracting action has enabled FMS cost to be better understood. The costs are currently expected to be contained within the available contingency budget.** • **Requirement: Operational Test and Evaluation of the Aircraft in Australia has commenced.** • **Technical Difficulty: Necessary logistics data and arrangements for its employment in support of the capability are in place.** • **Commercial: Contractor is in the early stages of delivery and starting to demonstrate some degree of risk management necessary.** • **Operations and Support: Support system elements have been defined with procurement underway and transition of some elements to the sustainment system commenced.**							



2013-14 MPR Status - - - - 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
The level of risk and complexity contained in an FMS Letter of **Offer and Acceptance** 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
Accelerated project approval, through a combined government 1st and 2nd Pass, carries additional project execution risk given the likelihood that data fidelity and planning maturity will be otherwise inherently lower. As such, all effort should be made to understand the associated risk premium versus the benefit an accelerated project approval offers. In the case of AIR 8000 Phase 2 the potential impact of USAF divestiture was not fully appreciated across the full breadth and depth of the project. Any assumption that because procurement is via FMS it is low risk must be fully tested.	**Off-The- Shelf Equipment**

Section 8 – Project Line Management

8.1 Project Line Management in 2014-15

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[231]

Project Number	**LAND 116 Phase 3**
Project Name	**BUSHMASTER PROTECTED MOBILITY VEHICLE**
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)	**$1,250.5m**
2014-15 Budget	**$67.6m**
Project Stage	Complete Acceptance Testing
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

This project is **delivering** 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 Protected Mobility Vehicles (PMVs), which were managed as a funded sustainment activity.
PP5	208	208 vehicles in **four** 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**	

231 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

1.2 Current Status

Cost Performance

In-year

The full year-end spend was $68.4m against a final budget of $67.6m. The variance of $0.8m was primarily due to vehicle production milestones and associated milestone payments being made ahead of schedule.

Project Financial Assurance Statement

As at 30 June 2015, project LAND 116 Phase 3 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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 External Composite Armour (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 project 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. **In July 2014 the Government approved a change to the variant mix of PP5 reducing the number of troop variants from 158 to 118 and including 20 mortar variants and 20 ambulance 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 5 Major Project Issues for more information.

Other Current Sub-Projects

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 15	Exchange Variation		**(1.3)**	
Jun 15	**Total Budget**		**1,250.5**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Thales Australia (Prime)	**(730.4)**		
	Contract Expenditure – Thales Australia (SOTASip)	(30.2)		
	Other Contract Payments/Internal Expenses	**(156.8)**		8
			(917.4)	
FY to Jun 15	Contract Expenditure – Thales Australia (Prime)	**(67.0)**		
	Other Contract Payments/Internal Expenses	**(1.4)**		9
			(68.4)	
Jun 15	**Total Expenditure**		**(985.8)**	
Jun 15	**Remaining Budget**		**264.7**	

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 (**$59.3m**), ancillary equipment (**$27.0m**), ECA (**$17.6m**), project management and operating expenses (**$15.8m**), Automatic Fire Suppression Kits (AFSS) ($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: ILS deliverables **($1.0m), project management and operating expenses ($0.2m), AFSS ($0.1m) and** ECA (**$0.1m**).

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
68.4	**67.3**	**67.6**	**The difference between initial and final budget amounts is due to foreign exchange movements.**
Variance $m	**(1.1)**	**0.3**	Total Variance ($m): **(0.8)**
Variance %	**(1.6)**	**0.4**	Total Variance (%): **(1.2)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Year-end variation is primarily due to vehicle production milestones and associated milestone payments being made ahead of schedule.**
			Overseas Industry	
			Local Industry	
		0.8	Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
67.6	**68.4**	**0.8**	**Total Variance**	
		1.2	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at Signature $m	Price at 30 Jun 15 $m	Type (Price Basis)	Form of Contract	Notes
Thales Australia	June 99	170.0	**841.0**	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 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at Signature	Quantities as at 30 Jun 15	Scope	Notes
Thales Australia	370	1,015	Bushmaster Protected Mobility Vehicles	
Thales Australia (SOTASip)	737	737	Communication System	

Major equipment received and quantities to 30 Jun 15

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, **20 mortar variants, 20 ambulance variants** and up to **118** troop variants (plus an additional six being procured by LAND 17 Phase 1A) will be acquired by the project. At **30 June 2015**, **50** command and **100** troop vehicles have been delivered, **this includes the six procured for LAND 17 Phase 1A.**

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.

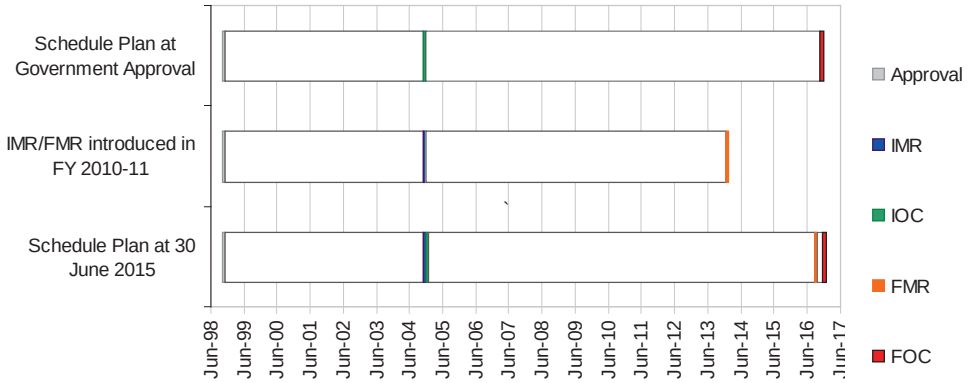
3.3 Progress Toward Materiel Release and Operational Capability Milestones

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.

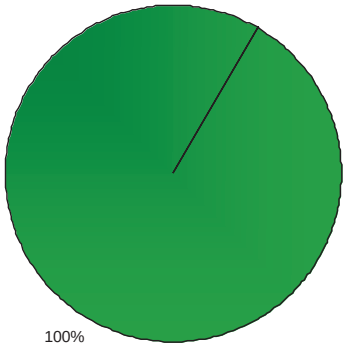
3	Delays in the acquisition and installation of communications harness equipment (SOTASip) resulted in revised FOC dates for PP1 (Ambulance Variant only) and PP2, as vehicles were being retrofitted before issue to Army.
4	This was due to the restructure of Army under Enhanced Land Force not fully completed 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 2015



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Commencement of delivery of full rate of production for PP1.**	**Achieved.**
Final Materiel Release (FMR)	**Completion of vehicle deliveries for all five production periods as detailed in Section 1.1.**	**Not achieved.**

Section 5 – Major Risks and Issues

5.1 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.
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
N/A	N/A

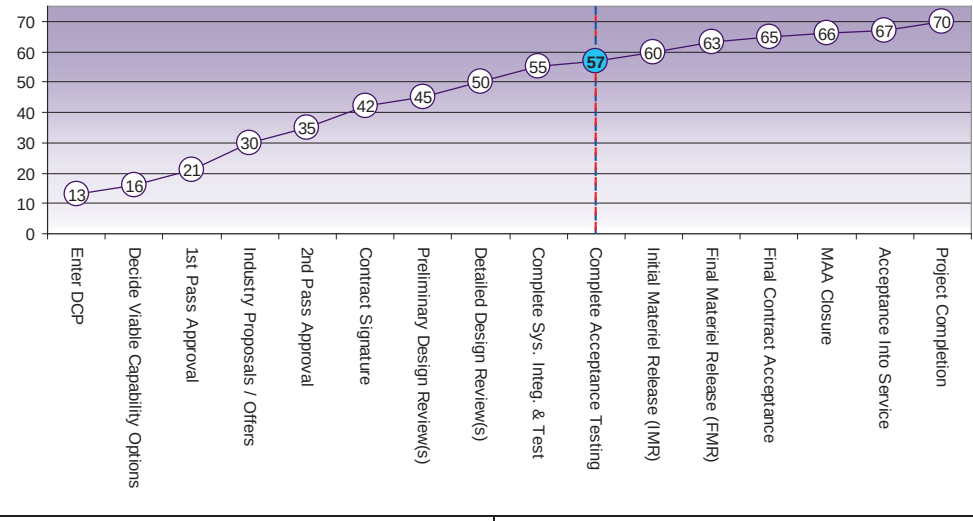
5.2 Major Project Issues

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.

Section 6 – Project Maturity

6.1 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.							



2013-14 MPR Status - - - - 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Mr Colin Thorne
Division Head	MAJGEN Paul McLachlan
Branch Head	BRIG Cameron Purdey
Program Director	Mr Luke Crampton (Acting)
Project Manager	Mr Steven Brown

Project Data Summary Sheet[232]

Project Number	**LAND 121 Phase 3A**
Project Name	**OVERLANDER VEHICLES**
First Year Reported in the MPR	2009-10 (as Phase 3) 2012-13
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)	**$1,015.7m**
2014–15 Budget	**$127.5m**
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 **2,146** lightweight (4x4) and light (6x6) Mercedes-Benz Geländewagen (G-Wagons), **associated modules** and 1,799 matching Haulmark trailers. **LAND 121 Phase 3A variants include:**

- **4x4 lightweight: Station Wagon, Carryall Hardtop and Carryall Soft Top;**
- **6x6 light single cab: Ambulance and Cargo;**
- **6x6 light dual cab: Canine, Command Post Mobile (CPM) and Line Laying; and**
- **6x6 Surveillance and Reconnaissance.**

In addition, the project office is facilitating the purchase of 122 G-Wagon based General Maintenance Vehicles (GMV) and 122 related trailers that form part of the scope of LAND 121 Phase 3B.

LAND 121 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 **LAND 121** Phase 4). **The new G-Wagons, together with the modules and trailers, will be used by the Army and Air Force for training and to support domestic security and emergency response efforts. The vehicles will also be employed on humanitarian assistance/disaster relief and low-threat operations.**

232 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

1.2 Current Status

Cost Performance

In-year

As at **30 June 2015**, Financial Year **2014–15** expenditure was **$127.3m** against the forecast **year** expenditure **plan** of **$127.5m**. **The $0.2m variance is due to foreign exchange rate gains and minor deliveries delayed to Financial Year 2015–16.**

Project Financial Assurance Statement

As at 30 June 2015, Project LAND 121 Phase 3A has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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 **October** 2016, **the 2,146** G-Wagons **and 1,799 Haulmark trailers that are within the approved LAND 121 Phase 3A scope** are scheduled to be **issued** to units throughout Australia.

Introduction into Service 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 **43** vehicles and **34** trailers per month. **As** of **30 June 2015**, **1,556** G-Wagons and **1,228** trailers had been delivered to Australian Defence Force (ADF) units.

The Initial Materiel Release (IMR) milestone was achieved **with caveats in** May 2014**, 29 months behind schedule due to delays in implementing the vehicle support system and processing the IMR report.** The Final Materiel Release (FMR) **and Final Operating Capability (FOC) milestones are scheduled to be achieved in October 2016, three months behind schedule due to delays in design, and test and evaluation activities for the CPM module**.

Materiel Capability Delivery Performance

The Project **is currently meeting** 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 2015** the Contractors have delivered **2,268** production vehicles and **1,792** production trailers to the project. **This includes deliveries against 122 vehicles and trailers being acquired on behalf of LAND 121 Phase 3B.**

Note

The capability assessments and forecasts by the project 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 per cent 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.

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 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 **subsequently achieved** second pass approval **in July 2013** following contract negotiations.

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 (C4I) systems

There is a residual chance that the LLC **CPM** modules will be affected by the complexity of **testing, procurement**, manufacture and/or **installation. Testing** will continue through until **October** 2015.

Concurrency of critical activities

There is a chance that the project will be affected by the concurrency of critical activities including developing the design and support system, and introducing into service the Ambulance and CPM modules. The project will manage the workload within the current workforce allocation and continue to monitor the risk.

Corrosion protection

The project office and the vehicle Original Equipment Manufacturer (OEM) have further investigated the corrosion protection risk, previously reported, and both parties do not consider that the requirement to maintain the corrosion protection on the vehicles affects the long-term sustainability of the vehicles due to the layered approach that has been adopted and the ability to reapply the Under Body Sealant at unit level.

Introduction into Service cost increase

The Introduction into Service cost increase issue, previously reported, has been retired. Roll-out to the 3rd Brigade, originally out of scope of LAND 121 Phase 3A, was achieved via reallocation of existing funding.

Other Current Sub-Projects

LAND 121 Phase 3B will provide the ADF with **2,707** protected and unprotected medium and heavy vehicles which, along with **1,704** matched trailers. **This** 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.

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 June 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 15	Exchange Variation		**31.0**	
Jun 15	**Total Budget**		**1,015.7**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Mercedes-Benz Australia/Pacific Pty Ltd (Acquisition)	**(448.6)**		
	Contract Expenditure – Haulmark Trailers (Aust) Pty Ltd (Acquisition)	**(59.5)**		
	Contract Expenditure – Haulmark Trailers (Aust) Pty Ltd (Support)	**(3.2)**		
	Contract Expenditure – Mercedes-Benz Australia/Pacific Pty Ltd (Support)	(3.1)		
	Other Contract Payments / Internal Expenses	**(94.4)**		4
			(608.8)	
FY to Jun 15	Contract Expenditure – Mercedes-Benz Australia/Pacific Pty Ltd (Acquisition)	**(87.6)**		
	Contract Expenditure – Haulmark Trailers (Aust) Pty Ltd (Acquisition)	**(18.7)**		
	Contract Expenditure – Haulmark Trailers (Aust) Pty Ltd (Support)	**(0.1)**		
	Other Contract Payments / Internal Expenses	**(20.9)**		5
			(127.3)	
Jun 15	**Total Expenditure**		**(736.1)**	
Jun 15	**Remaining Budget**		**279.6**	

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 **($18.7m)**, Salaries **($17.0m)**, and **($41.5m)** 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 **($4.3m)**, Salaries **($2.1m)** and other project office costs not associated with the prime contracts **($14.5m)**.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
170.6	**127.3**	**127.5**	**The PBS to PAES variance is a result of reductions due to vehicles and support equipment being brought forward in 2013–14 from 2014–15 of $16.4m, rescheduled contractual milestones for the remaining batch deliveries of vehicles and modules of $12.9m, a reduction to expected price escalation of $8.3m, a reduced estimate for the ambulance module redevelopment of $2.3m and foreign exchange adjustments totalling $3.4m.**
Variance $m	**(43.3)**	**0.2**	Total Variance ($m): **(43.1)**
Variance %	**(25.4)**	**0.2**	Total Variance (%): **(25.3)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The variation is due to foreign exchange rate gains and minor deliveries slipped to Financial Year 2015–16.**
			Overseas Industry	
		0.1	Local Industry	
			Brought Forward	
			Cost Savings	
		0.1	FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
127.5	**127.3**	**(0.2)**	**Total Variance**	
		(0.2)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Mercedes Benz Australia Pacific Pty Ltd (Acquisition)	Oct 08	321.8	**600.5**	Variable	ASDEFCON	1, 2
Mercedes Benz Australia Pacific Pty Ltd (Support)	Oct 08	45.1	45.6	Variable	ASDEFCON	2
Haulmark Trailers (Australia) Pty Ltd (Acquisition)	Apr 10	42.0	**81.2**	Variable	ASDEFCON	**1,** 2
Haulmark Trailers (Australia) Pty Ltd (Support)	Apr 10	22.2	23.0	Variable	ASDEFCON	2

Notes

1	Note that the Mercedes Benz Australia Pacific Pty Ltd **and Haulmark Trailers (Australia) Pty Ltd** Contract **Prices** at **30 June 2015** above includes **$28.4m and $4.9m respectively** 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 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Mercedes Benz Australia Pacific Pty Ltd (Acquisition)	1,187	2,268	Vehicles with associated modules	1
Mercedes Benz Australia Pacific Pty Ltd (Support)	N/A	N/A	Support Contract for vehicles and modules	
Haulmark Trailers (Australia) Pty Ltd (Acquisition)	979	**1,921**	Production Trailers	**1**
Haulmark Trailers (Australia) Pty Ltd (Support)	N/A	N/A	Support Contract for Trailers	

Major equipment received and quantities to 30 Jun 15

- All design reviews completed under Phase 3.
- **All** eight mission system variants have completed Production Readiness Review.
- 13 prototypes delivered.
- **2,268** production vehicles delivered to the project by the Contractor **including those acquired on behalf of LAND 121 Phase 3B.**
- **1,792** production trailers delivered to the project by the Contractor **including those acquired on behalf of LAND 121 Phase 3B.**

Notes

1	The quantity figures being communicated publically exclude modules and prototypes. An additional 122 vehicles **and trailers** 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	**Vehicles**	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	**Vehicles**	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
Critical Design (Redesign)	**Module (Light Ambulance, Cab Chassis)**	**Feb 15**	**N/A**	**Apr 15**	**2**	**4**
	Module (Light CPM)	**Sep 15**	**N/A**	**Oct 15**	**1**	**5**

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.
4	**Two extra months taken for retesting of electromagnetic compatibility performance and in preparation of conduct of Critical Design Review and Functional Configuration Audit.**
5	**One month variance is due to delay in the completion of the prototype.**

3.2 Contractor Test and Evaluation Progress

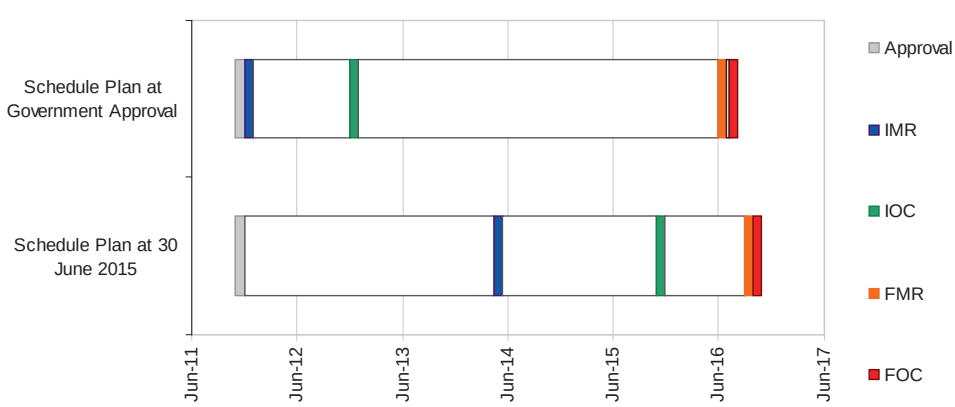
Test and Evaluation	Major System/Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Test Readiness Review	Module (Light Ambulance, Cab Chassis)	Oct 10	Jan 12	Feb 12	16	1
	All other vehicle, module (except Ambulance) and trailer variants had passed under Phase 3	Jul 11	Dec 11	Dec 11	5	2
	Module (Light Ambulance, Cab Chassis) (Redesign)	**Nov 14**	**N/A**	**Nov 14**	**0**	
	Module (Light CPM) **(Redesign)**	Feb 15	**N/A**	**Jul 15**	**6**	**3**
Functional Configuration Audit	Module (Light Ambulance, Cab Chassis)	Apr 11	Aug 12	**Apr** 15	**48**	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) **(Redesign)**	May 15	**N/A**	**Oct** 15	**5**	**3**
Acceptance Verification and Validation	Light and Lightweight Trailers completed under Phase 3	Jul-Oct 11	N/A	Jul-Nov 11	1	**4**
	Module (Light Ambulance, Cab Chassis) (Redesign)	**Nov 14-Feb 15**	**N/A**	**Nov 14-Apr 15**	**2**	**5**
	Module (Light CPM) **(Redesign)**	Feb-May 15	**N/A**	**Aug-Oct 15**	**6**	**3**

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	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. **Delay due to design activities taking longer than anticipated and delay in the completion of the prototype.**
4	One extra month taken for retesting.
5	**Two extra months taken for retesting of electromagnetic compatibility performance and in preparation of conduct of Critical Design Review and Functional Configuration Audit.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

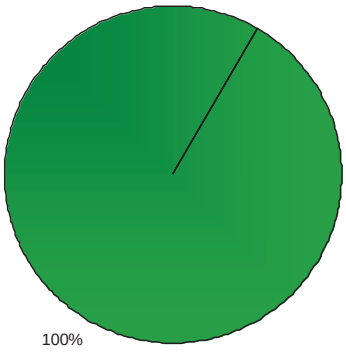
Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Dec 11	May 14	29	1
Initial Operational Capability (IOC)	Dec 12	Dec 15	36	2
Final Materiel Release (FMR)	May-Jul 16	**Oct 16**	**3**	3
Final Operational Capability (FOC)	Mid 16	**Oct 16**	**3**	3

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.



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Full issue to a Brigade of the initial vehicle variants Carryall (quantity 15), Panel Van (quantity three), Station Wagon (quantity 15), Cargo (quantity nine) and Canine (quantity one).** **IMR was achieved provided the following caveats are resolved prior to IOC:** • **Carryall Hardtop and Station Wagon load restraint;** • **G-Wagon air transportability; and** • **Vehicle warning systems operating during blackout and reduced lighting operation.**	**Achieved with caveats.**
Final Materiel Release (FMR)	**Completion and release of Acquisition Project Supplies required, including:** • **The final tranche of light and lightweight vehicles, modules, and trailers and associated supplies transferred to sustainment;** • **Verification and validation, testing and certification of all supplies;** • **Maintenance support and training provided for operators and maintainers; and** • **Support spares and repair parts provided for a period of three years.**	**Not achieved.**

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Integration of C4I systems has the potential to impact on the LLC vehicle cost, schedule and capability requirements.	The LLC project team continue to work with the relevant stakeholders to initiate methods to minimise the effect and costs of these risks. **Testing will continue through until October 2015.**
The concurrency of critical activities including developing the design and support system, and introducing into service the Ambulance and CPM modules, has the potential to impact on cost, schedule, supportability and reputation.	**This risk has been accepted. The project will manage the workload within the current workforce allocation and continue to monitor the risk.**
There is a chance that through-life support costs of the G-Wagon **fleet** will be affected by the requirement to reapply corrosion protection leading to an impact on cost and supportability. The vehicle OEM advised that the cavity wax is recommended to be reapplied once at 12 months from delivery and the corrosion protection Under Body Sealant wax needs reapplication, if required.	**This risk has been retired following further investigation by the project office and the vehicle OEM. Both parties do not consider that the requirement to maintain the corrosion protection on the vehicles affects the long-term sustainability of the vehicles due to the layered approach that has been adopted and the ability to reapply the Under Body Sealant at unit level.**
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
N/A	**N/A**

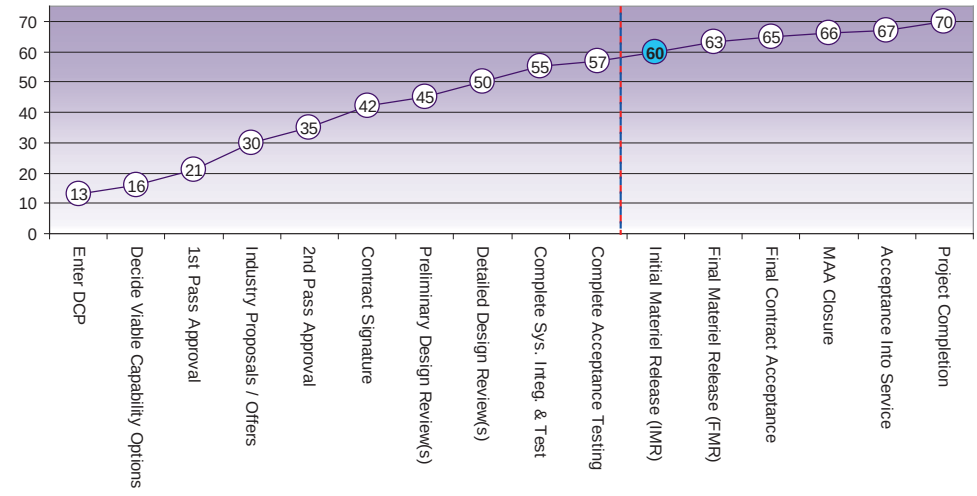
5.2 Major Project Issues

Description	Remedial Action
A decision by Defence to include the 3rd Brigade in the LAND 121 Phase 3A roll-out has resulted in the Introduction into Service expenditure exceeding forecasted budget.	**This issue has been retired due to LAND 121 Phase 3A reallocating existing funding, within financial year and total budget allocation, to achieve roll-out to the 3rd Brigade by November 2014.**

Section 6 – Project Maturity

6.1 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.							



2013-14 MPR Status - - - - 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 **and that the project office captures the origin and maintains the traceability into the System 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 – e.g. 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
The complexity of integrating communication and battle-management equipment into vehicles during the design and development phase of both materiel systems, with different project offices, prime contractors and development cycles, should not be underestimated. More work should be done by Defence in the Needs/Requirements stage to de-conflict or better integrate interdependent projects.	**Requirements Management**

Section 8 – Project Line Management

8.1 Project Line Management in 2014–15

Position	Name
General Manager	Mr Colin Thorne
Division Head	MAJGEN Paul McLachlan
Branch Head	BRIG Haydn Kohl
Project Director	Mr Ken Butler
Project Manager	Mr Geoff Fallon (Acting)

Project Data Summary Sheet[233]

Project Number	**SEA 1448 Phase 2B**
Project Name	**ANZAC ANTI-SHIP MISSILE DEFENCE**
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)	**$678.6m**
2014-15 Budget	**$75.2m**
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 slight underspend of $2.5m, primarily due to the complex materiel management across multiple projects, including but not limited to SEA 1448 Phase 2A, this project and other sustainment products.**

Project Financial Assurance Statement

As at 30 June 2015, project SEA 1448 Phase 2B has reviewed the approved scope and budget for those

233 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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 **largely** 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 **2014-15**, **due to pressures from the large sustainment program of work, a revised schedule has been developed for ships four onwards. Recent achievements include the Materiel Release (MR) of the second ship, HMAS *Arunta* in December 2014, and the MR of the third ship HMAS *ANZAC* in March 2015. The fourth ship HMAS *Warramunga* is working to a revised schedule and is expected to be completed in December 2015. HMAS *Ballarat* the fifth ship and HMAS Parramatta the sixth ship are both well into the upgrade, again working to a revised schedule. The project remains on track to deliver Final Operating Capability (FOC) by October 2017.** All documentation to support Initial Operational Capability (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 **Operational Test & Evaluation (OT&E)** for the final Stage 2 capability. **IOC** is anticipated in **September 2015.**

Note

The capability assessments and forecasts by the project 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 Phased Array Radar System.

Major Risks and Issues

The major risks and issues for SEA 1448 Phase 2B are:

- **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;**
- **A chance that with the significant change in the technology levels being delivered under the ASMD upgrade, stakeholder expectations may not be achieved;**
- **That indices used in the prime contract, particularly labour rates, may exceed current predictions;**
- **An inability to resource the ASMD Project correctly (includes availability, conflicts, personnel, training and quality (CoA, CEA, ANZAC IMS, Industry, Test and Trials); and**
- **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.**

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.

SEA 1448 Phase 4A – This Phase complements the ASMD Upgrade by delivering a contemporary Electronic Support Measures (ESM) system. This Phase is being managed through Electronic Systems Division (ESD).

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 15	Exchange Variation		**(9.7)**	
Jun 15	**Total Budget**		**678.6**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – CEA Technologies (PAR Production)	**(156.7)**		5
	Contract Expenditure – SAAB Systems Pty Ltd	**(77.6)**		
	Contract Expenditure – BAE Systems Australia (Follow On (FON))	**(66.7)**		
	Contract Expenditure – BAE Systems Australia (First of Class)	**(60.8)**		
	Contract Expenditure – CEA Technologies (P3 Contract)	(57.6)		6
	Contract Expenditure – ICWI Membership	**(19.7)**		
	Other Contract Payments / Internal Expenses	**(36.9)**		**7**
			(476.0)	
FY to Jun 15	Contract Expenditure – BAE Systems Australia (Follow On (FON))	**(51.1)**		
	Contract Expenditure – CEA Technologies (PAR Production)	**(14.5)**		5
	Contract Expenditure – SAAB Systems Pty Ltd	**(0.6)**		
	Contract Expenditure – BAE Systems Australia (First of Class)	**(0.3)**		
	Other Contract Payments / Internal Expenses	**(6.2)**		**7**
			(72.7)	
Jun 15	**Total Expenditure**		**(548.7)**	
Jun 15	**Remaining Budget**		**129.9**	

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	(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.
7	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.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
77.2	**71.9**	**75.2**	**PBS – PAES – The variation is due to minor reduction of ASMD work due to the extent of concurrent maintenance for ANZAC ships. PAES – Final Plan – Variation is due to optimisation of funding driven by financial constraints in outer years.**
Variance $m	**(5.3)**	**3.3**	Total Variance ($m): **(2.0)**
Variance %	**(6.9)**	**4.6**	Total Variance (%): **(2.6)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The underspend is primarily due to the complex materiel and schedule management across multiple projects, including but not limited to SEA 1448 Phase 2A, this project and other sustainment products.**
			Overseas Industry	
		(2.5)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
75.2	**72.7**	**(2.5)**	**Total Variance**	
		3.4	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
BAE Systems Australia (First of Class)	Jul 05	2.1	**61.1**	Variable	Alliance	1
SAAB Systems Pty Ltd	Jul 05	3.1	**78.2**	Variable	Alliance	1
CEA Technologies P3 Contract	Dec 05	8.9	57.6	Variable	ASDEFCON	1
CEA Technologies PAR Production Contact	Dec 08	16.0	**184.5**	Variable	ASDEFCON	1
BAE Systems Australia (FON)	Jan 12	164.9	**169.6**	Variable	Alliance	1

Notes	
1	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
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 15
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*, HMAS *Arunta* and **HMAS *ANZAC***. Equipment continues to be installed on HMAS *Warramunga*, HMAS ***Ballarat* and HMAS *Parramatta*.**

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 15**	**69**	2

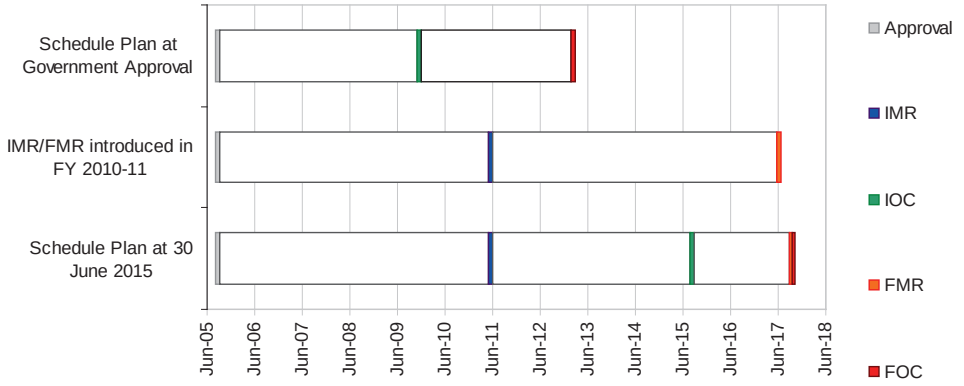
Notes	
1	Variance in both the test readiness review and acceptance of the first upgraded ASMD ship is directly related to the change of acquisition strategy and movement from an eight ship program to a single ship program.
2	Initially the variance in the acceptance of the first upgraded ASMD ship was 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 **IOC** until after PAR had been proven against Supersonic Targets. IOC documentation **was** submitted to Navy in **July 2014** 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	
Initial Operational Capability (IOC)	Dec 09	**Sep 15**	**69**	**1**
Final Materiel Release (FMR)	Jul 17	**Oct 17**	**3**	**2, 4**
Final Operational Capability (FOC)	Mar 13	Oct 17	55	**3, 4**

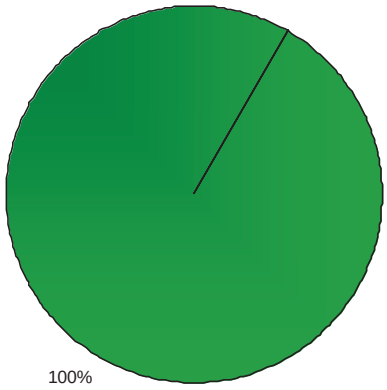
Notes	
1	Variance is directly linked to updated Materiel Acquisition Agreement which moved IOC until after Phased Array Radar System had been proven against Supersonic Targets. All IOC documentation has been submitted to Navy for processing.
2	Variance is due to approval of ships 2-8 by Government.
3	Variance is directly linked to the change of acquisition strategy - movement from a one plus seven ship program to an eight ship program.
4	**To reduce schedule pressure from the large sustainment work package, a revised schedule has been developed in consultation with Navy for ships four through to eight.**

Schedule Status at 30 June 2015



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Provisional acceptance of the ASMD upgraded HMAS *Perth*.**	**Achieved**
Final Materiel Release (FMR)	**Acceptance of the ASMD upgraded ship 8, HMAS *Stuart*, scheduled for October 2017.**	**Not Achieved**

Section 5 – Major Risks and Issues

5.1 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 Phased Array Radar 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 2014-15)	
Description	Remedial Action
N/A	N/A

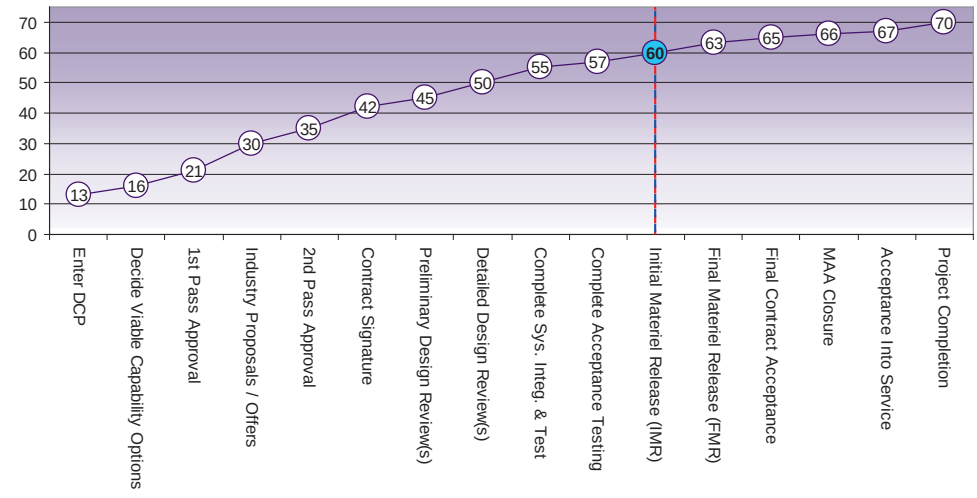
5.2 Major Project Issues

Description	Remedial Action
N/A	N/A

Section 6 – Project Maturity

6.1 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.							



2013-14 MPR Status - - - -	2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Mr Colin Thorne
Division Head	RADM Mark Purcell, RAN
Branch Head	CDRE Michael Houghton, RAN **(to Dec 14)** **CDRE Steve Tiffen, RAN (Dec 14–current)**
Project Director/Manager	Mr Mark Simmonds

Project Data Summary Sheet[234]

Project Number	**AIR 9000 Phase 5C**
Project Name	**ADDITIONAL MEDIUM LIFT HELICOPTERS**
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)	**$633.8m**
2014-15 Budget	**$137.8m**
Project Stage	**Initial Materiel Release**
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

This project **is replacing** 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

End of year variance of ($1.4m) due to ($0.7m) Foreign Military Sales (FMS) underspend caused by reduced disbursement data from the US for aircraft, $1.7m overspend in United States (US) Government non-FMS procurement, ($3.1m) underspend in Australian industry procurement and $0.7m Foreign Exchange adjustment.

Project Financial Assurance Statement

As at 30 June 2015, Project AIR 9000 Phase 5C has reviewed the approved scope and budget, for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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.

234 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

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 US Government in March 2010.

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. **The second TFPS arrived in Townsville in February 2015, and is installed in the temporary facility with the first TFPS.**

The first four aircraft have been delivered as at June 2015, with the final aircraft (seventh) due to be delivered by August 2015.

The project held two Special Flight Permit (SFP) Airworthiness Boards, the first on 26 November 2014 and the second on 3 March 2015. A SFP was issued by the Defence Airworthiness Authority on 28 March 2015 as a result of a Board recommendation and will cover the period until 31 March 2016.

All of the Elements of Initial Materiel Release (IMR) were in place by 30 June 2015 and IMR was declared by CASG on 1 July 2015. The endorsement of IMR by the Capability Manager is expected to occur in late July 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 **seven** years and the capability has achieved outstanding **operational** results. The ADF has **to date taken** delivery of **four** aircraft; **and** there are currently no impediments to the Project achieving the materiel capability performance requirements.

Note

The capability assessments and forecasts by the project 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 **with the majority having** 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 **synergies** due to the high degree of commonality between the CH-47D and CH-47F aircraft. **It also allows staff to be prioritised between sustainment and acquisition where vacancies exist in the Unit.**

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. **There has been an increase in emergent risks in 2015, as the project nears delivery milestones. The majority of these are a result of either delays in the provision of scheduled US Army deliverables or availability of sufficient resources in the project team and support organisations. The emergent risks of greatest concern are the delivery of Aircraft Survivability Equipment support systems and crashworthy passenger seating, both of which are delays dictated by external agencies with expertise outside the ADFs skill set. CHMU cannot mitigate the Aerospace Systems Engineering delays; CHMU is taking action to accelerate both crashworthy seating programs. The delivery of a maintenance solution is a very recent clarification of project scope and not related to other current training system programs and treatment action will be launched with a high priority. Risks have also been identified in regards to Australian Military Type Certification, ongoing support of the platform, training and the ADF's CH-47 Aircraft publications. Ongoing issues in relation to the management of the FMS case are being managed.**

Defence Support Reform Group (DSRG) advises that the facilities in Townsville are scheduled 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. The impact of facility delays have been mitigated through robust decanting plans to minimise the effect of construction on the operational unit and project transition activities. The Parliamentary Standing Committee on Public Works sat on 22 May 2014 and construction commenced in December 2014 based on a Parliamentary Expediency Motion in July 2014.

Other Current Sub-Projects

AIR 9000 Phase 7 Helicopter Aircrew Training System (HATS): HATS will be an important link in the training continuum for inductees to the CH-47F training system.

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		
			634.2	
Jul 10	Price Indexation		46.9	2
Jun 15	Exchange Variation		**(50.7)**	
Jun 15	**Total Budget**		**633.8**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – US Government (AT-B-UDK)	**(223.3)**		**3**
	Contract Expenditure – US Government (AT-B-BAH)	**(7.9)**		**3**
	Contract Expenditure – US Government (AT-B-UGB)	(7.0)		**3**
	Other Contract Payments / Internal Expenses	**(8.4)**		**4**
			(246.6)	
FY to Jun 15	Contract Expenditure – US Government (AT-B-UDK)	**(99.9)**		**3**
	Contract Expenditure – US Government (AT-B-BAH)	**(23.6)**		**3**
	Contract Expenditure – US Government (AT-B-UGB)	**(2.8)**		**3**
	Other Contract Payments / Internal Expenses	**(10.1)**		**4**
			(136.4)	
Jun 15	**Total Expenditure**		**(383.0)**	
Jun 15	**Remaining Budget**		**250.8**	

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	**The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.**
4	Major items of expenditure include development of crashworthy seats, Workforce and Operating expenses, Research and Development costs, office expenses, and travel and training expenses.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
165.9	**132.6**	**137.8**	**Re-phasing of FMS payments aligned on latest US Army disbursements. Termination Liability (deposit) was released in Financial Year 2014-15. Re-phasing of both AUD and USD procurements from Financial Year 2014-15. PAES – Final Plan: Variance due to foreign exchange adjustment based on revised USD Budget Exchange Rate.**
Variance $m	**(33.3)**	**5.2**	Total Variance ($m): **(28.1)**
Variance %	**(20.1)**	**3.9**	Total Variance (%): **(16.9)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
		(0.7)	FMS	**End of year variance of ($1.4m) due to ($0.7m) FMS underspend caused by reduced disbursement data from the US for aircraft, $1.7m overspend in US non-FMS procurement, ($3.1m) underspend in Australian industry procurement and $0.7m Foreign Exchange adjustment.**
		1.7	Overseas Industry	
		(3.1)	Local Industry	
			Brought Forward	
			Cost Savings	
		0.7	FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
137.8	**136.4**	**(1.4)**	**Total Variance**	
		(1.0)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
US Government **(AT-B-UDK)**	Mar 10	513.5	**397.0**	Reimbursement	FMS	1, **2, 5**
US Government **(AT-B-UGB)**	Dec 11	18.0	**22.1**	Reimbursement	FMS	**1, 3, 5**
US Government **(AT-B-BAH)**	Jun 13	41.6	**52.7**	Reimbursement	FMS	**1,** 4, **5**

Notes	
1	**The scope of this contract is explained further below.**
2	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 definitization of the US Army – Boeing aircraft production contract. **Amendment 5, which permitted rectification of minor design issues with support systems, was signed on 1 May 2015.**
3	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.
4	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 Defence with greater control over the procurement of spares required for the project.
5	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
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 15				
Two Transportable Flight Proficiency **Simulators**. A quantity of Repairable Items and Spare Parts. **Four CH47F aircraft.**				
Notes				
1	**The first four** aircraft **have been delivered. The remaining three aircraft will be delivered and reassembled during July and August 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	**Nov 14**	18	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	**Oct 15**	**18**	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 Crashworthy Pilot Seats (CPS) are mature designs that have been previously certified on the ADF CH-47D Chinook. Since the last report, the project has determined that the existing CH-47D CPS solution does not fit in the CH-47F cockpit and an alternative solution, based on an existing Boeing modification, is currently being finalised. The project is no longer pursuing a blade fold solution as no suitable design exists. The dates provided for ADF Unique Modifications relate to the three most significant modifications, namely the Minigun, CPS and cockpit/cabin ballistic protection. These three key modifications, and a range of other minor modifications incorporated during each rebuild, will enable the project to achieve the materiel pre-requisites for Initial Operational Capability (IOC) due on 31 December 2015.**					

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
	ADF Unique Modifications	**Dec 15**	**N/A**	**Jan 16**	**1**	**3**
Acceptance	CH-47F Chinook helicopter	Mar 14 – Nov 15	N/A	Mar 15 – **Aug 15**	(3)	2
	Rotor Brake	Apr 14	N/A	**Nov 15**	**19**	1

	ADF Unique Modifications	**Jan 16**	**N/A**	**Feb 16**	**1**	**3**

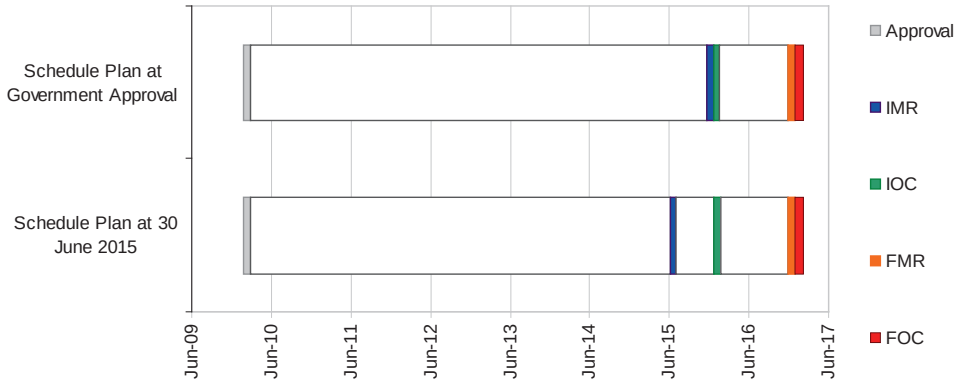
Notes	
1	Rotor brake acceptance dates are **dependent upon Boeing and the US Government releasing an Airworthiness Recommendation and Airworthiness Qualification and Substantiation Report. The rotor brake is being installed on the production line. There will be a limitation preventing use of the rotor brake until it has met Australian Technical Airworthiness requirements. The variance is aligned with 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 acceptance.
3	**Testing and evaluation of ADF Unique Modifications will be performed by the Commonwealth.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jan 16	**Jul 15**	**(6)**	**1**
Initial Operational Capability (IOC)	Jan 16	Jan 16	0	
Materiel Release 2 (MR2)	**Feb 16**	**Feb 16**	**0**	**2**
Final Materiel Release (FMR)	Jan 17	Jan 17	0	
Final Operational Capability (FOC)	Jan 17	Jan 17	0	

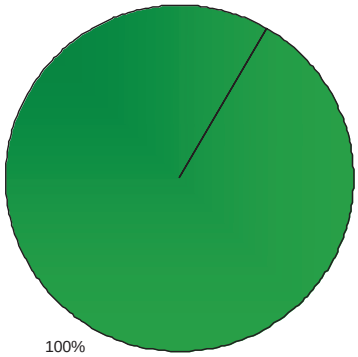
Notes	
1	**Variance against IMR is due to redefining the IMR milestone in the latest Materiel Acquisition Agreement with Army (MAA V2.3) to better meet project requirements (i.e. aircraft ready to fly in support of New Equipment Training (NET)). Completion of the requirements in the old MAA will be completed in the same timeframe as originally planned. All of the elements of the IMR were in place by 30 June 2015 and IMR was declared by CASG on 1 July 2015. The endorsement of IMR by the Capability Manager is expected to occur in late July 2015.**
2	**MR2 provides an interim milestone to support the delivery to Army of an incremental CH-47F materiel subset (in addition to IMR) that has completed acceptance testing, has achieved appropriate certification and suitable for the conduct of operational testing.**

Schedule Status at 30 June 2015



Section 4 – Materiel Capability Delivery Performance

4.1 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 assessments and forecasts by the project are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Delivery to Army of an initial CH-47F materiel subset that has completed acceptance testing, has achieved appropriate certification in accordance with ADF Regulations and is suitable for the conduct of both: CH-47D to CH-47F transition training, and initial operational testing. Key completion criteria are:** **3 x CH-47F aircraft at US Army production configuration in-service, 2 x TFPS configured to support transition training in-service, and a CH-47F SFP issued.** **IMR is expected to be endorsed by the Capability Manager in July 2015.**	**Not achieved.**
Final Materiel Release (FMR)	**Delivery to Army of the final CH-47F materiel subset (additional to MR2) that has completed acceptance testing, has achieved appropriate certification in accordance with ADF Regulations and is suitable for the conduct of operational testing. At FMR the entire CH-47F materiel system will have been delivered and upgraded or modified to the final Australian configuration where necessary. All supplies will be delivered as per the MAA (Materiel Acquisition Agreement). Key completion criteria are:** **7 x CH-47F at final approved configuration in-service, CH-47F final approved configuration training complete, and support arrangements in place to Materiel Sustainment Agreement.**	**Not achieved.**

Section 5 – Major Risks and Issues

5.1 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 (AMTC) 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 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 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**, the filling of military vacancies** and establish a **contracted** workforce as required to execute the Project. Risk treatment strategies partially effective. Current residual risk is **high**.
There is a chance that the scope of the SFP 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 **staffed** appropriate airworthiness waivers for risk acceptance in order to complete seat modification which will progress acceptance by US Army. **A waiver was granted in March 2015 and the SFP was not affected.** **This risk has been retired.**
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 activities have **progressed on schedule for** the first TFPS installed at RAAF Townsville. Risk treatment strategies effective. Current residual risk is medium.

Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
The delivery of Aircraft Survivability Equipment support systems (In-Country Reprogramming (ICR)) may be affected by delivery delays in leading to an impact on the scheduled FMR.	**Awaiting confirmation from US Army that contracts are in place for APR-39 Radar Detection Set. Common Missile Warning System (CMWS) ICR mitigations still in work with US Army confirmation of software approach to determine whether the schedule is achievable.** **Risk treatment strategies partially effective. Current residual risk is high.**
The maintenance of Aircrew Orders, Instructions and Publications (OIP) may be affected by overtasking of extant resources leading to an impact on continuing airworthiness and timely maturity of the Australian CH47F AIS.	**Directorate of Aviation Capability Management (DACM) Medium Lift Helicopter (MLH) manning has been supplemented by C Squadron allowing for Edition 1 to be released in April 2015 and Edition 2 to be on track for AMTC.** **Risk treatment strategies effective. Current residual risk is medium.**
AMTC/IOC may be affected by delays in the delivery of Multi-Year 2 (MYII) Interactive Electronic Technical Manuals (IETM) leading to an impact on maintenance supportability.	**Significant pre-emptive work is occurring to reduce the turn around time required once the US Army release the Draft IETM as well as improvements to the current Letter of Authorisation (LOA) as a fall back plan. Pre-review of the draft indicates a good product that should be workable until authorised version is released in September/October 2015. Reliant on US Army with no ability to accelerate their schedule.** **Risk treatment strategies partially effective. Current residual risk is medium.**
The provision of crashworthy passenger seating will be affected by delays in both the Main Cabin Upgrade (MCU) and US Army Crash Resistant Troop Seat (CRTS) programs leading to an impact on cost or schedule.	**With no product on the market, the project is investigating ways to accelerate both prospective products. Once CH-47F trials of the MCU occur later in 2015 CHMU will be in a position to determine details of a way forward. Contingency funding will be required to achieve a solution prior to 2018 as it is not feasible to continue waiting for the US Army solution when a crashworthy solution could be developed internally.** **Risk treatment strategies not yet effective or able to be progressed. Current residual risk is extreme.**
The delivery of an acceptable sustainment training plan may be affected by availability of required training devices leading to an impact on schedule and capability.	**Direction to acquire training aids in support of ongoing CH-47F Trade training was confirmed to be within scope of the project in June 2015. Cargo Helicopter Management Unit (CHMU) can now progress activities to acquire necessary equipment through US Army and/or Direct Commercial Sales (DCS).** **Nil mitigation enacted at this point. Contingency funding to be allocated. Risk is currently extreme due to unscheduled cost.**

The development of technician Training Management Plans may be delayed due to limited Subject Matter Expert (SME) availability leading to an impact on schedule and capability.	**Options to increase manning and support have been investigated and progress will be closely monitored.** **Risk treatment strategies currently being initiated. Current residual risk is medium.**
The currency of ADF's CH-47F aircraft publications may be affected by new restrictions on US Department of Defense (DoD) websites leading to an impact on capability and compliance.	**The 'pull' system of US Army publication support has always been a concern; this was escalated when US DoD websites changed their restrictions denying ADF members in Australia access to see when publication updates are released in order to request the update. Limited support from US Army and ADF Supply Liaison Officer (SLO) are not sufficient mitigation. A US Army Aviation and Missile Command (AMCOM) Liaison Officer is being investigated both for short term visits as an immediate mitigation and enduring presence. Contingency funds to be allocated.** **Risk treatment strategies currently being initiated. Current residual risk remains high.**

5.2 Major Project Issues

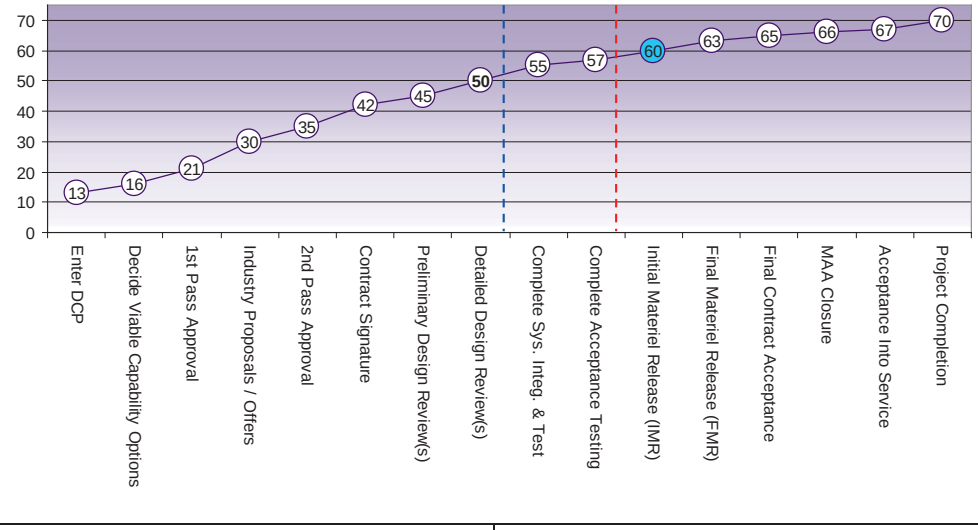
Description	Remedial Action
Inadequate performance in project management of the FMS case by the US Army is currently impacting on cost and schedule for the CH-47F Mission and Support Systems and may also impact on capability and reputation if this issue is not appropriately managed.	Continued performance 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. **Ongoing mitigation required due to the recent departure of two members of the US Government team. US Army team have temporary measures in place to mitigate.**
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 IOC.	**The Parliamentary Standing Committee on Public Works sat on 22 May 2014 and construction commenced in December 2014 based on a Parliamentary Expediency Motion in July 2014.** 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 project are no longer stakeholders in the facilities upgrade which is being managed by DSRG and Headquarters Forces Command.**

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 Visual Data Base 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. **This issue has been retired as the resultant risk from the lack of US accreditation is the achievement of a suitable training qualification for the device which has been raised as a separate risk. See PDSS risk 5 regarding training requirements.**

Section 6 – Project Maturity

6.1 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	8	**8**	**8**	**8**	**8**	**58**
	Explanation	• **Schedule: Some materiel and support systems remain to be delivered, however the project remains confident that FMR will be achieved in January 2017.** • **Cost:** FMS commitments have gained significant clarity and almost all associated procurement contracts have been awarded and costs determined. • **Technical Difficulty: Conduct of maturing of systems coupled with recent CH-47F training undertaken by project staff with OEM have increased confidence in the management of technical issues that arise.** • **Operations and Support: CH-47F is currently being supported under CA15 Materiel Sustainment Agreement. Materiel transition process is underway and support arrangements are well advanced in anticipation of movement to the next phase – transitioning.**						



2013-14 MPR Status - - - -	2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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
The application of US Government contingency is not specifically disclosed to the Commonwealth in a Letter of Offer and Acceptance, therefore project cost estimates provided to Government will typically also include Commonwealth-estimated contingency on each of the major items of supply, on top of US Government contingency. The overall result is that the Commonwealth has excess contingency to what was reasonably required to fulfil the project. For MOTS procurements via FMS, the Commonwealth internal contingency provision should be decreased in recognition that the US Army estimates already include a contingency provision.	**Contract Management**

Section 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	RADM Tony Dalton
Branch Head	BRIG Andrew Mathewson
Project Director	GPCAPT David Scheul **(to Jan 15)** **COL Jeremy King (Jan 15–current)**
Project Manager	LTCOL Jeremy King (May 14–**Jan 15)** **LTCOL David Lynch (Jan 15–current)**

Project Data Summary Sheet[235]

Project Number	**JP 2072 Phase 2A**
Project Name	**BATTLESPACE COMMUNICATIONS SYSTEM**
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)	**$461.9m**
2014-15 Budget	**$17.1m**
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 **is** also **establishing** the mature support system for the new generation Combat and Tactical Data Radios.

1.2 Current Status

Cost Performance

In-year

The project **achieved an overspend of $2.9m for this financial year, with support contract achieved earlier than expected and the associated attrition spares brought forward to establish the support contract for Harris equipment.**

Project Financial Assurance Statement

As at 30 June 2015, Project JP 2072 Phase 2A has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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.

235 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

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) **was achieved May 2015 for Combat Radio, and forecast for October 2015 for Tactical Data Radio**. 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 **was unaffected**.

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. **The** rollout to end users is **effectively** complete according to the approved Basis of Issue (the schedule which identifies equipment entitlements by unit)**; with some specialised ancillaries still being finalised and/or pending technical certification prior to release.**

Note

The capability assessments and forecasts by the project 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 **maximises** commonality and **minimises** 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 **consisted** 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 **is establishing** 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 **procured** '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 **is** employed needed to be defined prior to achievement of IOC for the BMS**, therefore** changes to the **configurations or operation of** BMS **and communications equipment** may have follow on effects to the systems being rolled out under JP 2072. **The establishment of mature support therefore incorporates provision for** mass upgrades of equipment in minimal timeframes.

Unlike Phase 1, the equipment 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 **subject to** 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.

The project has very high exposure to risk of key personnel loss and with limited resources is increasingly reliant on contractor support to achieve approved scope.

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 2B, BCS(L): Phase 2B will provide the BCS(L) deployed, wide-band backbone by replacing and enhancing the existing Battlefield Telecommunications Network (BTN) capability within Army and Air Force. The end-state is a BTN which provides greater capacity, effective switching, wireless and wired network infrastructure supporting secure voice, data and video services. Phase 2B will also integrate the Second Generation Deployable Local Area Networks, including servers and user terminals, as well as deliver a Terrestrial Range Extension System to extend the range of Phase 1 networks.

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.

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 15	Exchange Variation		**25.5**	
Jun 15	Total Budget		**461.9**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Harris Corp – Acquisition	**(239.4)**		
	Contract Expenditure – Harris Corp – Support	**(10.6)**		
	Contract Expenditure – Harris Corp – Follow on	**(19.2)**		
	Other Contract Payments / Internal Expenses	**(10.5)**		1
			(279.7)	
FY to Jun 15	Contract Expenditure – Harris Corp – Support	**(7.3)**		
	Contract Expenditure – Harris Corp – Mature Support	**(7.0)**		
	Contract Expenditure – Harris Corp – Acquisition	**(0.8)**		
	Other Contract Payments / Internal Expenses	**(4.9)**		**2**
			(20.0)	
Jun 15	**Total Expenditure**		**(299.7)**	
Jun 15	**Remaining Budget**		**162.2**	

Notes	
1	Other expenditure **comprised**: travel, introduction into service training expenses, contractor support and JP 2072 Prime Systems Integrator capability studies.
2	**Other expenditure comprises: Key Loaders and Cable Test Set ($1.3m), Training equipment ($0.5m), freight ($0.4m), minor contractors ($0.3m), Effective Date to Operative Date Support ($0.3m), Interagency Work ($0.3m), travel ($0.3m), and other minor orders ($1.5m).**

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
73.5	**16.8**	**17.1**	**PBS to PAES: All Shipments were successfully delivered by Harris ahead of schedule (in earlier years) to align with Commonwealth priorities. In year procurements delayed by commercial activities to seek lower cost of support contracts and training equipment.** **PAES to Final Plan: Due to exchange rate update for Financial Year 2015-16.**
Variance $m	**(56.7)**	**0.3**	Total Variance ($m): **(56.4)**
Variance %	**(77.1)**	**1.8**	Total Variance (%): **(76.7)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**Training aids took longer than anticipated and radio test sets were delayed due to the priority of establishing mature support contracts; however this was offset by achievement of accelerated support contract initial payment and delivery of attrition spares for Combat Net radio equipment. Internal study related to Vehicle Adaptive Antenna System was delayed with refined requirement re-released to industry.**
		0.8	Overseas Industry	
		2.6	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
		(0.5)	Commonwealth Delays	
			Additional Government Approvals	
17.1	**20.0**	**2.9**	**Total Variance**	
		17.0	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Harris Corporation (Acquisition)	Jan 12	226.3	**240.2**	Firm	ASDEFCON	1, 2
Harris Corporation (Support)	Mar 12	14.6	**20.4**	Firm	ASDEFCON	1, 2
Harris Corporation (Follow on)	Oct 12	12.2	**19.2**	Firm	ASDEFCON	1, 2
Harris Corporation (Mature Support)	**May 15**	**6.6**	**7.0**	**Firm**	**ASDEFCON**	**1, 2, 3**

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 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).
3	**The total value of this mature support contract is $69.8m, with $7.0m initial costs funded by the project and the remaining expenditure to be funded out of the ongoing sustainment budget.**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Harris Corporation	11,638	11,638	Combat Net Radios, ancillaries and interim support.	1

Major equipment received and quantities to 30 Jun 15

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).
3	This value is for the Mature Support Contract Mobilisation payments which are being funded by the project. The total value of the contract is 69.8 with the remainder coming out of sustainment funds.

Section 3 – Schedule Performance

3.1 Design Review Progress

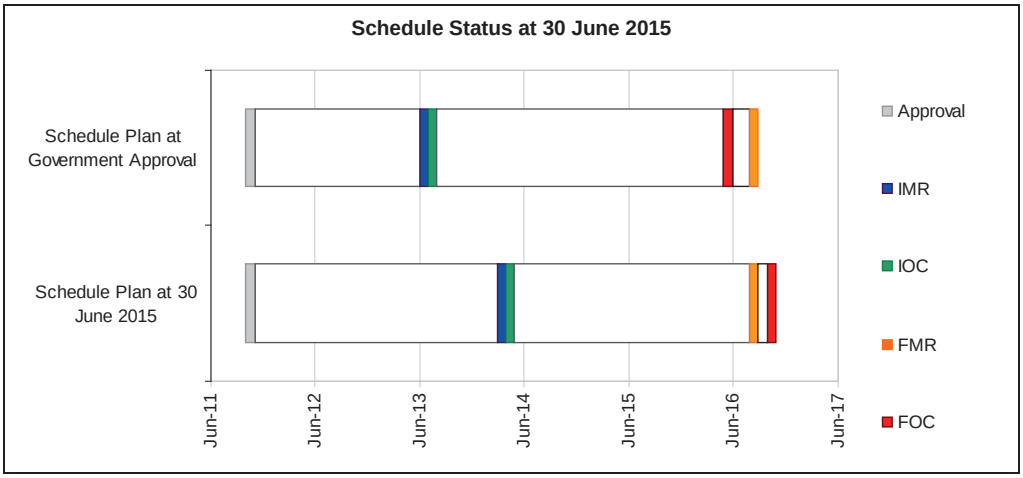
Review	Major System /Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	N/A	N/A	N/A	N/A	N/A	1
Preliminary Design	N/A	N/A	N/A	N/A	N/A	1
Critical Design	N/A	N/A	N/A	N/A	N/A	1
Support System Detailed Design	N/A	N/A	N/A	N/A	N/A	1
Notes						
1	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.					

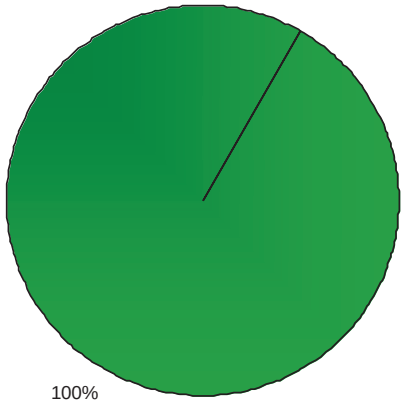
3.3 Progress Toward Materiel Release and Operational Capability Milestones

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.			



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**IMR comprises the delivery of 1,332 radios and ancillaries to 7 Brigade and selected Training Establishments in accordance with Basis of Provisioning (BoP) to support Capability Manager IOC activities.**	**Achieved**
Final Materiel Release (FMR)	**Final delivery of 11,638 radios and ancillaries, development and provision of initial training in accordance with full JP 2072 Phase 2A BoP to support Capability Manager FOC activities. Further, the transition of the mature support contract to the support agencies.** **FMR is a future dated milestone forecast for August 2016.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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.	**Continue to work** with the sustainment office **to address emergent issues through a Transition Working Group**. 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 staff. **Contractor personnel were/are being engaged (5 to date) and liaising with other projects for potential access to Integrated Support Contracts. Early transition of activities to sustainment being pursued as far as possible (eg involvement in establishing support contracts). Responsibilities shared to promote cross skilling and reduce reliance on key persons.**
There is a chance that the **remaining** mature support contract is not signed in advance of the interim support contract expiry dates due to reliance on contractor acceptance and availability of program, contracting and commercial support.	Interim Support Contract extension documentation **was** prepared, **however, risk downgraded to Medium with one contract signed (and the other progressing) prior to contract expiry dates.**
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 **were** conducted with essential and desirable change requests documented for either: rectification of the nodes, or submission of enhancements to change approval process.
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
N/A	N/A

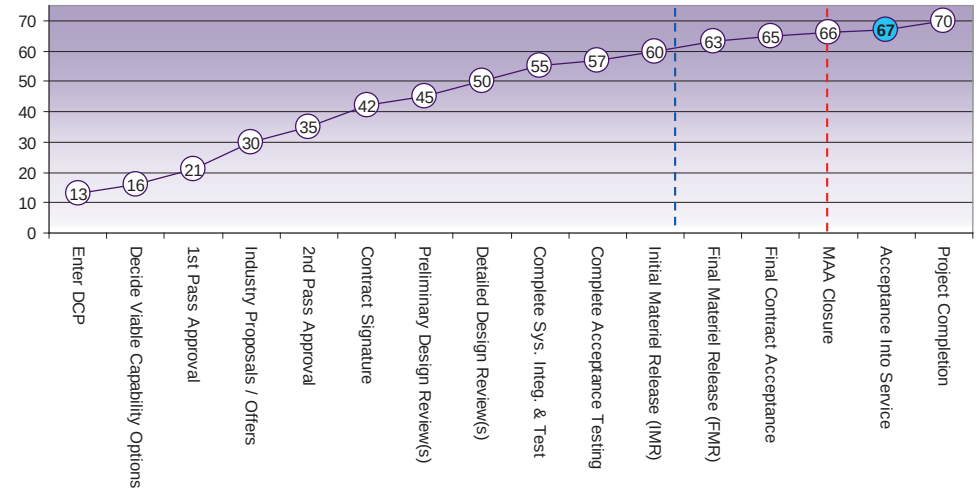
5.2 Major Project Issues

Description	Remedial Action
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 6 – Project Maturity

6.1 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**	**10**	**10**	**10**	**9**	9	**66**
	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.							



2013-14 MPR Status - - - - 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward **(to Nov 14)** **Mr Ivan Zlabur (Acting Dec 14)** **Mr Brad Flux (Acting Jan 15)** **Mr Ivan Zlabur (Acting Feb 15)** **Ms Myra Sefton (Acting Mar 15–May 15)** **Mr Brad Flux (Acting Jun 15–current)**
Branch Head	Ms Myra Sefton **(to Feb 15)** **Mr Michael Garrety (Acting Feb 15)** **Ms Lynsey Johnstone (Acting Mar 15)** **Ms Thea Huber (Acting Apr 15–May 15)** **Ms Myra Sefton (Jun 15–current)**
Program Director	Mr Peter Henrick
Project Manager	Mr Steve Wardle

Project Data Summary Sheet[236]

Project Number	**SEA 1439 Phase 4A**
Project Name	**COLLINS REPLACEMENT COMBAT SYSTEM**
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)	**$450.4m**
2014–15 Budget	**$1.4m**
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) **AN/BYG-1** 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 HMAS *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 **underspend of $0.3m** is primarily due to delays **in programmed work by Australian Industry.**

Project Financial Assurance Statement

As at 30 June 2015, project SEA 1439 Phase 4A has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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.

236 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Schedule Performance

Project boat 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 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 HMAS *Collins* 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 Project managed the development, installation and integration of the CS04 baseline. The **installation** 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

The RCS Project managed the development, installation and integration of the CS05 baseline. 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 HMAS *Dechaineux* occurred on 8 March 2011.

CS06

Installation of the upgraded baseline in HMAS *Rankin* was completed **by the RCS Project** in May 2014. **The development and integration of this baseline is being managed by Sustainment.**

Technical Insertion (TI)14

Installation in HMAS *Collins* will be completed **by the RCS Project** in conjunction with the FCD program. The project schedule is dependent on the boat FCD program; consequently the completion date may vary. **The development and integration of this baseline is being managed by Sustainment. Note: This baseline adopts the new TI naming convention beyond CS06.**

The remaining project activities include completing OR for the RCS baseline (CS05), **expected to be achieved by December 2015**, and installation of RCS on HMAS *Collins*. **Development, installation and integration of all** further combat system upgrades is being managed by Sustainment.

Note

The capability assessments and forecasts by the project 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 then 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 Defence and industry. This role has required close collaborative relationships to be formed between Defence, 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. **This** project **provides** one system baseline for the first two submarines and later baselines for the remaining four submarines. These initial baselines **installed by the RCS Project** 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

The small project team is disproportionately affected by turnover of key personnel, leading to an impact on cost and schedule. Mitigation activities are in place, but they do not significantly reduce the risk.

The cost of implementing the RCS modifications on HMAS *Collins* may rise over those predicted as a new contract will need to be negotiated to cover the remaining work. Sufficient Project budget exists to cover any price increase.

Delays in development or approval of the TI14/Advanced Processor Build (APB) 15 related Configuration Change Proposals (CCPs) by Sustainment could impact the Combat System installation on HMAS *Collins*. This can be mitigated by raising a Production Permit to enable installation on HMAS *Collins* ahead of CCP approval.

FMR could be delayed as the current MAA specifies deliverables/Objective Quality Evidence (OQE) that are outside of the Project's control, which may not be available in time to meet the FMR timeframe, leading to an impact on cost and schedule. This is being mitigated by amending the MAA.

The Coles Review recommended changes to the submarine docking program that resulted in HMAS *Collins*' implementation completion date slipping from 2016 to 2018, with a corresponding impact on the FMR and Final Operational Capability (FOC) dates.

Any future docking program reviews, higher operational priorities or material defects may adversely affect the Project implementation program, resulting in schedule delays and cost increases. The likelihood of this has decreased due to increased docking schedule stability, so the risk is now considered medium.

Other Current Sub-Projects

SEA 1439 Phase 3 Collins Class Submarine Reliability and Sustainability: 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 5B2 Collins Class Communications and Electronic Warfare Program: The Project scope is to enhance the Communications and Electronic Warfare capabilities of the Collins Class submarine. The project is broken up into two sections - the Modernised Submarine Communications System, an upgrade to the existing on board communications system, and the Microwave Electronic Support Measures, an enhancement to the existing Electronic Warfare capability.

SEA 1439 Phase RCE3 EHF Covert Communications Capability: Extreme High Frequency (EHF) Covert Communications Capability for a single Collins-class submarine.

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 Adjustment	(0.8)		2
			(1.7)	
Jul 10	Price Indexation		56.5	3
Jun 15	Exchange Variation		**(59.7)**	
Jun 15	**Total Budget**		**450.4**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Raytheon Australia	**(101.7)**		**4**
	Contract Expenditure – US Government (FMS)	(79.3)		**5**
	Contract Expenditure – US Government (ACP)	**(59.1)**		**6**
	Contract Expenditure – Sonartech Atlas	(26.8)		
	Contract Expenditure – Thales Underwater Systems	(26.6)		
	Other Contract Payments/Internal Expenses	**(140.5)**		**4,7**
			(434.0)	
FY to Jun 15	**Contract Expenditure – Thales Underwater Systems**	**(0.3)**		
	Other Contract Payments/Internal Expenses	**(0.8)**		**8**
			(1.1)	
Jun 15	**Total Expenditure**		**(435.1)**	
Jun 15	**Remaining Budget**		**15.3**	

Notes	
1	Transfer to the Defence Science Technology Organisation (DSTO).
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 $1.0m having been applied to the remaining life of the project.
4	**The previous Major Projects Report incorrectly classified $0.9m of Raytheon expenditure as Other Contract expenditure.**
5	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.

6	The ACP is the main vehicle for supplying equipment and services for the Combat and Weapon Control hardware and software development.
7	Other expenditure of **$140.5m** includes an amount of **$51.2m** 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 **$46.0m** of expenditure comprises operating expenditure, consultants, and contingency **used in 2009-10.**
8	The amount of **$0.8m comprises of $0.3m to ASC Pty Ltd, $0.3m to DSTO, and $0.2m to Ross Human Consulting.**

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
1.4	**1.4**	**1.4**	**N/A**
Variance $m	**0.0**	**0.0**	Total Variance ($m): **0.0**
Variance %	**0.0**	**0.0**	Total Variance (%): **0.0**

2.2B In-year Budget/Expenditure Variance

Estimate $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The underspend of $0.3m is primarily due to delays in programmed work by Australian Industry.**
			Overseas Industry	
		(0.3)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
1.4	**1.1**	**(0.3)**	**Total Variance**	
		(21.4)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $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	2, 5
Raytheon Australia	Aug 03	53.9	101.7	Variable	ASDEFCON Strategic	3, 5
Thales Underwater Systems	Oct 03	22.9	27.3	Variable	ASDEFCON Strategic	5
US Government (ACP)	Nov 04	51.8	**61.0**	Fixed	ACP	4, 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	The Sonartech Atlas contract value as at 30 June 2015 includes a Sustainment component of $9.0m.
3	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.

4	The US Government (ACP) 30 June 2015 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.
5	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
US Government (FMS)	7	7	US Combat and Weapon Control sub-system	
Sonartech Atlas	4	7	Sonar sub-system 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 sub-system	

Major equipment received and quantities to 30 Jun 15

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 sub-systems 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	**2, 3**

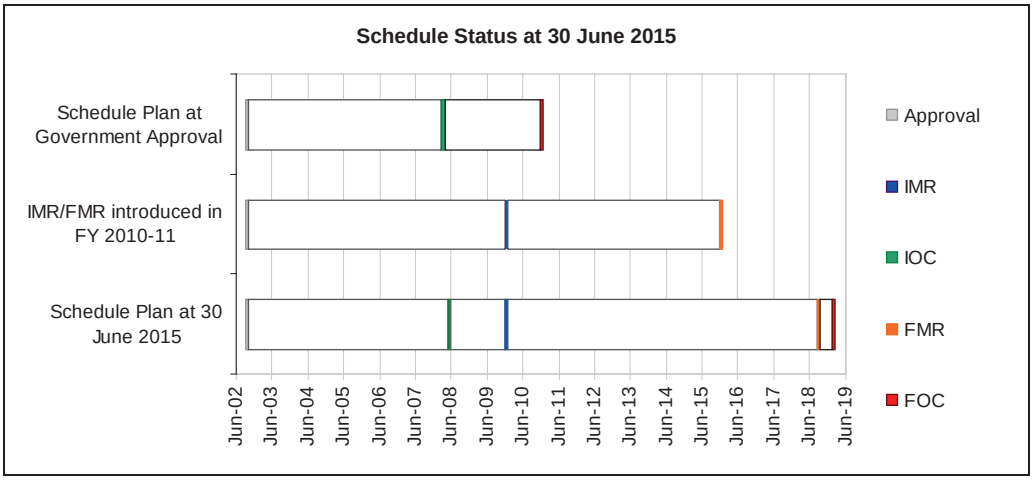
Notes	
1	Combat System CS05 baseline **Harbour and** Sea Acceptance Trial tests were conducted in two stages to account for weather, submarine defects and support vessel defects. In general, the project test and evaluation program was carried out in conjunction with other post docking activities and the planned testing schedule has been impacted to some extent.

2	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 HMAS *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. 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 HMAS *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. **CS05 OR is expected by December 2015.**
3	**The CS05 Acceptance trials were the last acquisition related testing activity managed by the Project. All further development and testing of the CS06 and TI14 combat system upgrades and beyond is the responsibility of Sustainment. SEA 1439 Phase 4A performed the installation for CS06 on HMAS *Rankin* and will perform the installation for TI14 on HMAS *Collins*.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

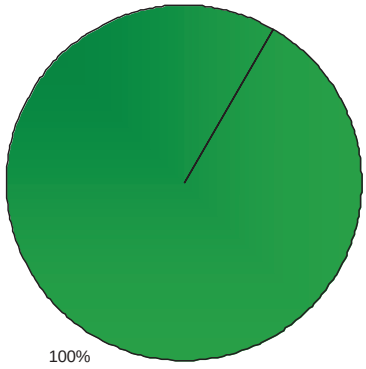
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Dec 09	N/A	1
Initial Operational Capability (IOC)	Mar 08	May 08	2	1
Final Materiel Release (FMR)	Jan 16	Oct 18	33	2
Final Operational Capability (FOC)	2010	Feb 19	98	3

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 HMAS *Collins* in 2018, with FOC currently expected to occur in 2019.



Section 4 – Materiel Capability Delivery Performance

4.1 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*. **The combat system baseline installed in HMAS *Rankin* is certified by Sustainment (i.e not subjected to IOR or OR).** **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Provisional acceptance of RCS on HMAS *Waller* achieved December 2009, incorporating completion of CS04 sea trials and CS04 OR.**	**Achieved**
Final Materiel Release (FMR)	**Completion of CS04 and CS05 OR and installation of a RCS on each of the six submarines. FMR is planned for October 2018.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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 **has been downgraded to a medium risk as improvements to the management of the submarine docking program implemented following the Coles Review allow greater certainty for the remaining implementation activity**.
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:** • **Use of contractors where appropriate;** • **Use of Reserve personnel where skills are suitable; and** • **Optimising use of matrix support staff.**
Emergent Risks (risk not previously identified but has emerged during 2014–15)	
Description	Remedial Action
There is a distinct risk that the price of implementing RCS modifications on HMAS *Collins* may rise over those predicted.	**Sufficient project budget exists to cover any price increase.**
There is a chance that delays in development of approval of the TI14/APB15 related CCPs could impact the Combat System installation on HMAS *Collins*.	**This risk can be mitigated by raising a Production Permit to enable installation of RCS into HMAS *Collins* ahead of CCP approval.**
There is a chance that FMR could be delayed, leading to an impact on cost and schedule.	**This risk is being mitigated by updating the MAA to remove deliverables/Objective Quality Evidence (OQE) outside of the Project's control.**

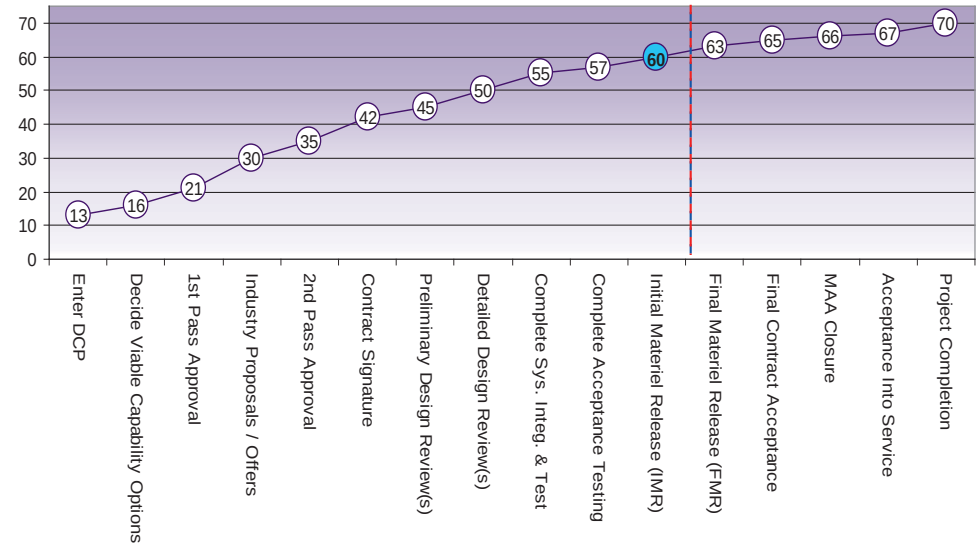
5.2 Major Project Issues

Description	Remedial Action
Uncertainty in the submarine docking cycle and the availability of submarines has impacted the RCS installation schedule.	**A government submission is being prepared to baseline already agreed implementation dates resulting from previous docking program changes such as those following the Coles Review.**

Section 6 – Project Maturity

6.1 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 HMAS *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 HMAS *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 HMAS *Collins* is expected in early 2018.							



2013–14 MPR Status - - - - | 2014–15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Ensure that adequate staffing **and resources are** available, in particular if Defence is to be **both** the prime systems integrator **and Project Authority**.	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**, gaps in OQE** and schedule risk that needs to be addressed.	First of Type Equipment
Robust procedures, processes and discipline must be implemented when managing requirements for multiple baseline combat systems. Maintaining expertise with a Requirements Management tool is essential to ensure reliable outputs and reduced re-work.	**Requirements Management**
Discipline in writing robust and understandable descriptions for failed requirements, deficiencies and non compliances is essential. The deficiencies should be written to inform both technical and operational personnel. The benefit is better quality documentation and less re-work by other staff in the future.	**First of Type Equipment**

Section 8 – Project Line Management

8.1 Project Line Management in 2014–15

Position	Name
General Manager	Mr David Gould
Division Head	**Vacant**
Branch Head	Mr David Cochrane
Project Director	CMDR Ian Jimmieson (Acting)
Project Manager	Mr Alan Levy

Project Data Summary Sheet[237]

Project Number	**SEA 1442 Phase 4**
Project Name	**Maritime Communications Modernisation**
First Year Reported in the MPR	2014-15
Capability Type	Upgrade
Acquisition Type	Australianised MOTS
Service	Royal Australian Navy
Government 1st Pass Approval	Dec 10
Government 2nd Pass Approval	Jul 13
Total Approved Budget (Current)	$442.1m
2014–15 Budget	$32.3m
Project Stage	Preliminary Design Review
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

SEA 1442 Phase 4 will upgrade the communications capability in the Anzac Class Frigates and address communications system obsolescence in the Class by modernising it with improved communications management, secure voice and tactical intercom, red/black switching, tactical radios and a high data rate line-of-sight capability. The project will also deliver support systems, a secondary Maritime Tactical Wide Area Network (MTWAN) Shore Gateway and upgrade the Anzac Combat System Trainer Communications Terminals.

1.2 Current Status

Cost Performance

In-year

This year the project has spent $31.5m of a budget of $32.3m. The $0.8m underspend was largely due to a delay in getting into contract for Viasat modems due to protracted discussions regarding the Terms and Conditions of the Contract**.**

Project Financial Assurance Statement

As at 30 June 2015, project SEA 1442 Phase 4 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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 for the treatment of a technical risk related to the unavailability/complexity of digital voice recorder integration.

Schedule Performance

237 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Key milestones achieved so far include: MTWAN Secondary Shore Gateway; Prime Contract Integrated Baseline Review (IBR), and System Definition Review (SDR). The SDR was achieved three months behind schedule, resulting in delays to the next two intermediate milestones in the lead-up to Detailed Design Review (DDR). However, the schedule is expected to be recovered and Initial Materiel Release (IMR) is forecast to be achieved as planned in June 2018.

Materiel Capability Delivery Performance

The MTWAN Secondary Shore Gateway has been delivered and is operational. The first Anzac ship capability with associated support systems is scheduled for delivery in June 2018.

Note

The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.

1.3 Project Context

Background

SEA 1442 (Maritime Communications Modernisation) is a multi-phased program that will modernise the Royal Australian Navy's (RAN) communications infrastructure. The preceding phase (Phase 3) delivered an initial Maritime Tactical Wide Area Network (MTWAN) and Message Handling System to the RAN's Major Fleet Units.

SEA 1442 Phase 4 will address critical obsolescence problems affecting the communication systems in the RAN Anzac Class frigates. The modernised communications system (NewGen MCS) will be highly integrated and automated to deliver more agile and faster communication and reduce operator intervention. The project scope includes upgrade of various communications systems in the 8 Anzac frigates, establishment of a training system at HMAS Stirling and a shore integration and test capability at the prime contractor's facility for in-service support, delivery of a secondary MTWAN shore gateway, and upgrade of the Anzac Combat System Trainer Communications Terminals.

The majority of individual equipment and sub-systems is either Military Off The Shelf (MOTS) or Commercial Off The Shelf (COTS). Some development is required and involves functionality enhancements and Australianisation of the MOTS and COTS. The main complexity is in bringing the sub-systems together as a highly integrated and automated system and installation in the ships, cognisant of existing weapons, sensors, emitters, and specific platform requirements.

Government Second Pass approval was achieved in July 2013. Prime acquisition and 5-year support services contracts were awarded to Selex ES Ltd in November 2013 following an open tender process.

Under the acquisition contract, Selex will: design, develop and install the NewGen MCS into the eight Anzac Class frigates; design, develop and install the support systems (training system and integration and test capability); and develop and deliver integrated logistic support products. The support services contract will become operative following acceptance of the first ANZAC frigate and the support systems.

The project is also managing the acquisition of ARC-210 Gen5 V/UHF multi-band multi-mode software defined radios through Foreign Military Sales (FMS) with the US Government. The radios form part of the NewGen MCS.

Uniqueness

An advanced feature of the system includes a unique radio frequency distribution system that will allow automated and efficient switching of the multitude of radios and antennae on each ship in order to establish the most effective communications path.

The high data rate line of sight system is a new capability and will be a step towards enabling the RAN to operate in a satellite denied environment and enable more efficient ship-to-ship communication.

Major Risks and Issues

The key risks for this project include: timely availability of the ships for installation; platform integration matters such as varying ship configurations, inadequate power and platform services, other concurrent activities on the ships during installation, and integration into the complex electromagnetic environment of the Anzac Class Frigates; integration with existing/legacy systems; equipment obsolescence due to the length of project; and availability of sufficient resources. Noting the staffing freeze and organisational uncertainty, staffing issues are currently impacting project activities.

Other Current Sub-Projects

N/A

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
Dec 10	Original Approved		11.4	
Jul 13	Government Second Pass Approval	374.3		
			374.3	
Jun 15	Exchange Variation		56.4	
Jun 15	**Total Budget**		442.1	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Selex	(12.6)		
	Other Contract Payments / Internal Expenses	(9.5)		1
			(22.1)	
FY to Jun 15	Contract Expenditure – Selex	(28.9)		
	Contract Expenditure – US Government	(0.3)		2
	Other Contract Payments / Internal Expenses	(2.3)		3
			(31.5)	
Jun 15	**Total Expenditure**		(53.6)	
Jun 15	**Remaining Budget**		388.5	

Notes	
1	Other expenditure comprises $5.9m for Pre-contract work with Selex, $2.1m for other pre Second pass studies and work, $1.2m for other minor contract expenditure, project management costs and travel, and $0.3m for legal services.
2	The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.
3	Other expenditure comprises $1.6m for other minor contract expenditure, project management costs, travel and Liquidated Damages due to late delivery of a contracted milestone, $0.5m for Shore Gateway West, and $0.2m for the Shore Integration Facility.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
23.6	21.7	32.3	PBS to PAES variance was caused because entry into contract for purchase of AC210 Radios via FMS Contract took longer than anticipated. PAES to Final Plan estimate increase can be attributed to foreign exchange movement and the early achievement of the Long Lead Time Item Review (LLTIR) Milestone.
Variance $m	(1.9)	10.6	Total Variance ($m): 8.7
Variance %	(8.1)	48.8	Total Variance (%): 36.9

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	The year end variance is largely the result of a delay in getting into contract for Viasat modems due to protracted discussions regarding the Terms and Conditions of the Contract.
		(0.8)	Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
32.3	31.5	(0.8)	Total Variance	
		(2.5)	% Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Selex	Nov 2013	187.7	210.7	Variable	ASDEFCON Strategic	1, 2
US Government (AT-P-BSH)	Dec 2014	17.0	19.9	Firm	FMS	1, 3

Notes

1	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).
2	In addition to Note 1 above, the increase in Selex contract price at 30 June 2015 includes additional elements, namely UHF MILSATCOM Antennae, Voice Recording System, and ARC-210 mounting and remote control ancillaries.
3	The scope of this contract is explained further below.

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Selex	See scope	See scope	8 ship mission systems 1 training system 1 Shore Integration and Test facility 3 deployable High Data Rate line-of-sight systems	
US Government (AT-P-BSH)	131	131	ARC-210 Gen 5 radios, technical data, and technical support.	

Major equipment received and quantities to 30 June 15

MTWAN Secondary Gateway has been accepted.

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	NewGen MCS and Support System	Sep 14	N/A	Dec 14	3	1
Preliminary Design	NewGen MCS and Support System	May 15	Sep 15	Sep 15	4	2
Detailed Design	MTWAN Secondary Gateway	Sep 14	N/A	Jan 15	4	3
	NewGen MCS	Oct 16	N/A	Oct 16	0	
	Support System	Apr 17	N/A	Apr 17	0	

Notes	
1	Delayed from originally planned due to slow ramp up/contractor performance.
2	Contract schedule re-baselined to reflect previous (SDR) milestone slippage and contractor's improved understanding of the work. No impact on Detailed Design Review milestone as schedule is planned to be recovered by then.
3	MTWAN System Requirements and Preliminary Design addressed prior to Second Pass Approval. In order to minimise risk to the operational network upon connection of the MTWAN Secondary Gateway, a demonstration of the design in the MTWAN shore integration facility was requested prior to design acceptance. This required additional time to complete.

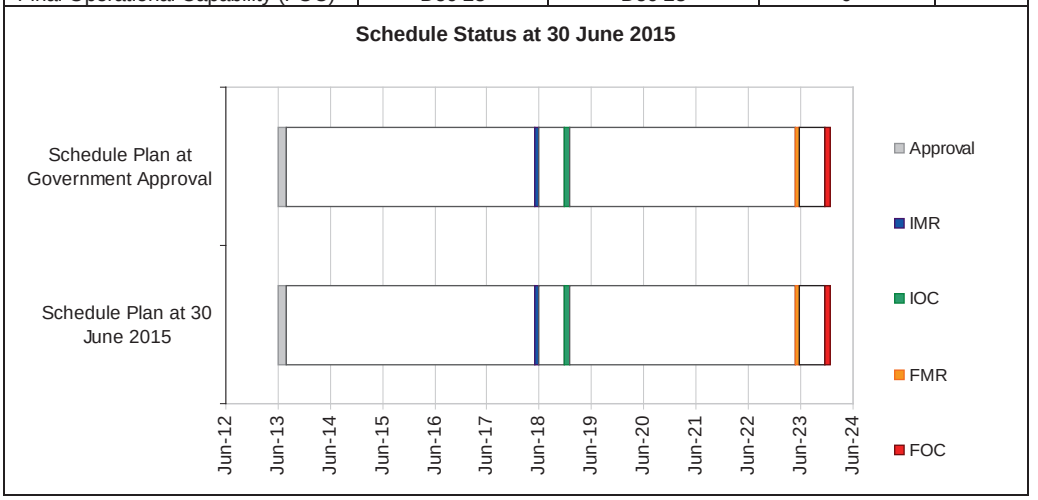
3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System/Platform Variant	Original Planned	Current Planned	Achieved/ Forecast	Variance (Months)	Notes
System Integration	NewGen MCS	Jun 18	N/A	Jun 18	0	
Acceptance	MTWAN Secondary Gateway	Apr 15	N/A	Mar 15	(1)	1
	Support System - Training System	Jun 17	N/A	Jun 17	0	
	Support System - Shore Integration and Test Facility (SITF)	Dec 16	Mar 18	Mar 18	15	2
	Ship #1	Jun 18	N/A	Jun 18	0	3
	Ship #2	Apr 19	N/A	Apr 19	0	3
	Ship #3	Nov 19	N/A	Nov 19	0	3
	Ship #4	Jun 20	N/A	Jun 20	0	3
	Ship #5	Feb 21	N/A	Feb 21	0	3
	Ship #6	Sep 21	N/A	Sep 21	0	3
	Ship #7	Apr 22	N/A	Apr 22	0	3
	Ship #8	Sep 22	N/A	Sep 22	0	3

Notes	
1	MTWAN Secondary Gateway has been accepted and is operational.
2	SITF acceptance date initially incorrectly positioned in the contract. Correction made via a formal contract change.
3	Subject to timely availability of ship for installation.

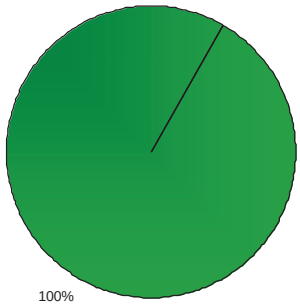
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jun 18	Jun 18	0	
Initial Operational Capability (IOC)	Dec 18	Dec 18	0	
Materiel Release 2 – Ship # 2	Apr 19	Apr 19	0	
Materiel Release 3 – Ship # 3	Dec 19	Dec 19	0	
Materiel Release 4 – Ship # 4	Aug 20	Aug 20	0	
Materiel Release 5 – Ship # 5	Apr 21	Apr 21	0	
Materiel Release 6 – Ship # 6	Dec 21	Dec 21	0	
Materiel Release 7 – Ship # 7	Aug 22	Aug 22	0	
Final Materiel Release (FMR)	May 23	May 23	0	
Final Operational Capability (FOC)	Dec 23	Dec 23	0	



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	Ship 1 acceptance, training system, shore integration and test facility, ship 1 crew training, and support arrangements in place.	Not achieved
Final Materiel Release (FMR)	All 8 ships accepted and all support arrangements in place.	Not achieved

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
Ship availability – There is a chance that ship(s) may not be available in a timely manner to conduct installation due to other priorities.	The establishment of Anzac Block Upgrade Program has to some extent reduced the likelihood of this risk occurring however, ship availability is beyond the project's control. If one or more ships are not available, revise work program to re-fit when next available and minimise cost impact through reorganisation of tasks and resources.
Platform Integration – There is a chance that installation will be affected by site or platform issues such as insufficient power, heat and ventilation.	Liaise closely with ANZAC System Project Office (SPO) and the Block Upgrade Program, monitor changes and update design accordingly, and integrate into ANZAC SPO's engineering change processes.
Platform Integration – There is a chance that installation completion will be affected by other non-SEA 1442 activities which are being conducted on the ship concurrently with each SEA 1442 installation.	The Block Upgrade Program has a number of other significant activities planned during each ship availability. Liaise closely with the Block Upgrade Program to limit interruptions and avoid conflicts with other activities. Monitor activities and conduct regular reviews and re-plan if necessary.
Platform Integration – There is a chance that installation will be affected by unknown or late changes to ship configuration.	Maintain close liaison with ANZAC SPO, including through the conduct of ship integration working group workshops. Ensure site surveys are conducted as late as possible prior to installation to verify ship configuration. Modify installation as necessary.
Platform Integration – There is a chance that system performance may be affected by integration into the complex electromagnetic environment of the Anzac Class Frigates.	The Prime Contractor is conducting an Electromagnetic Environmental Effects (E3) program which involves co-site performance analysis, measurements and modelling. If issues arise post design, implement engineering and procedural processes to address the issues.

System Integration – There is a chance that system design will be affected by unavailability, complexity, or changing external and legacy interfaces.	Develop interface control documentation, design and develop interface, or procure alternative solution to remove interface as appropriate. Monitor and manage change.
Obsolescence – There is a chance that retained legacy equipment provided to the Contractor becomes obsolete prior to system acceptance.	Monitor equipment obsolescence and refresh items if obsolete. Change design if necessary and where feasible.
Obsolescence – There is a chance that some mission system equipment may become obsolete prior to system acceptance.	Monitor equipment selection to ensure obsolete or equipment likely to become obsolete are not selected. Change design if necessary and where feasible. Spare appropriately.
Resourcing – There is a chance that the project will be affected by a lack of staff.	Recruit to replace as quickly as possible, train and develop graduates within the project, and utilise contracted support as necessary.
Emergent Risks (risk not previously identified but has emerged during 2014–15)	
Description	Remedial Action
N/A	N/A

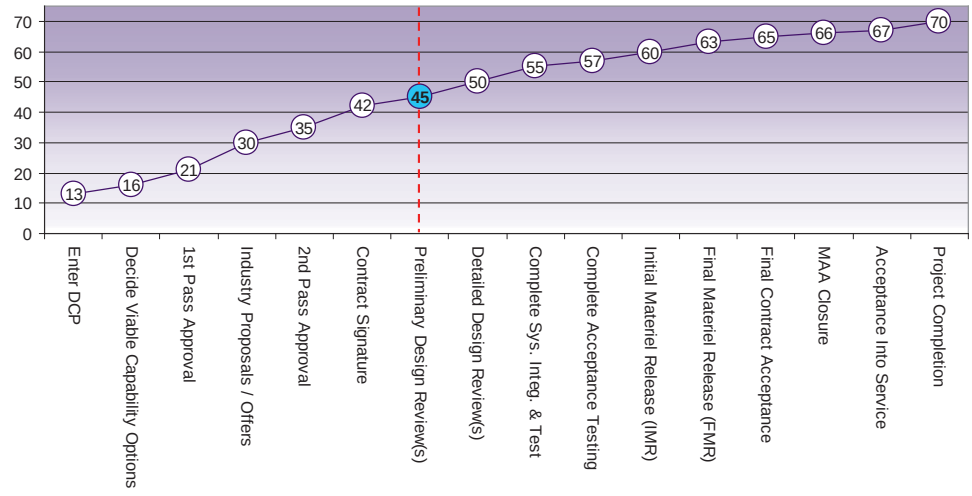
5.2 Major Project Issues

Description	Remedial Action
Vacant positions have not been filled due to ongoing constraints on recruitment. In addition, a number of vacant positions have been disestablished. Staffing freeze is impacting project activities, particularly during peak and staff leave periods. Any further staff losses will affect the project significantly.	Approval has been sought to fill at least one critical position. Attempts are also being made to fill a second position. Whilst not ideal and more costly, the use of contractors will be pursued should the constraints remain.

Section 6 – Project Maturity

6.1 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	6	7	7	7	6	6	6	45
	Explanation	• **Cost:** The overall estimate at completion is projected to be within approved project budget. Contingency is deemed adequate to cover risks should they arise. • **Requirement:** Requirements analysis has been completed and preliminary design indicates all operationally critical requirements as per the Operational Concept Document and Function and Performance Specification can be met. • **Commercial:** Contractor has plans in place to undertake work. Some areas are yet to be optimally functional and improvements are being implemented. • **Operations and Support:** Whilst parts of the Support System are known, the complete system is yet to be fully defined.							



2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
It is essential to have a good set of requirements early in the life of the project. In particular, ensure requirements are clear, unambiguous, and a common understanding is established between all parties, be it the Capability Acquisition and Sustainment Group and the end-user or Defence and contractor.	Requirements Management
Interface management is extremely critical for integration projects. Legacy interfaces are not always defined or consistent with the documented definitions. Ensure interfaces are well understood by all parties, and where not possible, risk is recognised with adequate contingency. Attempt to address interfaces as early as possible as the longer they are left unattended, the greater their impact on cost, schedule, and possibly performance.	Requirements Management
The ASDEFCON suite of contracting template is complex and designed as a single source for all types of projects. It must be tailored well to suit individual project context and strategy to avoid unnecessary detail, resource burden, cost and schedule.	Contract Management
De-risk the project as much as possible before contract award. Spend time and resources upfront defining and understanding work and scope, schedule, risk, cost and other aspects of the contract with tenderers. This must include detailed review of the schedule to ensure all work elements have been programmed and the schedule is realistic. The de-risking activity may be through Offer Definition Activities and/or funded pre-contract work.	Contract Management
Pay good attention to schedule and ensure all work is captured, logical and can form a basis for sound management post contract award. There is no substitute for good planning and a realistic schedule.	Schedule Management
Access to good and experienced resources is critical to sound project planning and management, and success. A realistic and achievable plan is more likely if a project has access to knowledgeable and experienced resources.	Resourcing Schedule Management

Section 8 – Project Line Management

8.1 Project Line Management in 2014–15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward (to Nov 14) Mr Ivan Zlabur (Acting Dec 14) Mr Brad Flux (Acting Jan 15) Mr Ivan Zlabur (Acting Feb 15) Ms Myra Sefton (Acting Mar 15–May 15) Mr Brad Flux (Acting Jun 15–current)
Branch Head	Ms Myra Sefton (to Feb 15) Mr Michael Garrety (Acting Feb 15) Ms Lynsey Johnstone (Acting Mar 15) Ms Thea Huber (Acting Apr 15–May 15) Ms Myra Sefton (Jun 15–current)
Project Director	Mr Guna Gounder (to mid Dec 15) Mr Norm Ridgway (Acting mid Dec 14–Jan 15) Mr Guna Gounder (Feb 15–current)
Project Manager	Mr Norm Ridgway

Project Data Summary Sheet[238]

Project Number	**SEA 1429 Phase 2**
Project Name	**REPLACEMENT HEAVYWEIGHT TORPEDO**
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)	**$427.9m**
2014–15 Budget	**$5.2m**
Project Stage	Initial Materiel Release
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

This project **has acquired** a Heavyweight Torpedo (HWT) for the six Collins Class submarines to replace the United States (US) Navy's (USN) Mk48 Mod 4 HWT previously in service with the Royal Australian Navy (RAN). The torpedo **has been** supplied by the 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

The project has a $0.5m underspend due mainly to funds returned after reconciliation of a previous In Service Support contract and delay in completion of a feasibility report.

Project Financial Assurance Statement

As at 30 June 2015, project SEA 1429 Phase 2 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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.

238 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

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 Full Cycle Docking (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.

The final weapons were delivered to Australia in January 2012. **Final Materiel Release (FMR) is forecast for achievement in October 2018.**

Materiel Capability Delivery Performance

The replacement HWT with Spiral 1 software and the integration modifications to Collins Class Submarines were approved for Operational Release (OR) by the Chief of Navy (CN) on 10 March 2010.

The replacement HWT with Advanced Processor Build (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.

Platform modifications have been completed in HMA Ships *Waller*, *Farncomb*, *Dechaineux*, *Sheean* and *Rankin.* Platform modifications in HMAS *Collins* will be completed in conjunction with the FCD program. As first of class specific testing was carried out for HMAS *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 project 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 Mk48 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 Mk48 ADCAP torpedo. A Joint Project Office was then established in Washington, DC. Spiral development of the Mk48 ADCAP resulted in the current baseline Mk48 Mod 7 Common Broadband Advanced Sonar System (CBASS) torpedo, incorporating 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 Mk48 ADCAP 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

The small project team is disproportionately affected by turnover of key personnel, leading to an impact on cost and schedule. Mitigation activities are in place, but they do not significantly reduce the risk.

The Coles Review recommended changes to the submarine docking program that resulted in HMAS *Collins*' implementation completion date slipping from 2016 to 2018, with a corresponding impact on the FMR and Final Operational Capability (FOC) dates.

Any future docking program reviews, higher operational priorities or material defects may adversely affect the Project implementation program, resulting in schedule delays and cost increases. The likelihood of this has decreased due to increased docking schedule stability, so the risk is now considered medium.

The weight of the Mk10 Mod 3 Torpedo Mounted Dispenser has created a manual handling hazard when dispensers are not attached to torpedoes. Feasibility of fibre optic cabling is being investigated to try to reduce the dispenser weight.

As a result of the test coverage limitation declared at OR, more information needs to be collected to fully populate the weapon software model. Firings are planned for 2015 and 2016 to provide the extra data required.

Other Current Sub-Projects

N/A

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 Adjustment	(0.2)		2
Sep 04	Real Variation – Transfers	1.0		3
			214.1	
Jul 10	Price Indexation		99.4	4
Jun 15	Exchange Variation		**(123.7)**	
Jun 15	**Total Budget**		**427.9**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – US Government Initial MOU	(194.9)		
	Contract Expenditure – US Government Follow-on MOU	**(36.2)**		
	Other Contract Payments/Internal Expenses	**(70.4)**		5
			(301.5)	
FY to Jun 15	Contract Expenditure – US Government Follow-on MOU	**(3.7)**		
	Other Contract Payments/Internal Expenses	**(1.0)**		6
			(4.7)	
Jun 15	**Total Expenditure**		**(306.2)**	
Jun 15	**Remaining Budget**		**121.7**	

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 **$70.4m** includes an amount of **$27.8m** 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 **$19.8m** covered sundry operating expenditure.
6	The amount of **$1.0m** is predominantly ASC Pty Ltd contract expenditure of **$0.7m**; with the remaining **$0.3m** being for sundry contractor services and operating expenditure.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
8.0	**5.0**	**5.2**	**Delays in commencing a US trial and delays contracting fibre activities have resulted in variation.**
Variance $m	**(3.0)**	**0.2**	Total Variance ($m): **(2.8)**
Variance %	**(37.5)**	**4.0**	Total Variance (%): **(35.0)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The project underspend is due mainly to the funds returned after reconciliation of a completed In Service Support contract, and delay in completion of a feasibility report.**
			Overseas Industry	
		(0.5)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
5.2	**4.7**	**(0.5)**	**Total Variance**	
		(9.6)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
US Government Initial MOU	Mar 03	336.7	194.9	Fixed	MOU	1, 2
US Government Follow-on MOU	Nov 09	43.8	**46.5**	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 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
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 15
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	Mk48 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

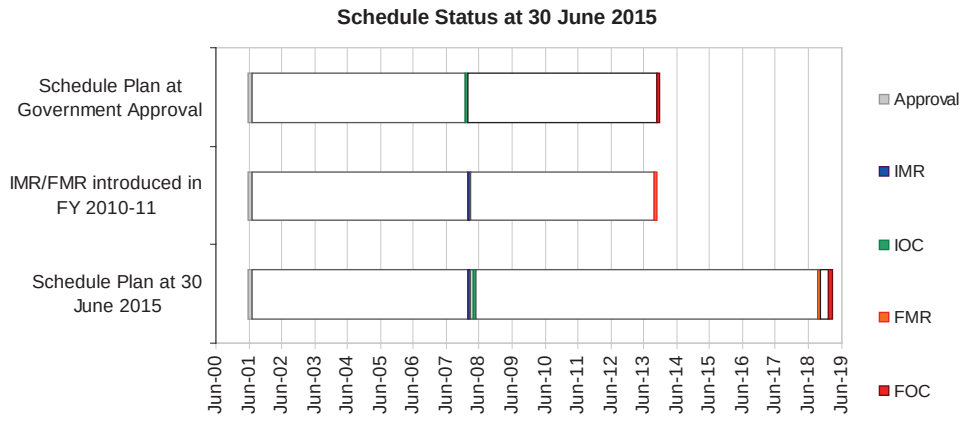
Test and Evaluation	Major System/Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Harbour Acceptance Tests	Weapon Handling and Discharge Systems Post Mk48 Mod 7 HWT Modification Test for HMAS *Waller*	Jan 07	N/A	Apr 07	3	1
Sea Acceptance Trials	Weapon Discharge System Mk48 Mod 7 HWT Modification for HMAS *Waller*	Oct 07	N/A	Dec 07	2	1

Notes	
1	Variance was attributable to the Navy Regulatory Review process and submarine program.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

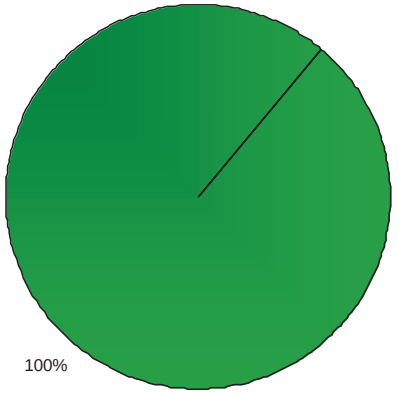
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Mar 08	N/A	
Initial Operational Capability (IOC)				
Platform Modifications and Spiral 1	Feb 08	May 08	3	1
APB 4	Nov 12	Mar 11	(20)	2
Final Materiel Release (FMR)	Nov 13	**Oct 18**	**59**	3
Final Operational Capability (FOC)				
Platform Modifications and Spiral 1	Jan 10	Mar 10	2	4
Project FOC	Nov 13	**Feb 19**	**62**	5

Notes	
1	Variance was 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 was 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.



Section 4 – Materiel Capability Delivery Performance

4.1 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 OR of APB Spiral 4**, with a caveat that very shallow water performance requires further testing in 2015 and 2016**. 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Modification of one Collins Class Submarine and Mk48 Mod 7 CBASS HWT Initial Materiel Certification (awarded under the acceptance system in place prior to the introduction of IMR and FMR).**	**Achieved**
Final Materiel Release (FMR)	**Delivery of the approved number of Mk48 Mod 7 CBASS torpedoes, with supporting infrastructure, and acceptance of modifications to all submarines.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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: • **Use of contractors where appropriate;** • **Use of Reserve personnel where skills are suitable; and** • **Optimising use of matrix support staff.**
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 **further** schedule delays and cost increases.	This risk **has been downgraded to a medium risk as improvements to the management of the submarine docking program implemented following the Coles Review allow greater certainty for the remaining implementation activity.**

Emergent Risks (risk not previously identified but has emerged during 2014–15)	
Description	Remedial Action
N/A	N/A

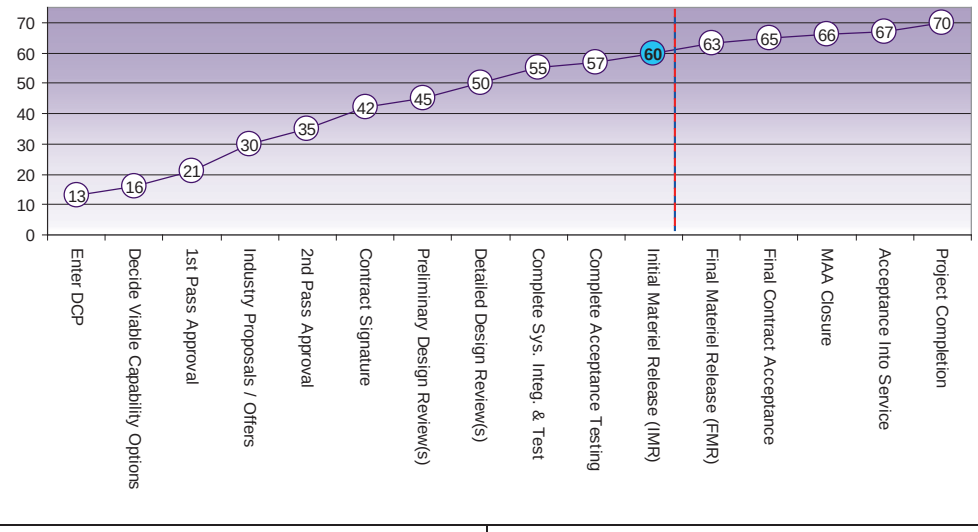
5.2 Major Project Issues

Description	Remedial Action
Uncertainty in the submarine docking cycle and the availability of submarines has impacted the HWT installation schedule.	**A government submission is being prepared to baseline already agreed implementation dates resulting from previous docking program changes such as those following the Coles Review.**
Weight of the Mk10 Mod 3 Torpedo Mounted Dispenser has created a manual handling hazard when dispensers are not attached to torpedoes.	**Investigate the feasibility of replacing the guidance wire with fibre optic cable to reduce weight.**
As a result of the test coverage limitation declared at OR of APB Spiral 4, more information needs to be collected to fully populate the weapon software model.	**Conduct further testing in 2015 and 2016 to determine full performance.**

Section 6 – Project Maturity

6.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	10	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.						



2013–14 MPR Status - - - -	2014–15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014–15

Position	Name
General Manager	Mr David Gould
Division Head	**Vacant**
Branch Head	Mr David Cochrane
Project Director	CMDR Ian Jimmieson (Acting)
Project Manager	CMDR David Strangward (Jul 14–**Feb 15**) **CMDR Ian Jimmieson (Mar 15–current)**

Project Data Summary Sheet[239]

Project Number	**JP 2008 Phase 5A**
Project Name	**INDIAN OCEAN REGION UHF SATCOM**
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)	**$420.4m**
2014–15 Budget	**$5.2m**
Project Stage	**Detailed Design Review**
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 **$3.9m** is due to delays with the **three remaining** prime contract milestones; **'Test Readiness Review', 'Spares, Support and Test Equipment', and 'System Acceptance'. This delay was advised by the Prime Contractor in February 2015. As a result these milestones have slipped out to Financial Year 2016-17**.

Project Financial Assurance Statement

As at 30 June 2015, project JP 2008 Phase 5A has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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

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Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Ocean Region was achieved on 21 December 2012. In May 2012, additional Network Control System (NCS) design review and test and evaluation milestones were added to the project. In December 2013 a Contract Change Proposal was signed moving Final Materiel Release (FMR) for the NCS to September 2014. Further to that contract change, the NCS is experiencing software development delays resulting in a further slip of **36** months to FMR (NCS). FMR (NCS) is now forecast to be achieved in **July 2018** (**52** 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 (IW) NCS is the largest remaining scope to be delivered. An issue with the modification of Commercial Off The Shelf (COTS) software has caused delay. **While the COTS software that is being modified is currently used in other defence departments around the world, it is now considered developmental for this project.**

Note

The capability assessments and forecasts by the project 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. 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.

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 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

The major risks for the project are surrounding the redevelopment of the NCS design. There is a risk that delays to Contract Change Proposal 2 (CCP2) will inhibit the Commonwealth's ability to implement greater systems engineering controls in order to reduce the risk of failure, given this component is no longer a COTS solution and is now deemed developmental software. There is also risk that Defence's lack of presence at reviews and meetings will hinder the success of the redevelopment of the NCS design.

The constrained ability of the project to attend previous critical reviews and meetings has contributed to the failure of the original NCS design. The project has learned from their limited oversight of the original NCS design by a subcontractor and is determined to ensure there is more face to face communication with the redevelopment of the NCS design. Scope has also been adjusted between the contractor and subcontractor to reduce risk.

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.

JP 2008 Phase 5B1 Transportable Land Terminals: This project will deliver a family of WGS Certified Transportable Land Terminals with advanced waveform capability.

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 15	Exchange Variation		**(40.5)**	
Jun 15	**Total Budget**		**420.4**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Intelsat Prime	(294.4)		
	Contract Expenditure – ViaSat Prime	**(23.8)**		**4**
	Other Contract Payments / Internal Expenses	**(18.4)**		
			(336.6)	
FY to Jun 15	Other Contract Payments / Internal Expenses	**(1.3)**		**5**
			(1.3)	
Jun 15	**Total Expenditure**		**(337.9)**	
Jun 15	**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 is 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	**This contract has been in Stop Payment since July 2014.**
5	Other Contract Payments / Internal Expenses of **$1.3m** comprise of other Capital and Operating Expenditure **related to contractor support services provided by Nova Defence**.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
10.7	**5.0**	**5.2**	**The associated NCS has experienced delays associated with deficiencies experienced during software development.**
Variance $m	**(5.7)**	**0.2**	Total Variance ($m): **(5.5)**
Variance %	**(53.3)**	**4.0**	Total Variance (%): **(51.4)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**This project has under achieved due to delays with the prime contract milestones, 'Test Readiness Review', 'Spares, Support and Test Equipment', which has additionally indirectly impacted Outsourced Service Providers to meet agreed milestone dates.**
		(2.6)	Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
		(1.3)	Commonwealth Delays	
			Additional Government Approvals	
5.2	**1.3**	**(3.9)**	**Total Variance**	
		(75.0)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Intelsat	Mar 09	202.5	**363.8**	Firm	ASDEFCON (COMPLEX)	1, **3**
ViaSat	May 12	36.5	**42.6**	Firm	ASDEFCON (COMPLEX)	2, 3

Notes	
1	The projected Intelsat Contract Price at **30 June 2015** includes Acquisition lines totalling $294.4m and Sustainment lines totalling **$69.3m**. 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	The projected ViaSat Contract Price at **30 June 2015** includes Acquisition lines totalling **$37.8m** and Sustainment lines totalling **$4.8m. CCP2, expected to be approved in October 2015, will be a nil cost CCP, related to the redevelopment of the NCS design.**

3	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Intelsat	8	20	25kHz UHF SATCOM channels on IS-22 Hosted Payload	
ViaSat	**N/A**	**N/A**	**NCS comprising three channel control sites, and a Test and Training System for support.**	

Major equipment received and quantities to 30 Jun 15

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	**Jul 17**	**44**	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	**Apr 18**	**49**	3

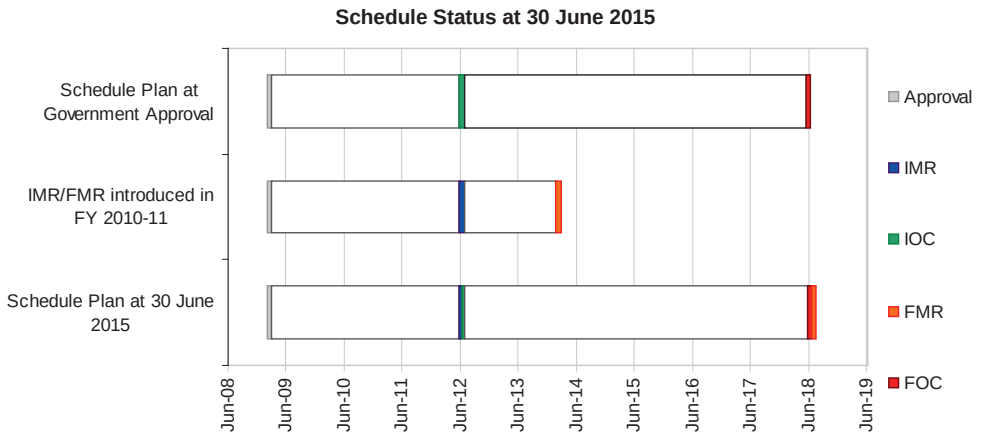
Notes

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. **In February 2015 ViaSat advised the Commonwealth of their decision to take on elements of work previously contracted to their sub-contractor and continue the software development in house.**

3.3 Progress Toward Materiel Release and Operational Capability Milestones

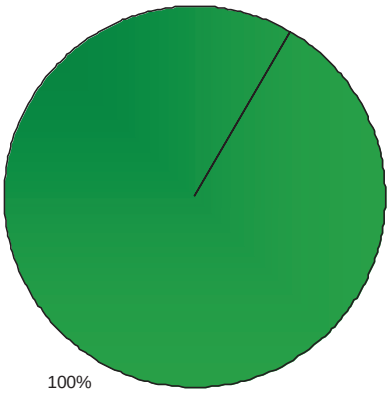
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jul 12	Jul 12	0	
Initial Operational Capability (IOC)	Jul 12	Jul 12	0	
Materiel Release (MR) # 1 (Indian Ocean)	Sep 12	Dec 12	3	1
Operational Capability (Indian Ocean)	Sep 12	**Oct 18**	**73**	2
Final Materiel Release (FMR) # 2 (Network Control System)	Mar 14	**Jul 18**	**52**	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 **October 2018, 3 months after FMR.**
3	In February 2014 ViaSat advised the Commonwealth of software design delays. **In February 2015 ViaSat advised the Commonwealth of their decision to take on elements of work previously contracted to their sub-contractor and continue the software development in house. It is anticipated this will impact FOC however, the magnitude of the delay is yet to be determined.**
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.



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**In Orbit Test of hosted payload.**	**Achieved**
Final Materiel Release (FMR #1)	• **20 channels on a UHF Hosted Payload, including Operational Support Services for life-of-type in place, telemetry feed operational and initial training for telemetry feed** • **Upgrade of legacy NCS** • **CSM and initial training for CSM**	**Achieved**
Final Materiel Release (FMR #2)	• **NCS comprising three channel control sites, and NCS/NCS Manager (IW) training package**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
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.	**This risk has been retired following the engagement of the Design Approval Authority Representative and Chief Engineer. Since their introduction in June 2013, the Army Technical Regulatory processes have settled and have been embedded in the System Program Office.**
There is a risk that CIOG Network Links will not be available in a timely manner to support system roll out.	**This risk has been retired and a new risk surrounding the security precursors to the CIOG Network Links has been raised. The new risk is low due to delays to System Acceptance, giving the project more time to get security measures in place.**

There is a risk any errors encountered during testing will require rework but schedule does not have much slack for rework.	Errors became of such significance that a **change in software design approach, and the need for a revised schedule have been adopted. This risk has been retired.**
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 has reviewed the updated military standard and there is no substantial difference between the final release and the draft standard previously worked to. This risk has been retired.**
There is a risk that Acceptance Test and Evaluation will not have radios available for Integrated Waveform.	**The Project Office has funding approval for various radios and is in the process of purchasing them. This risk has been retired.**
There is a risk that training will not be accepted as there is no approval regime in place.	**A training manager has been identified within CIOG which reduced the likelihood of this risk. This risk has been downgraded to medium.**

Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
There is a risk that the redevelopment of the NCS design will fail due to Defence's lack of presence at critical reviews and meetings.	**Increased use of video conferences, teleconferences and face-to-face reviews.**
There is a risk that delays to Contract Change Proposal 2 (CCP2) will inhibit the Commonwealth's ability to implement effective system engineering controls.	**The Project Office is working to expedite the execution of the CCP.**
There is a risk that previously deemed COTS software, which is now developmental software will result in increased engineering effort, causing schedule delay.	**The Project Office will insert developmental engineering controls into CCP2. The engineering controls are necessary as this is now a developmental contract.**

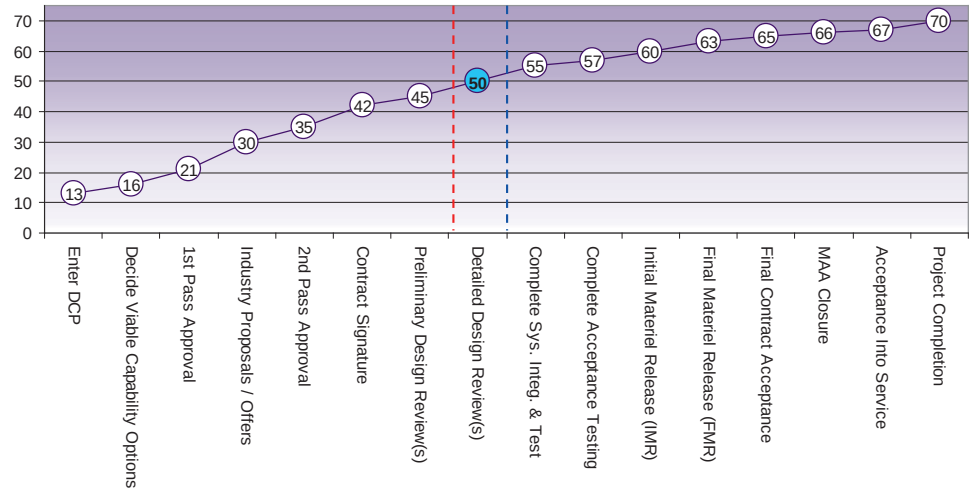
5.2 Major Project Issues

Description	Remedial Action
Defence's lack of presence at critical reviews and meetings contributed to the Project's limited contractor oversight for the original NCS design.	**The Project can learn from the previous lack of oversight leading to failure and ensure there is more face to face communication going forward.**

Section 6 – Project Maturity

6.1 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**	8	8	7	**6**	**6**	7	**48**
	Explanation	• **Schedule: The Commonwealth has received formal notification that the schedule for the NCS has slipped 3 years.** • **Cost:** IS-22 **and the NCS are** on firm fixed price **contracts.** • **Requirement: IS-22 has been launched and the NCS is expected to fulfil requirement.** • **Technical Understanding: A long term Through Life Support contract has not been put in place.** • **Technical Difficulty: Core software product previously under development has ceased. Software development has restarted with Prime Contractor.** • **Commercial:** The Commonwealth has received formal notification from the contractor that contract milestones will be delayed **3 years**.							



2013-14 MPR Status - - - - | 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
N/A	N/A

Section 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward **(to Nov 14)** **Mr Ivan Zlabur (Acting Dec 14)** **Mr Brad Flux (Acting Jan 15)** **Mr Ivan Zlabur (Acting Feb 15)** **Ms Myra Sefton (Acting Mar 15–May 15)** **Mr Brad Flux (Acting Jun 15–current)**
Branch Head	Ms Myra Sefton **(to Feb 15)** **Mr Michael Garrety (Acting Feb 15)** **Ms Lynsey Johnstone (Acting Mar 15)** **Ms Thea Huber (Acting Apr 15–May 15)** **Ms Myra Sefton (Jun 15–current)**
Project Director	Mr Paul Davies
Project Manager	**Mr David Dixon**

Project Data Summary Sheet[240]

Project Number	**SEA 1439 Phase 3**
Project Name	**COLLINS CLASS SUBMARINE RELIABILITY AND SUSTAINABILITY**
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
2014-15 Budget	**$13.7m**
Project Stage	**Integration and Test**
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

This year the underspend of $2.7m is primarily due to delays and cost savings by Australian Industry.

Project Financial Assurance Statement

As at 30 June 2015, project SEA 1439 Phase 3 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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.

240 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

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 HMAS ***Dechaineux*** on completion of the **Mid-Cycle Docking (MCD)** and continue on HMAS *Farncomb* during the scheduled docking period. HMAS *Collins* FCD was re-scheduled to commence in 2016 due to a baseline change to the IMS, however preliminary work **is progressing** to take advantage of the pre-FCD period which allows access to the platform. The project continues to progress non-platform activities pertaining to the Diesel Land Based Test Facility with completion of the **diesel engine and dynamometer configuration stage of the project. Final Materiel Release (FMR) is expected to be achieved in August 2022.**

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 **installed** and **harbour and sea acceptance testing** on HMAS *Dechaineux* **completed post** MCD **in June 2015**.

Torpedo Decoy received Initial OR on 2 May 2014 by Chief of Navy.

Fourteen 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 project 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. **Fourteen** engineering enhancements have been completed and the two new capabilities are being implemented. However, completion of the remaining **six** 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 HMA Ships *Collins, Farncomb, Waller and Rankin* (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) **initially** as a cost-reimbursement arrangement **with a subsequent three year target based incentive period**. 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.

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.

Major Risks and Issues

Engineering enhancements are managed on a prioritised basis within the funding **and skilled resources** 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.

Another major risk is that the current design of the Outboard Stowages and installation options may be deficient in a number of areas. Conceptual design options to mitigate these risks are currently being presented by ASC to the project.

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.

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 15	Exchange Variation		(5.9)	
Jun 15	**Total Budget**		**411.7**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – ASC Pty Ltd	**(231.2)**		
	Other Contract Payments / Internal Expenses	**(112.6)**		8
			(343.8)	
FY to Jun 15	Contract Expenditure – ASC Pty Ltd	**(10.6)**		
	Other Contract Payments / Internal Expenses	**(0.4)**		
			(11.0)	
Jun 15	**Total Expenditure**		**(354.8)**	
Jun 15	**Remaining Budget**		**56.9**	

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 Upgrade 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 and sonobuoy, $9.3m for the Towed Array Handling System, **$7.4m** for general operating expenditure, $4.7m for contractor service providers, $4.1m for minor contracts, $3.7m with Thales for the Underwater Telephone, $3.1m for Torpedo decoy procurement**, and $1.7m for generator procurement.**

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
7.3	**13.7**	**13.7**	**The variance from PBS to PAES was due to the re-phasing of expenditure based on the new ISSC with ASC and the bringing forward of planned work on HMA Ships *Collins* and *Farncomb*.**
Variance $m	**6.4**	**0.0**	Total Variance ($m): **6.4**
Variance %	**87.7**	**0.0**	Total Variance (%): **87.7**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**This year the underspend of $2.7m is primarily due to delays and cost savings by Australian Industry.**
			Overseas Industry	
		(2.0)	Local Industry	
			Brought Forward	
		(0.7)	Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
13.7	**11.0**	**(2.7)**	**Total Variance**	
		(19.7)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $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 15		
ASC Pty Ltd	N/A	N/A	See 1.3 Project Context: Background for further information.	

Major equipment received and quantities to 30 Jun 15

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 Upgrade	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 Upgrade (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 Upgrade (COLLINS)	May 08	May 18	May 18	120	3, 4, 5
	Torpedo Decoy	Oct 13	N/A	Dec 13	2	6
	Fire Fighting Upgrade **(DECHAINEUX)**	Sep 22	N/A	**May** 22	**(4)**	**7**
	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 Collins Class Interim Minimum Operating Capability. 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.
3	HMAS *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 HMAS *Collins* in 2008.

4	The Special Forces Upgrade safety modifications identified during the manned Sea Verification Trial have been **installed** and **harbour and sea acceptance testing on** HMAS *Dechaineux* **completed post** MCD **in June 2015**.
5	Full class implementation will be achieved on the completion of HMAS *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.
7	**Installation of Fire Fighting Upgrades are planned to be finalised early on HMAS *Sheean* during MCD (January 2018) with final class installation on HMAS *Dechaineux* occurring during FCD (May 2022).**

3.2 Contractor Test and Evaluation Progress

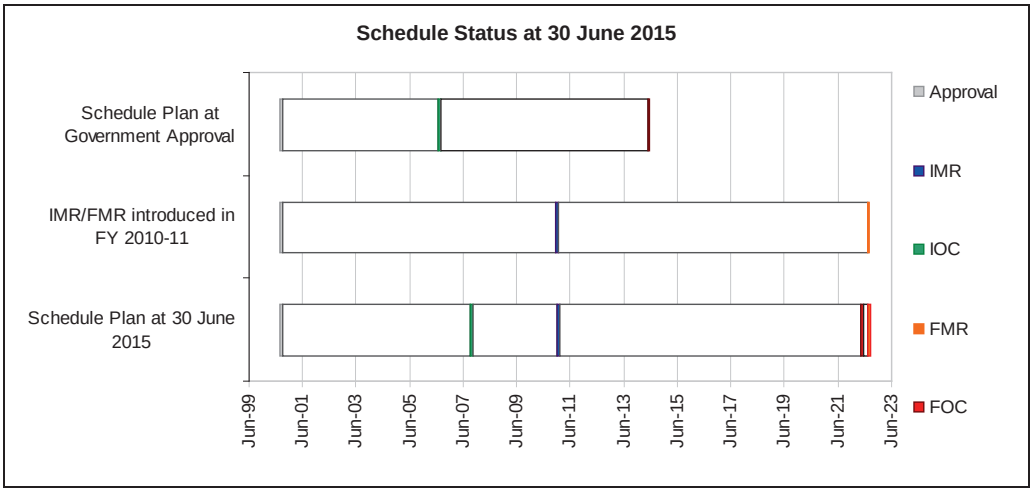
Test and Evaluation	Major System/Platform Variant	Original Planned	Current Planned (Note 1)	Achieved/Forecast (Note 1)	Variance (Months)	Notes
Harbour Acceptance Test (HAT)	Special Forces Upgrade (COLLINS)	Jun 05	N/A	Sep 06	15	
	Torpedo Decoy	Jun 10	N/A	Jun 10	0	
	Fire Fighting Upgrade (RANKIN)	Oct 13	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 Upgrade (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 HMAS *Rankin* FCD from October 2013 Version (IMS V3.3) and the current baselined IMS.
3	HMAS *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 HMAS *Collins* in 2008. The redesigned safety modifications identified have been **installed** and **harbour and sea acceptance testing on** HMAS *Dechaineux* **completed post** MCD **in June 2015**. Redesigned safety modifications for HMAS *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

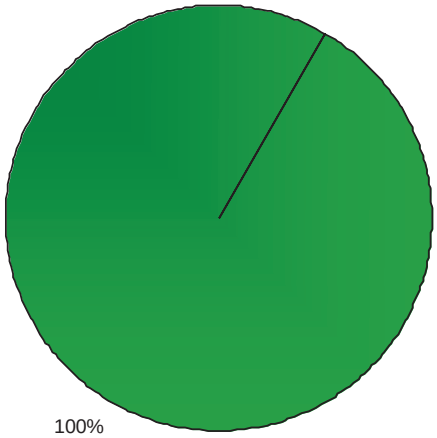
Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Jan 11	N/A	
Initial Operational Capability (IOC)				
Initial Operational Release Special Forces Upgrade (DECHAINEUX)	Nov 10	**Mar 16**	**64**	1
Initial Operational Release Torpedo Decoy	Aug 10	May 14	45	**2**
Fire Fighting Upgrade (RANKIN)	Oct 13	May 14	7	3
Sewage System Upgrade (WALLER)	Aug 06	Oct 07	14	4
Fast Track Enhancements	N/A	N/A	N/A	5
Final Materiel Release (FMR)	Oct 22	**Aug 22**	**(2)**	**6**
Final Operational Capability (FOC)				
Operational Release of Special Forces Upgrade	Jun 07	**Mar 17**	**118**	7
Operational Release of Torpedo Decoy	Jun 14	**Dec 15**	**18**	8
Fire Fighting Upgrade (**DECHAINEUX**)	Jun 14	**May** 22	**95**	9
Sewage System Upgrade (COLLINS)	Jun 14	May 18	47	9
Fast Track Enhancements (WALLER)	Jul 06	Nov 07	16	10

Notes	
1	Special Forces Upgrade modifications have been delayed due to the requirement to implement safety modifications identified during the manned Sea Verification Trial. These safety modifications have been installed and **harbour and sea acceptance testing** on HMAS *Dechaineux* **completed post** MCD **in June 2015**.
2	Torpedo Decoy received Initial OR on 2 May 2014 by Chief of Navy. **The delay in schedule has been due to a combination of delays in acceptance of the safety case and a delay in approval of the OR due to the appointment of a new Chief of Navy.**
3	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**.**
4	IOC is linked to completion of the FOC SAT. Variance due to changes in docking maintenance schedule since original MAA.
5	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.
6	**FMR dates have now been aligned to IMS V5.3 and reflected in the MAA.**
7	The MAA delivery date was for HMAS *Collins* only. HMAS *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.
8	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.
9	Variance due to changes in docking maintenance schedule since original MAA.
10	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.



Section 4 – Materiel Capability Delivery Performance

4.1 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 **have been** installed and **harbour and sea acceptance testing** on HMAS *Dechaineux* **completed post** MCD **in June 2015**. **Amber:** N/A **Red:** N/A
Note	
This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Completion of the following platform upgrades on all submarines unless otherwise specified:** • **Special Forces Upgrade: Multi swimmer**	**Achieved**

	release and Float On/Float Off; • **Torpedo Countermeasures;** • **Fire Fighting Upgrade: HMA Ships *Waller, Dechaineux and Sheean*;** • **Sewage System Upgrade: HMA Ships *Waller* and *Dechaineux*;** • **Fast-Track modifications: HMA Ships *Collins Farncomb*, *Waller* and *Rankin*; and** • **Other remaining subordinate projects relating to platform build deficiencies in a holistic get-well program.**	
Final Materiel Release (FMR)	**Completion of dockings up to and including HMA Ships *Waller* and *Dechaineux* FCD consisting of:** • **Special Forces Upgrade – Outboard Stowage: HMA Ships *Collins* and *Dechaineux;*** • **Special Forces Upgrade – Explosive Ordnance: HMA Ships *Collins* and *Dechaineux;* and** • **Diesel Engine Upgrades: All Submarines (expected end HMAS *Waller* FCD (May 2020)).** **FMR is planned for August 2022.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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 has been closed and superseded by the emergent risk outlined below.**
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
There is a chance that the current design of the Outboard Stowages and installation options will	**This risk is being treated by:** • **Project Office to seek clarification of Special**

be deficient in a number of areas (snag hazards, weight and pressure).	**Forces and platform requirements /constraints to re-confirm feasibility of design options.** • **Reviewing options to determine feasibility and be presented by ASC to project.**

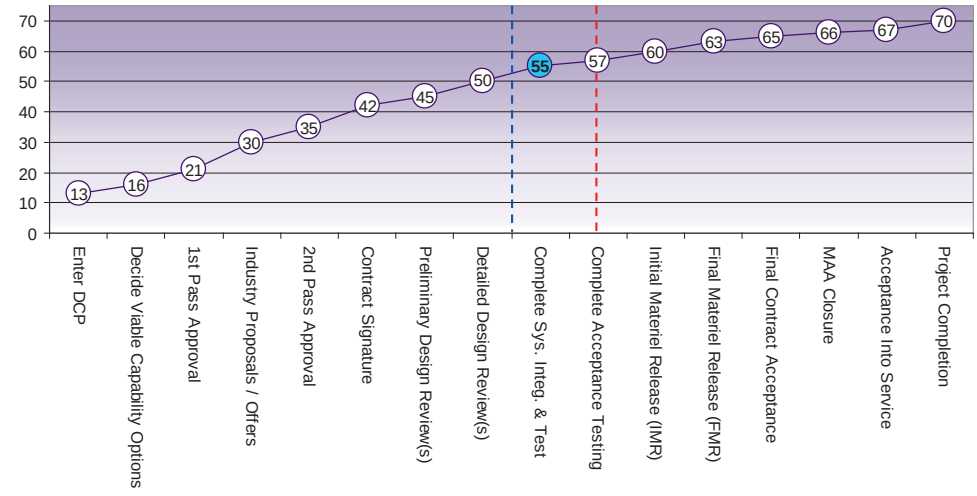
5.2 Major Project Issues

Description	Remedial Action
N/A	**N/A**

Section 6 – Project Maturity

6.1 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	8	8	8	9	**57**
	Explanation	• **Cost: Project scope contracted through the ISSC with ASC in 5 yearly performance periods thus providing a more robust cost and estimate to complete.** • **Operations and Support:** Project has achieved IMR for a number of sub-project enhancements and is now primarily in the implementation phase.							



2013-14 MPR Status - - - -	2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Mr David Gould
Division Head	Vacant
Branch Head	Mr David Cochrane
Project Director	Mr Brad Hajek (Acting)
Project Manager	Mr Brad Hajek

Project Data Summary Sheet[241]

Project Number	**SEA 1448 Phase 2A**
Project Name	**ANZAC ANTI-SHIP MISSILE DEFENCE**
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)	**$386.8m**
2014-15 Budget	**$26.8m**
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 $0.2m, primarily due to the complex materiel management across multiple projects, including but not limited to this project, SEA 1448 Phase 2B and other sustainment products.**

Project Financial Assurance Statement

As at 30 June 2015, project SEA 1448 Phase 2A has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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.

241 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Schedule Performance

The systems being provided under Phase 2A are **largely** being delivered to schedule. Overall, due to the interdependence 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 **2014-15**, **due to pressures from the large sustainment package of work, a revised schedule has been developed for ships four onwards. Recent achievements include the Materiel Release (MR) of the second ship, HMAS *Arunta* in December 2014, and the MR of the third ship HMAS *ANZAC* in March 2015. The fourth ship HMAS *Warramunga* is working to a revised schedule and is expected to be completed in December 2015. HMAS *Ballarat* the fifth ship and HMAS *Parramatta* the sixth ship are both well into the upgrade, again working to a revised schedule. The project remains on track to deliver Final Operating Capability by October 2017.** All documents to support Initial Operational Capability (IOC) have been delivered to Navy.

Materiel Capability Delivery Performance

The Initial Materiel Release 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 **Operational Test & Evaluation (OT&E)** for the final Stage 2 Capability. IOC is anticipated in **September 2015.**

Note

The capability assessments and forecasts by the project 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 **$155.4m**, which was quarantined pending the outcome of investigations into an active Phased Array Radar system **(PAR)** (referred to as CEAFAR) and its Sea trials conducted in 2004**, which was subsequently approved in SEA 1448 Phase 2B Second Pass Approval.**

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 Infra-Red Search and Track (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 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.

The Infra-Red Search and Track (IRST) will be supported through the current ANZAC Alliance arrangements.

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:

- 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;
- **Unplanned work is activated during an ASMD refit period, predominantly though the concurrent sustainment program; and**
- With multiple ships now in the ASMD program, managing the demands of competing resources across complex activities **including major sustainment programs.**

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.

SEA 1448 Phase 4A – This Phase complements the ASMD Upgrade by delivering a contemporary Electronic Support Measures (ESM) system. This Phase is being managed through Electronic Systems Division (ESD).

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		**(3.6)**	
Jun 14	**Total Budget**		**386.8**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – SAAB Systems Pty Ltd (CMS)	**(113.5)**		
	Contract Expenditure – BAE Systems Australia (IRST)	(93.8)		
	Contract Expenditure – BAE Systems Australia (First of Class)	**(37.6)**		
	Contract Expenditure – BAE Systems Australia (FON)	**(28.2)**		
	Contract Expenditure – SAAB Systems Pty Ltd (First of Class)	**(20.1)**		
	Contract Expenditure – SAAB Systems Pty Ltd (Follow On (FON))	**(0.7)**		
	Other Contract Payments / Internal Expenses	(11.8)		4
			(305.7)	
FY to Jun 15	Contract Expenditure – BAE Systems Australia (FON)	**(22.6)**		
	Contract Expenditure – BAE Systems Australia (First of Class)	**(1.5)**		
	Contract Expenditure – SAAB Systems Pty Ltd (Follow On (FON))	**(0.9)**		
	Contract Expenditure – SAAB Systems Pty Ltd (**First of Class**)	**(0.3)**		
	Other Contract Payments / Internal Expenses	**(1.3)**		4
			(26.6)	
Jun 15	**Total Expenditure**		**(332.3)**	
Jun 15	**Remaining Budget**		**54.5**	

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 $88.8m. 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	Other expenditure comprises: operating expenditure, contractors, consultants, contingency, other capital expenditure not attributable to the aforementioned top five contracts and minor contract expenditure.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
28.2	**24.9**	**26.8**	**PBS – PAES - The variation is due to minor reduction of ASMD work due to the extent of concurrent maintenance for Anzac ships. PAES – Final Plan – Variation is due to optimisation of funding driven by financial constraints in outer years**
Variance $m	**(3.3)**	**1.9**	Total Variance ($m): **(1.4)**
Variance %	**(11.7)**	**7.6**	Total Variance (%): **(5.0)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The underspend is primarily due to the complex materiel management across multiple projects, including but not limited to this project, SEA 1448 Phase 2B and other sustainment products.**
			Overseas Industry	
		(0.2)	Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
26.8	**26.6**	**(0.2)**	**Total Variance**	
		(0.8)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
SAAB Systems Pty Ltd (CMS)	Apr 05	123.1	113.5	Variable	Alliance	**2**
BAE Systems Australia (IRST)	Apr 05	104.9	93.8	Variable	Alliance	**1**
BAE Systems Australia (First of Class)	Apr 07	26.2	**44.7**	Variable	Alliance	**1, 2**
SAAB Systems Pty Ltd (First of Class)	Apr 07	9.9	**21.2**	Variable	Alliance	**2**
BAE Systems Australia (FON)	Jan 12	74.9	**87.5**	Variable	Alliance	**1, 2**

Notes

1	These contracts are listed with BAE Systems Australia, formerly Tenix Defence.
2	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
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 15				
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*, HMAS *Arunta* **and HMAS *ANZAC*.** Equipment continues to be installed on HMAS *Warramunga*, HMAS ***Ballarat*** **and HMAS *Parramatta*.**				
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

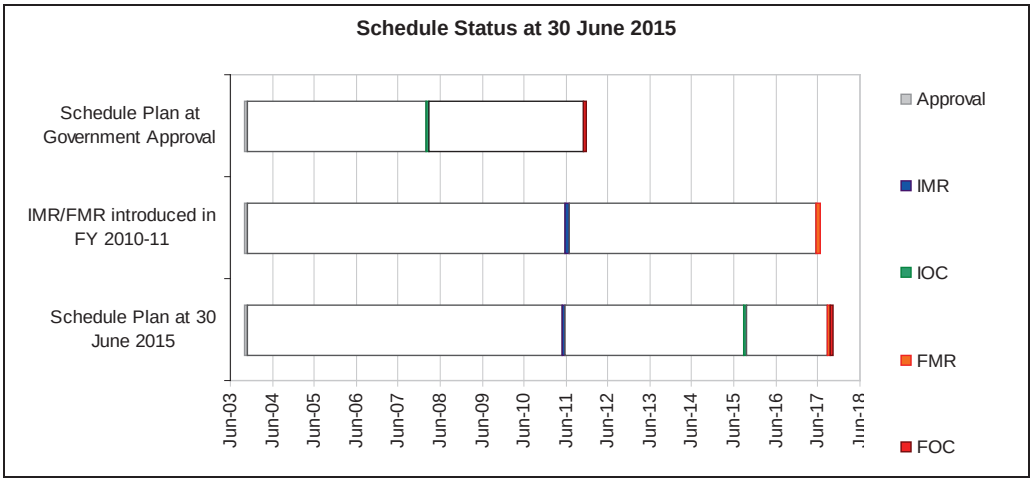
Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Test Readiness Review	HMAS *Perth* with upgraded ASMD System (Mk3E Combat Management System/Fire Control Director/Infra-Red Search and Track - Sea Phase)	Nov 07	N/A	Mar 11	40	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

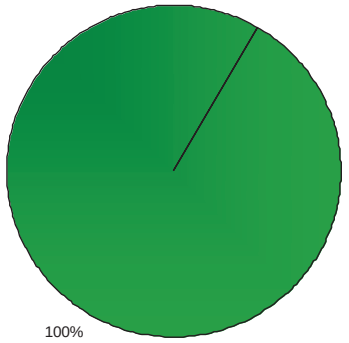
Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	N/A	Jun 11	N/A	
Initial Operational Capability (IOC)	Mar 08	**Sep 15**	**89**	**1**
Final Materiel Release (FMR)	Jul 17	**Oct 17**	**3**	**2, 4**
Final Operational Capability (FOC)	Dec 11	Oct 17	70	**3, 4**

Notes	
1	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 **was** submitted to Navy in **July 2014** and is currently under review by regulators.
2	Newly added **CASG** milestone as part of update to the MAA between Defence and **CASG**. *Note: this variation is due to the approval of ships 2-8 by Government.*
3	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.*
4	**To reduce schedule pressure from the large sustainment work package, a revised schedule has been developed in consultation with Navy for ships 4 through 8.**



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Provisional acceptance of the ASMD upgraded HMAS *Perth*.**	**Achieved**
Final Materiel Release (FMR)	**Acceptance of the ASMD upgraded ship 8, HMAS *Stuart*, scheduled for October 2017.**	**Not Achieved**

Section 5 – Major Risks and Issues

5.1 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 meets initial capability requirements. This risk will be retired when IOC is achieved.
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
Unplanned work is activated during an ASMD refit period, predominantly though the concurrent sustainment program.	**Where possible limit any additional work that has the potential to impact the ASMD schedule. In consultation with Navy, review, revise and validate an extended schedule to facilitate a larger sustainment program.**

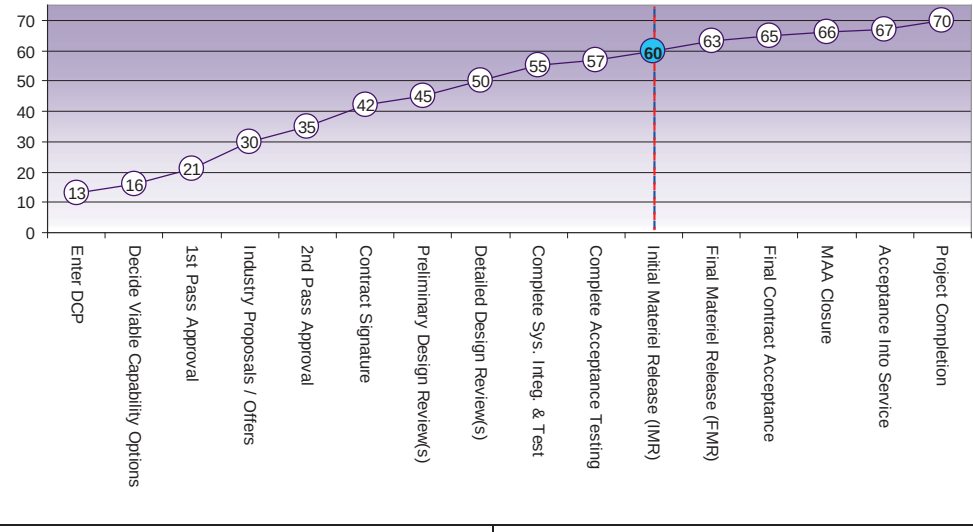
5.2 Major Project Issues

Description	Remedial Action
N/A	N/A

Section 6 – Project Maturity

6.1 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.							



2013-14 MPR Status - - - -	2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Mr Colin Thorne
Division Head	RADM Mark Purcell, RAN
Branch Head	CDRE Michael Houghton, RAN **(to Dec 14)** **CDRE Steve Tiffen, RAN (Dec 14–current)**
Project Director/Manager	Mr Mark Simmonds

Project Data Summary Sheet[242]

Project Number	**LAND 75 Phase 3.4**
Project Name	**BATTLEFIELD COMMAND SUPPORT SYSTEM**
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)	**$313.0m**
2014-15 Budget	**$21.3m**
Project Stage	**Final Materiel Release**
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

The LAND 75 Phase 3.4 Battlefield Command Support System (BCSS) project **provides** 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 also **delivered** 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, and Unimogs. **Kits intended for installation into Mack will be redistributed to other platforms.** 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, **known as LAND 200 Tranche 1** and **incorporates** 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

The year end variation is due to the delay in processing a CCP for the Track Management System. The

242 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

variance also includes an undisclosed amount to recognise assets received as Liquidated Damages.

Project Financial Assurance Statement

As at 30 June 2015, project LAND 75 Phase 3.4 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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 negotiated this change **with the Contractor**, Elbit Systems Ltd (ESL), and in January 2013 Contract Change Proposal (CCP) 13 (CCP013) to the contract was signed. Changes to the BOP **were** 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 2015**, the project has installed the BGC3 into **237** PMVs **and five gold sets (the gold set for the PMV Ambulance variant is expected to be accepted by the project in August 2015),** 207 Unimog Trucks **and one gold set**, **and 388** G-Wagons **and two gold sets**, and these vehicles are now in use with Army. All 90 Mack Truck kits **and 1 gold set have been formally Accepted** by the project although at Army's direction, **and with Approval from Government,** will not be installed. Army has decided to independently **re-distribute and** install the Mack kits into selected vehicles in accordance with their priorities.

Gold set equipment is used as a design reference to support further design, testing and quality assurance in production.

Government approved in October 2014 to move the scope for the M113AS4 design work to LAND 75 Phase 4 Work Package A, and the intention to move the funds required to retrofit the PMVs to the baseline to sustainment. This approval resulted in CCP019 and agreed that Final Acceptance would be achieved by November 2015. The project achieved Final Material Release (FMR) in March 2015. The Chief of Army declared FOC with caveats in March 2015 for the LAND 200 Tranche 1 program and the LAND 75 Phase 3.4 project achieved FOC Certification in April 2015. The project aims to transition all equipment to sustainment by Final Acceptance and close the Materiel Acquisition Agreement (MAA) by mid 2016.

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 **were** 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. FMR was subsequently delayed again with Government approval to March 2015. **In October 2014 Government approved a revised FMR date of March 2015, which was declared on 26 March 2015. The Chief of Army declared FOC with caveats on 27 March 2015 for the LAND 200 Tranche 1 program. The FOC Certificate for LAND 75 Phase 3.4 was completed on 8 April 2015 with elements of the design acceptance and establishment of the support system outstanding. These are expected to be achieved prior to the Contracted Final Acceptance in November 2015.**

Note

The capability assessments and forecasts by the project 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.

In October 2014, Government approved the movement of scope for the M113 design work to LAND 75 Phase 4 Work Package A. This approval also approved a delay to FMR, acknowledging the impact of the Contractor schedule delay. The Contractor incurred a Liquidated Damages liability as a result of failing to meet the Contracted Milestone for Final Acceptance originally planned for 31 July 2014. The relevant period of delay and extend to the liability was negotiated and agreed in CC019 to represent a total value of $6.0m. The project accepted compensation in lieu for the full amount in the form of 850 additional BGC3 software licences and ten additional Mapa Base installation kits. The additional licences and installation kits have been accepted by the project as at June 2015.

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

The only outstanding risk is that project closure may be affected by an inability to complete financial closure activities leading to an impact on schedule. Most risks previously reported have been retired due to both the BGC3 system and Track Management System (TMS) achieving Information and Communications Technology (ICT) accreditation, BGC3 system having achieved Introduction Into Service (IIS) approval from Army, Design Acceptance being granted, the contractor having achieved contracted milestones, the contractor now adequately achieving baseline management, and the requirement for the Multilateral Interoperability Program Gateway being removed by Army. One issue remains in regard to the Design Acceptance schedule for the PMV Ambulance Group 2 Platform, this Design Acceptance is expected to be achieved in October 2015.

Other Current Sub-Projects

LAND 75 Phase 4 Work Package A: 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.

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
May 15	**Real Variation – Scope**	**(8.3)**		**3**
			309.7	
Jul 10	Price Indexation		15.6	**4**
Jun 15	Exchange Variation		**(20.2)**	
Jun 15	**Total Budget**		**313.0**	**5**
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Elbit Systems Limited	**(157.2)**		
	Contract Expenditure – Northrop Grumman	**(10.4)**		
	Other Contract Payments/Internal Expenses	**(35.4)**		**6**
			(203.0)	
FY to Jun 15	Contract Expenditure – Elbit Systems Limited	**(11.6)**		
	Contract Expenditure – Northrop Grumman	**(0.7)**		
	Other Contract Payments/Internal Expenses	**(11.5)**		**7**
			(23.8)	
To Jun 15	**Total Expenditure**		**(226.8)**	
To Jun 15	**Remaining Budget**		**86.2**	**5**

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 M113AS4 family vehicle from the project scope.
3	**This is the amount of funds identified as scope reductions for LAND 75 Phase 3.4, which has been approved by Government, and has been transferred to support M113AS4 BGC3 design work now to be conducted as part of LAND 75 Phase 4 Work Package A.**
4	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.
5	**This amount includes funds identified as scope reductions for LAND 75 Phase 3.4, which have been approved by Government, but are yet to be transferred to support the Retrofit of PMVs to the final BGC3 product baseline.**
6	Other expenditure comprises: Contractor Support **($15.1m)**, Consultants **($8.7m)**, Operating Expenditure **($7.5m)**, Offer Definition ($3.0m), and Minor Capital **($1.1m),** expenditure not attributable to the Prime contract.
7	Other expenditure comprises: Consultants **($2.6m)**, Contractor Support **($2.1m)**, **and** Minor Capital **($0.5m)**, and **other** Operating Expenditure **and Liquidated Damages ($6.3m)**.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
38.2	**15.2**	**21.3**	**PBS – PAES - the variation is due to reprogramming of the Final Acceptance Milestone into 2015-16.** **PAES – Final Plan - The variation is due to the accounting for an undisclosed amount to recognise assets received as Liquidated Damages and other adjustments.**
Variance $m	**(23.0)**	**6.1**	Total Variance ($m): **(16.9)**
Variance %	**(60.2)**	**40.1**	Total Variance (%): **(44.2)**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**The variance is due to the delay in processing a CCP for the Track Management System. The variance also includes an undisclosed amount to recognise assets received as Liquidated Damages.**
		2.5	Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
21.3	**23.8**	**2.5**	**Total Variance**	
		11.7	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Elbit Systems Limited	15 Mar 10	176.2	**179.1**	Variable	ASDEFCON	1, 2
Northrop Grumman	24 Jun 11	10.3	**11.3**	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 **$535.3m**, this includes both Acquisition and Sustainment.
2	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Elbit Systems Limited	Various	Various	Delivery of BMS installations or installation kits for: - Mack Truck: 90 **+ 1 gold set** - Unimog Truck: 207 **+ 1 gold set** - PMV: 237 **+ 5 gold sets** - G-Wagons: 388 **+ 2 gold sets**	1
Northrop Grumman	Various	Various	Software Licences for the Track Management System	

Notes

1	**Gold set equipment is used as a design reference to support further design, testing and quality assurance in production.**

Major equipment received and quantities to 30 Jun 15
As at **June 2015**, the project has installed the BGC3 into **237** PMVs **and five gold sets (the gold set for the PMV Ambulance variant is expected to be accepted by the project in August 2015)**, 207 Unimog Trucks **and one gold set**, **and 388** G-Wagons **and two gold sets**, and these vehicles are now in use with Army. All 90 Mack Truck kits **and 1 gold set have been formally Accepted** by the project although at Army's direction, **and with Approval from Government**, will not be installed. Army has decided to independently **re-distribute and** 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 – 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	
	System – BMS	Aug 10	N/A	Sep 10	1	2
	Preliminary Design Review – Group 2 & 3 Remaining Variants of PMV (Group 2) and M113AS4 (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, **8**
	System – 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, **8**
	Group 2 – PMV Ambulance	Nov 11	N/A	Jun 14	30	6, **8**
	Group 3 – M113AS4	Dec 11	N/A	**Feb 15**	**38**	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 **was** configuration management of the final design compared to the finite element analysis that was used to support the design review. This action **was** closed and the milestone **was** achieved.
6	Delay in completing the **PMV Ambulance detailed design was primarily due to the complexity of the Ambulance variant which required a different cable design.**

7	Delay **was** 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 and provided significant design challenges. Several designs **were required to ensure the capability trade-offs were understood and accepted by Army.**
8	**The Product Baselines and Design Certification have been achieved for all vehicle platforms (PMV, G-Wagon, Unimog and Mack), as well as the BGC3 System and Software Application.**

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	**Jan 15**	**43**	3,4
	Acceptance Test and Evaluation – Group 2 PMV Ambulance	Feb 12	N/A	**Nov 14**	**33**	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 **was** platform related and **was** conducted on each new design to address the interdependencies, such as antenna location and collocation. The Communications **derived from LAND 75 Phase 3.4** 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 **complete and confirm the** scalability of the network beyond a Battle Group.
3	Final testing schedules **were delayed** 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.
4	Delays in closing out the Acceptance **Test and Evaluation** for **the Group 1** vehicle platform designs was **primarily due to challenges relating to the collection of** objective quality evidence necessary **to demonstrate the requirements were satisfied**. The age of the vehicles in the Mack and Unimog and **the additional blast requirements of the PMV contributed to the complexity**. **Army agreed a number of deviations to requirements and all Design Certification activities for Group 1 vehicles are complete, with Product Baselines established.**
5	PMV Ambulance does not share a common design with the other PMV variants. Vehicle availability **and the need for additional test activities to confirm the BGC3 did not impact on medical equipment within the vehicle contributed to the delay. This was compounded by resource constraints limiting the ability to conduct concurrent Group 1 and Group 2 Acceptance Test and Evaluation activities.**

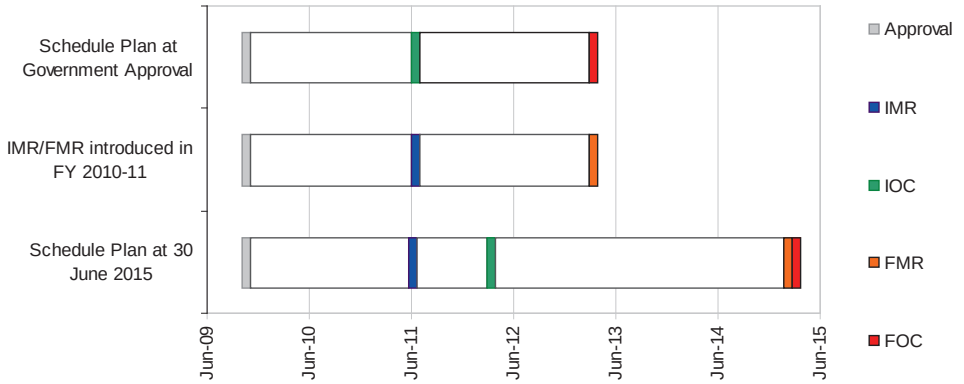
3.3 Progress Toward Materiel Release and Operational Capability Milestones

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	**Mar 15**	**23**	2
Final Operational Capability (FOC)	Apr 13	**Apr 15**	**24**	2

Notes

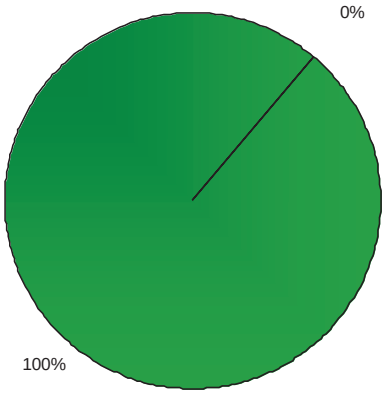
1	Longer than expected Operational Test and Evaluation (OT&E) activities were required to fully explore risk areas of interest to Army and Defence Science and Technology Organisation. The initial round of OT&E activities in 2011 following Exercise TALISMAN SABRE 2011 were inconclusive.
2	Based on approval 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. **In October 2014 Government approved to move the scope for the M113AS4 design work to LAND 75 Phase 4 Work Package A, contributing to a revised FMR date of March 2015, with FMR achieved on the 26 March 2015. The Chief of Army declared FOC with caveats on 27 March 2015 for LAND 200 Tranche 1 and FOC certification was achieved on 8 April 2015 for LAND 75 Phase 3.4. Design Acceptance for the BGC3 System was achieved on the 29 April 2015. Design Acceptance for the integration of the BGC3 into the vehicle platforms and a fully established support system are underway and are expected to be achieved in November 2015.**

Schedule Status at 30 June 2015



Section 4 – Materiel Capability Delivery Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	**Green:** The project is currently meeting **the majority of** 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	**Delivery of Supplies required for a Company sized group from a Motorised infantry battalion.**	**Achieved**
Final Materiel Release (FMR)	**Delivery of sufficient Supplies to Army to equip two Motorised Infantry Battle Group (BG), one Special Operations Task Group and One Airfield Defence Squadron.**	**Achieved**
Note		
The Supplies comprise capability elements delivered by LAND 200 Tranche 1 (LAND 75 Phase 3.4, LAND 125 Phase 3A and JP 2072 Phase 1). These projects combine to form the BGC3 capability as delivered by the LAND 200 Tranche 1 program. In total Tranche 1 has delivered over 2500 systems comprising dismounted and vehicle mounted BMS configured to suit troop, logistic or command post (CP) functions. These elements are flexibly organised to suit the operational task of the manoeuvre headquarters. A Motorised Infantry BG, for example, may comprise dismounted BMS including CP variants distributed at the platoon and company level, supported by PMV troop and command post vehicles sufficient to lift and ensure Command and Control for the entire BG. The Motorised BG support elements employ BGC3 equipped G-Wagons and Unimogs. **Chief of Army has declared FOC in March 2015 and the MAA has been updated. The Contractor continues to address items in preparation for Final Acceptance in November 2015. M113AS4 has been transferred to LAND 75 Phase 4 Work Package A under revised MAA. Design Acceptance for the vehicle platforms and the finalisation of the support system is on schedule to be complete by Final Acceptance in November 2015. The contractual in-service support period commenced 7 March 2015 and transition to sustainment will be complete by November 2015.**		

Section 5 – Major Risks and Issues

5.1 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 ICT Accreditation.	**This risk has been retired as the BGC3 system has achieved ICT Accreditation on 26 November 2014 (V3.0.1.4) and accreditation was confirmed by Chief Information Officer Group (CIOG) in March 2015 for V4.0.0.1.**
There is a chance that the BGC3 will not achieve IIS approval from Army.	**This risk has been retired as the BGC3 system has achieved IIS approval from Army and Army declared FOC in March 2015.**
There is a risk that the TMS will not achieve ICT accreditation for the DSN.	**This risk has been retired as TMS has achieved ICT Accreditation for the DSN from CIOG on 26 August 2014.**
There is a risk that the BGC3 System may not be given Design Acceptance.	**This risk has been retired as the BGC3 System has been given Design Acceptance by the Design Acceptance Authority Representative and Director of Combat Operational Support System on 24 July 2015.**
Emergent Risks (risk not previously identified but has emerged during 2014-2015	
Description	Remedial Action
There is a risk that LAND 75 Phase 3.4 project closure will be affected by an inability to complete financial closure activities leading to an impact on schedule.	**Scheduled project financial closure tasks for Assets Under Construction write down and potential engagement of additional finance resources.**

5.2 Major Project Issues

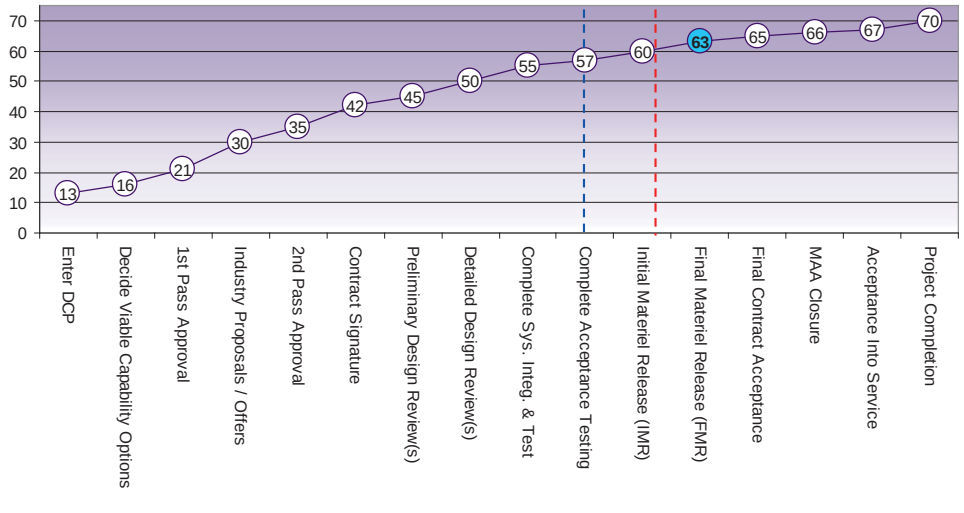
Description	Remedial Action
Detailed Design Review has not been met for the BGC3 system for the PMV due to scope changes to the baseline of the PMV impacting the requirements and subsequent baseline of the BGC3. The vehicle baseline is dynamic with competing projects installing capability in to the vehicles concurrently.	**This issue has been retired as Detailed Design Review has been met for the BGC3 System for the PMV.**
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.	**This issue has been retired. Schedule performance treatments inserted as part of mitigations negotiated in CCP019 were effective, as demonstrated when the Contractor achieved the BGC3 Milestone on 6 March 2015.**
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.	**This issue has been retired as vehicle installations are complete and FOC was achieved in March 2015.**
Inadequate baseline management by both the Commonwealth and the contractor (ESL) has resulted in an inability to strike a baseline for the BMS-D.	**This issue has been retired as the baseline management is now adequate and FOC was declared by Army in March 2015.**
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. **The CoA is progressing with Design Acceptance**

	preparation across all PMV BGC3 designs with Thales and Mounted Combat System Program Office. Design Acceptance for the PMV Ambulance is expected to be achieved in October 2015.
There is a delay to Design Acceptance for the M113AS4 Family of Vehicles.	**This issue has been transferred as Design Acceptance for the M113AS4 Family of Vehicles has transitioned to Work Package A under Phase 4.**
The TMS is not able to connect with coalition head quarters via the MIP gateway	**This issue has been retired as the requirement for the Multilateral Interoperability Program Gateway has been removed by Army and transferred to Phase 4 Work Package A.**

Section 6 – Project Maturity

6.1 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	**9**	**9**	**9**	**8**	**9**	**8**	9	**61**
	Explanation	• **Schedule: FMR and FOC have both been achieved. Outstanding items are Design Acceptance and Spares deliveries.** • **Technical Understanding: The Support System element of the BGC3 is still requiring final spares delivery to enable this item to be marked as Proven.**							



2013-14 MPR Status - - - - 2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 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 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward **(to Nov 14)** **Mr Ivan Zlabur (Acting Dec 14)** **Mr Brad Flux (Acting Jan 15)** **Mr Ivan Zlabur (Acting Feb 15)** **Ms Myra Sefton (Acting Mar 15–May 15)** **Mr Brad Flux (Acting Jun 15–current)**
Branch Head	Mr Brad Flux
Project Director	Mr Roger Grose
Project Manager	LTCOL Joanne Whittaker **(to Jun 15)** **Mr Chris Langton (Jun 15–current)**

Project Data Summary Sheet[243]

Project Number	**JP 2048 Phase 3**
Project Name	**AMPHIBIOUS WATERCRAFT REPLACEMENT**
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)	**$236.2m**
2014–15 Budget	**$57.6m**
Project Stage	Initial Materiel Release
Complexity	ACAT III

Section 1 – Project Summary

1.1 Project Description

The JP 2048 Phase 3 project will provide the Amphibious Deployment and Sustainment 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

As at 30 June 2015 the project experienced **a minor underspend of $1.0m** against an in-year budget of **$57.6m**, which was due to **lower than planned expenditure against spares related milestones**.

Project Financial Assurance Statement

As at 30 June 2015, project JP 2048 Phase 3 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence 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.

243 Notice to reader

Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (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 *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Schedule Performance

Major project milestones achieved in **2014-15** include:

- Completion of Acceptance Test and Evaluation activities for LLC **05-08** in Spain;
- Project acceptance of LLC **05-08** in Australia;
- **Completion** of Military communication and navigational display systems installation on LLC **05-08**;
- **Completion** of LLC 01-04 crew training;
- **Commencement of LLC 05-08 crew training;**
- **Eight** out of 12 LLC constructed;
- **Achievement of Initial Operational Release (IOR);**
- **Achievement of Initial Materiel Release (IMR); and**
- **Achievement of Materiel Release (MR2).**

Progress of these milestones demonstrates schedule performance and supports the achievement of project outcomes within the planned timeframes.

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 project 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 **(achieved ahead of schedule)**; 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 **and second batches** of **LLCs (8 in total)** 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.

Other Current Sub-Projects

JP 2048 Phase 4A/4B: The acquisition of two Canberra Class Amphibious Assault Ships, LHDs and associated supplies and support. The LLC are required to integrate with the LHD ships.

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
			225.1	
Jul 10	Price Indexation		0.1	4
Jun 15	Exchange Variation		**8.1**	
Jun 15	**Total Budget**		**236.2**	
	Project Expenditure			
Prior to Jul 14	Contract Expenditure – Navantia	**(77.5)**		
	Other Contract Payments / Internal Expenses	**(16.2)**		5
			(93.7)	
FY to Jun 15	Contract Expenditure – Navantia	**(50.9)**		
	Other Contract Payments / Internal Expenses	**(5.7)**		6
			(56.6)	
FY to Jun 15	**Total Expenditure**		**(150.3)**	
Jun 15	**Remaining Budget**		**85.9**	

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 **prior years** expenditure comprises: Operating Expenditure, **Military Communication System ($7.8m) and Navigation Display System ($1.9m) contracts, Customs Duty ($2.7m),** Pre Second Pass activities ($1.3m), Contractor Support **($1.2m)** and Minor Capital expenditure not attributable to the Prime contract **($1.3m).**
6	Other **current year** expenditure comprises: **Customs Duty ($2.6m),** Military communication System **($1.3m)** and Navigation Display system contracts **($0.5m)**, Contractor Support **($0.5m)** and Minor Capital expenditure not attributed to the Prime contract **($0.8m)**.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
55.1	**50.3**	**57.6**	**PBS-PAES – The variation is due to a reduction in price escalation exposure, and reprogramming of logistics support activities. PAES-Final – The variation is due to reprogramming of the Prime Contract Milestone.**
Variance $m	**(4.8)**	**7.3**	Total Variance ($m): **2.5**
Variance %	**(8.7)**	**14.5**	Total Variance (%): **4.5**

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			FMS	**To the end of June 2015, some of the planned expenditure for spares has not occurred.**
		(1.0)	Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
			Commonwealth Delays	
			Additional Government Approvals	
57.6	**56.6**	**(1.0)**	**Total Variance**	
		(1.7)	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 15 $m			
Navantia	Dec 11	148.9	**155.1**	Variable	ASDEFCON	1,**2**

Notes	
1	Amendments to the Contract since signature include execution of contracted options for long lead time items, spares and training delivery.
2	**Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Navantia	12	12	LHD Landing Craft and Support System	

Major equipment received and quantities to 30 Jun 15
Project acceptance of LLC 01-04 achieved in April 2014 **and LLC 05-08 in February 2015**. Construction of **eight** out of 12 LLC complete. Construction of LLC **09**-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	**1**
	LLC 05-08	Dec 14	N/A	**Dec 14**	**0**	**1**
	LLC 09-12	Oct 15	N/A	**Aug 15**	**(2)**	1
Acceptance	LLC 01-04 Project Acceptance	Apr 14	N/A	Apr 14	0	
	LLC 05-08 Project Acceptance	Mar 15	N/A	**Feb 15**	**(1)**	**2**
	LLC 09-12 Project Acceptance	Jan 16	N/A	**Jan 16**	**0**	**2**

Notes

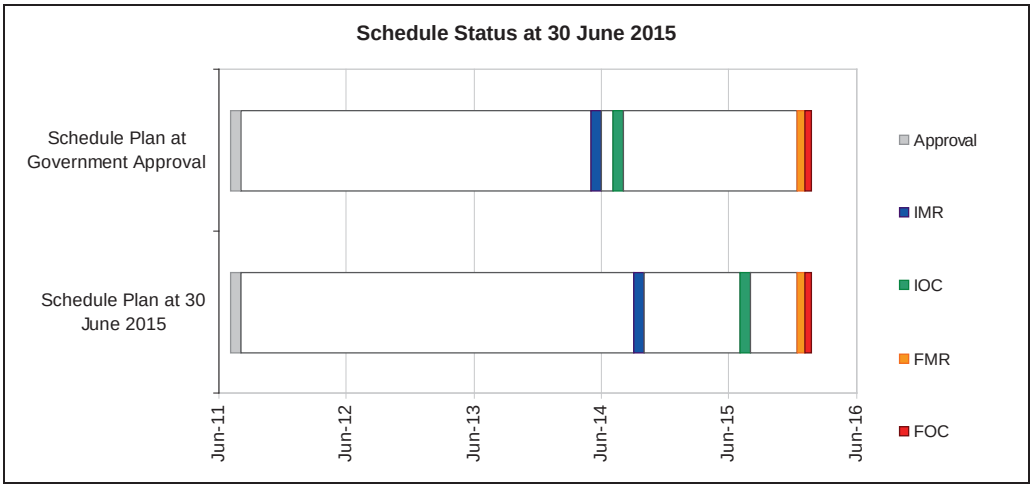
1	**System Integration refers to Navantia test and evaluation of the LLC and does not include the Battle Management System (BMS) or Navigational Display System (NDS). The BMS and NDS have been installed on LLC 01-08, and will be installed on LLC 09-12 after acceptance of the craft by the CoA from Navantia.**
2	The Navantia production schedule at end **June 2015** reports production of the third **batch** of 4 LLC as presently **on** 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	**Oct** 14	**5**	1
Initial Operational Capability (IOC)	Aug 14	**Aug 15**	**12**	1,**2**
Materiel Release 2 (MR2)	**Apr 15**	**Jun 15**	**2**	**3**
Final Materiel Release (FMR)	Feb 16	**Feb 16**	**0**	**4**
Final Operational Capability (FOC)	Feb 16	**Feb 16**	**0**	**4**

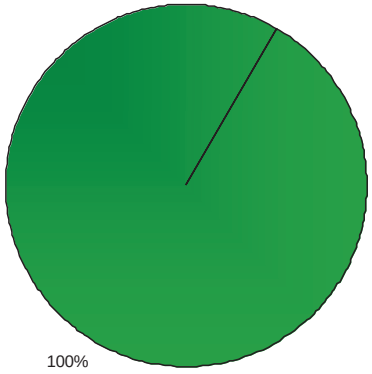
Notes

1	**IMR was submitted on 20 June 2014 and was accepted by Navy on 10 October 2014 following the review of Initial Operational Release (IOR) documentation. This has** had a flow on effect to activities, including **IOC**.
2	**Issues related to the IOC achievement are noted in the Statement by the Secretary.**
3	**Lessons learnt from IMR indicated that the MR2 schedule was too optimistic and this has resulted in a two month variance.**
4	The Navantia production schedule at end **June 2015** reports production of the third batch of 4 LLC as presently ahead of schedule. **Although the third batch of 4 LLC are ahead of schedule the Integrated Logistics Support products, such as training, spare parts and manuals, will be delivered as contracted**.



Section 4 – Materiel Capability Delivery Performance

4.1 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 project are not subject to the ANAO's assurance review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	• **LLC 01-04 (installed communications, BMS, navigation system and armament) delivered ready for Training, work-up, Operational Test and Evaluation.** • **LLC Support System sufficient to support Operational Testing on 4 LHD Landing Craft, including transition to sustainment.**	**Achieved**

Final Materiel Release (FMR)	• **LLC 09-12 (inclusive of communications, BMS, navigation system and armament) delivered ready for Training.** • **LLC Support System sufficient to support 12 Landing Craft, including transition to sustainment.**	**Not achieved**

Section 5 – Major Risks and Issues

5.1 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. **This risk is now retired due to achievement of IOR and acceptance of the interim Safety Case.**
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
N/A	N/A

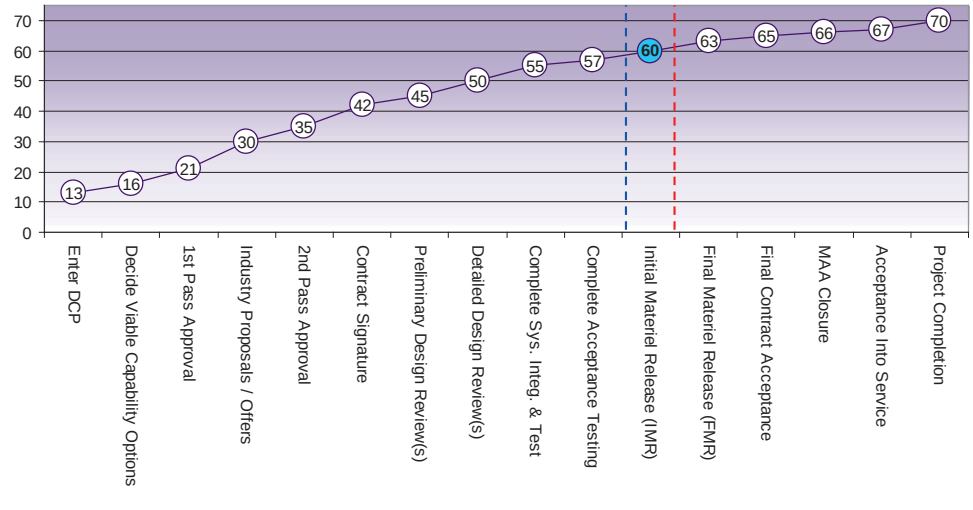
5.2 Major Project Issues

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. **The SPO has established a supply chain to procure spares locally.**
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. **This issue is now retired with the In-Service Support Contract now in place (Operative Date 17 November 2014).**

Section 6 – Project Maturity

6.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	Total
Project Stage	Benchmark	**10**	8	8	8	9	8	**9**	**60**
Initial Materiel Release	Project Status	**9**	8	**9**	8	9	9	9	**61**
	Explanation	• **Schedule: Confident that the project remains on track to deliver the materiel capability as approved at Second Pass.** • **Requirement: Integration and testing processes have verified achievement of endorsed requirements.** • Commercial: Project acceptance of LLC 01-04 achieved in April 2014 **and LLC 05-08 in February 2015**.							



2013-14 MPR Status - - - -	2014-15 MPR Status - - - -

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
N/A	N/A

Section 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Mr Colin Thorne
Division Head	RADM Mark Purcell
Branch Head	Mr Patrick Fitzpatrick
Project Director	CAPT (RAN) Craig Bourke **(to Dec 14)** **Mr Patrick Fitzpatrick (Dec 14 to current)**
Project Manager	Mr Paul Hegarty