

“...Joint Strike Fighter (JSF), as the project is unable to deliver the Maritime Strike Capability originally scoped at project approval, by FOC....”

## “...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 Australian Defence Force (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 releasability of JSF program information that impacts the timely, efficient and effective integration of the F-35 aircraft system into the ADF.
- 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.
- Establishing the training system.

The project has one major issue that it is managing, whereby it is currently unable to deliver the Maritime Strike capability originally scoped at project approval by FOC. This issue has emerged due to changes in the approved Block 4.1 and Block 4.2 scope as agreed by the JSF Executive Steering Board. The last report identified two major issues facing the project, however they are no longer considered issues. The establishment of the training system is now considered a major risk instead of a major issue, based on remedial actions taken over the last year. The previous issue of noise associated with the introduction of the JSF at RAAF Base Williamtown is no longer assessed as a major issue or major risk, as the Minister for the Environment has approved the operation of the F-35A, and Defence intends to comply with the conditions for operation that the Minister for the Environment included with the approval on 17 July 2015.

## 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 nonfinancial component of US\$6m with the Defence Science and Technology Group (DSTG) 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. Note: Major risks and issues are excluded from the scope of the review....”

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)	\$16,738.4m
2015-16 Budget	\$246.0m
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 support/enablement 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 **one** per cent **over** budget (an **overspend** of **\$2.9m**). The major **contributor** to the variance **was due to** the unpredictability of expenditure forecasts for F-35 Joint Program Office (JPO) **contracted activity**.

##### Project Financial Assurance Statement

As at **30 June 2016**, 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 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.

119 Notice to reader

Forecast dates and Sections: 1.2 (Materiel Capability Delivery Performance), 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), and 5 (Major Risks and Issues) are excluded from the scope of the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the *Independent Assurance 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

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

**Facilities construction is on or ahead of schedule, but remains on the critical path for the project. Facilities works continue on schedule at RAAF Base Williamtown. Construction is scheduled to commence at RAAF Base Tindal in third Quarter 2016.**

**Mission Systems Block 2B software** Fleet Release **was** achieved in July 2015 (for US Marine Corps Initial Operational Capability (IOC) Declaration).

**Mission Systems Block 3i software development and test was completed in May 2016, with the JPO declaring the final increment of the Block 3i software suitable for USAF IOC requirements, after some stability issues experienced in the test phase had been resolved. The first two Australian aircraft delivered in November 2014 received the initial increment of the Block 3i software (released in September 2014) which was suitable for early pilot training. The two Australian aircraft will receive the latest (final) Block 3i software in the second half of 2016.**

Mission Systems Block 3F software, the final software release under the System Development and Demonstration (SDD) phase of the program, will deliver the next increment of warfighting capability and is the requirement for Australian IOC, which is planned by December 2020. Block 3F initial development is complete and will undergo flight test through to mid-2017. Defence acknowledges schedule risk remains with the Block 3F software due to the complexity of integration and fusion. Notwithstanding the risk, the JPO is forecasting Fleet Release of the Block 3F software in late 2017 to coincide with the scheduled completion of SDD. The schedule risk is considered manageable in the context of Australian IOC capability requirements and timeline, and for Australian Operational Test and Evaluation (OT&E) in early 2019 when it is first needed.

The Australian F-35 sustainment solution is **still maturing**. The **2014 US Government assignment of regional Depot Airframe and Engine Maintenance, Repair, Overhaul and Upgrade responsibilities to Australia** has assisted in the planning of Australian Sustainment. **Sovereign sustainment requirements have been defined and JSF Division is working closely with the JPO and industry on the planning and execution of these requirements.**

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 two Australian F-35A pilots have completed training and the training of additional Australian pilots is ongoing.**

Aircraft **3-72** 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

Forecast dates and capability assessments are excluded from the scope of the review.

[https://www.anao.gov.au/sites/g/files/net2446/f/ANAO\\_Project\\_2016-2017\\_40a.pdf](https://www.anao.gov.au/sites/g/files/net2446/f/ANAO_Project_2016-2017_40a.pdf)

### 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 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 a 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 3,000 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, **although the timing for this transition is still under consideration by the nine MoU Partners.**
- 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 Martin, its JSF industry partners and their sub contractors to achieve long term industry outcomes for Australia.

### Major Risks and Issues

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- Establishing the required facilities and Information, Communications and Technology (ICT) infrastructure to support stand up of the JSF capability.
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- Establishing the Reprogramming element of the program.
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### Establishing the training system.

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### Other Current Sub-Projects

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### Note

Major risks and issues are excluded from the scope of the review.

## Section 2 – Financial Performance

### 2.1 Project Budget (out-turned) and Expenditure History

Date	Description	\$m	Notes
	<b>Project Budget</b>		
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	<b>Government Second Pass Approval – Stage 2</b>	<b>10,515.4</b>	<b>2</b>
		10,512.5	
Jul 10	Price Indexation	351.0	3
Jun 16	Exchange Variation	3,123.2	
Jun 16	<b>Total Budget</b>	<b>16,738.4</b>	
	<b>Project Expenditure</b>		
Prior to Jul 15	Contract Expenditure – US Government – LRIP 6 Production	(245.5)	4
	Contract Expenditure – US Government PSFD MoU (FY 09/10 – 13/14)	(181.0)	4
	Contract Expenditure – US Government – PSFD MoU (FY14/15 – 22/23)	(70.9)	4
	Contract Expenditure – US Government – LRIP 6 Propulsion	(47.4)	4
	Contract Expenditure – US Government – LRIP 10 Production	(18.0)	4
	Other Contract Payments / Internal Expenses	(121.5)	5
		(684.3)	
FY to Jun 16	Contract Expenditure – US Government – PSFD MoU (FY14/15 – 22/23)	(59.1)	4
	Contract Expenditure – US Government – LRIP 10 Production	(51.3)	4
	Contract Expenditure – US Government – Reprogramming Laboratory Phase 1	(37.0)	4
	Contract Expenditure – US Government – (FMS Cases) Various Weapons	(19.3)	4
	Contract Expenditure – US Government – LRIP 8 – Production and Non-Annualised Sustainment	(12.9)	4
	Contract Expenditure – US Government – LRIP 6 Production	(7.3)	4
	Contract Expenditure – US Government – LRIP 9 – Non-Annualised Sustainment	(5.9)	4
	Contract Expenditure – US Government – LRIP 11 – Production	(4.0)	4
	Contract Expenditure – US Government – LRIP 6 Propulsion	(2.0)	4

	Other Contract Payments / Internal Expenses	(50.1)	6
Jun 16	<b>Total Expenditure</b>	(248.9)	
		(933.2)	
Jun 16	<b>Remaining Budget</b>	<b>15,805.2</b>	
<b>Notes</b>			
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 the period prior to July 2015 is primarily associated with activity to integrate NACC specific information systems into the Defence Information Environment (DIE) (\$47.0m), construction services for the F-35 Partner Reprogramming Lab facility (\$10.5m), the NACC Industry Support Program (Grants) (\$7.4m), Diminishing Manufacturing Supplies (F7.2m), LRIP 8 Production and Non-Annualised Sustainment Contract (\$4.9m), Enterprise Architecture Modelling activity (\$4.1m), F-35A base planning and facility design and Environmental Impact Statement development (\$3.9m), Initial OT&E MoU (\$2.6m), LRIP 7 (\$2.6m), Reprogramming Support (\$2.5m), Co-operative Program Personnel (US based) expenses (\$2.0m), Reprogramming Laboratory (\$1.4m), FMS Cases associated with weapons (\$1.4m) and Safety Case (\$0.1m). The remainder (\$23.9m) is comprised of expenditure associated with internal Defence activity support, project travel, minor office expenses and contractors.		
6	Other expenditure for the period July 2015 to June 2016 is primarily associated with: Contractor Support (\$12.8m), activity to integrate NACC specific information systems into the Defence Information Environment (DIE) (\$11.2m), NACC Industry Support Program (Grants) (\$3.1m), Diminishing Manufacturing Supplies (\$2.4m), Reprogramming Laboratory Fit-out (\$1.5m), Enterprise Architecture Modelling activity (\$1.5m), Initial OT&E MoU (\$1.4m), Co-operative Program Personnel (US based Department of Foreign Affairs and Trade), expenses (\$1.3m), LRIP 10 Propulsion (\$1.1m), LRIP 7 (\$0.6m), and ACURL Reprogramming Support (\$0.5m). The remainder 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
463.0	384.6	246.0	PBS – PAES: The variance was primarily attributed to delays in finalising contracts and the variable receipt of invoices through the US Government contracting processes. PAES – Final Plan: The variance was attributed to assessments of expected billing against US Government contracts and exchange rate adjustments during the financial year.
Variance \$m	(78.4)	(138.6)	Total Variance (\$m): (217.0)
Variance %	(16.9)	(36.0)	Total Variance (%): (46.9)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
			Australian Industry	The \$2.9m overspend was due to unpredictability of expenditure forecasts for F-35 JPO contracted activity.
			Foreign Industry	
			Early Processes	
			Defence Processes	
	2.9		Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
246.0	248.9	2.9	<b>Total Variance</b>	
		1.2	<b>% Variance</b>	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature \$m	30 Jun 16 \$m			
US Government PSFD MoU (FY 09/10 – 13/14)	Dec 06	167.1	181.0	Various	MoU	1, 9, 10, 14, 15
US Government PSFD MoU (FY 14/15 – 22/23)	Dec 06	253.1	551.0	Various	MoU	2, 14, 15
US Government (LRIP 6 Production)	May 11	22.0	274.3	Fixed Price Incentive	USG Contract	3, 14, 15
US Government (LRIP 6 Propulsion)	Aug 11	5.8	50.9	Fixed Price Incentive	USG Contract	4, 14, 15
US Government (LRIP 10 Production)	Dec 14	79.2	93.8	Fixed Price Incentive	USG Contract	5, 14, 15
US Government (AT-P-AZT)	Feb 15	51.0	63.3	Reimbursement	FMS	14, 15
US Government (AT-D-YLC)	Feb 15	22.5	28.8	Reimbursement	FMS	14, 15
US Government (LRIP 10 Propulsion)	Mar 15	13.4	150.2	Fixed Price Incentive	USG Contract	6, 14, 15
US Government (Reprogramming Laboratory Phase 1)	Mar 15	119.0	131.6	Fixed Price Incentive	USG Contract	7, 14, 15
US Government (LRIP 8 Production and Non-Annualised Sustainment)	Jun 15	99.9	116.6	Fixed Priced Incentive	USG Contract	8, 14, 15
<b>US Government (LRIP 9 Non-Annualised Sustainment)</b>	<b>Jul 15</b>	<b>51.4</b>	<b>59.6</b>	<b>Fixed Price Incentive</b>	<b>USG Contract</b>	<b>9, 14, 15</b>

US Government (LRIP 11 Production)	Dec 15	88.2	90.3	Fixed Price Incentive	USG Contract	10, 14, 15
US Government (AT-D-AAH)	Feb 16	17.5	17.3	Reimbursement	FMS	14, 15
US Government (AT-P-AMG)	Feb 16	28.9	29.6	Reimbursement	FMS	14, 15
Diminishing Manufacturing Supplies (DMS) case 8070 & 6585RFC	Apr 16	38.9	38.6	Fixed Price Incentive	USG Contract	11, 12, 14, 15
US Government (AT-D-YAF)	Jun 16	111.9	111.0	Reimbursement	FMS	14, 15
US Government (LRIP 10 Non-Annualised Sustainment)	Jun 16	30.1	30.1	Fixed Price Incentive	USG Contract	13, 14, 15

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	<b>LRIP 6 Production</b> 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	<b>LRIP 6 Propulsion</b> 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	<b>LRIP 10 Production</b> 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	<b>LRIP 10 Propulsion</b> 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'. <b>The increase in this contract value is due to full funding contract now being in place.</b>
7	Contract for Phase 1 Reprogramming Laboratory hardware and software tools.
8	LRIP 8 Production and Non Annualised Sustainment contract for the provision of training devices, support equipment, non-aircraft spares.
9	<b>LRIP 9 Non Annualised Sustainment contract including the provision of support equipment and training systems.</b>

10	LRIP 11 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'.
11	DMS Case 8070 is a bridge buy of Board Management Processors (BMP) for use in the F-35 radar and Integrated Core Processor (ICP).
12	DMS Case 6585RFC is the bridge buy of integrated circuits for the radar Qorvo.
13	LRIP 10 Non Annualised Sustainment contract including the provision of support equipment, training systems, Global Spares and Australian specific ALIS equipment.
14	Contract value as at 30 June 2016 is based on actual expenditure to 30 June 2016 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).
15	The scope of these contracts is explained further below.

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 16		
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 Production and Non-Annualised Sustainment)	N/A	N/A	Training devices, support equipment and non-aircraft spares.	
US Government (LRIP 9 Non-Annualised Sustainment)	N/A	N/A	Support equipment and training systems.	

US Government (LRIP 11 Production)	N/A	N/A	Procurement of Advanced Acquisition items associated with the next eight F-35A aircraft procurement.
US Government (AT-D-AAH)	N/A	N/A	Procurement of bomb bodies to support test and evaluation.
US Government (AT-P-AMG)	N/A	N/A	Procurement of Flares/Decoys.
DMS Cases 8070 & 6585RFC	N/A	N/A	Parts bridge buy of radar BMP, ICP and integrated circuits for the Qorvo radar.
US Government (AT-D-YAF)	N/A	N/A	Procurement of small diameter bombs (SDB 1) and associated racks.
US Government (LRIP 10 Non-Annualised Sustainment)	N/A	N/A	Procurement of support equipment, training systems, Global Spares and Australian specific Autonomic Logistics Information System (ALIS) equipment.
Major equipment received and quantities to 30 June 16			
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) – for F-35A (full envelope with weapons)	Aug 17	Oct 17	Oct 17	2	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

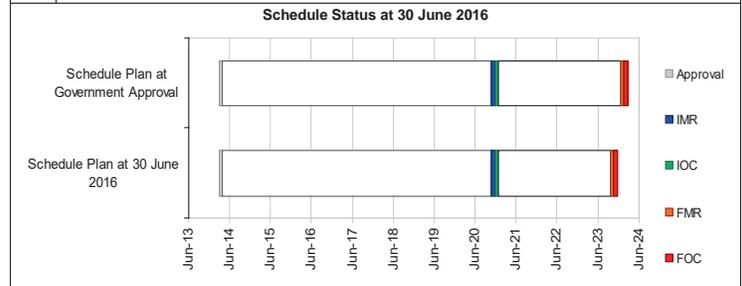
Notes						
1	Block 2B supported the United States Marine Core IOC declaration which occurred on 31 July 2015.					
2	Block 3i Initial Release software provides initial pilot training capability for the Low Rate Initial Production (LRIP) 6 aircraft configuration. The six month variance was due to delays in earlier software deliveries and compounded by integration into the updated computer architecture delivered in LRIP 6 aircraft.					
3	Block 3F Fleet Release is the 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, and subsequently capability specific loads. The F-35A Full Envelope with AIM9-X version of 3F Mission Systems Software is planned for Fleet Release in the US during October 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 based on Australian IOC in 2018. The November 2014 delivery date reflects a deferral in production to align with the US re-baselining of JSF production, and verification of a 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 December 2016 leading to Australian 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 a revised Australian IOC by 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.					

Note						
Forecast dates in Section 3 are excluded from the scope of the review.						

### 3.3 Progress Toward Materiel Release and Operational Capability Milestones

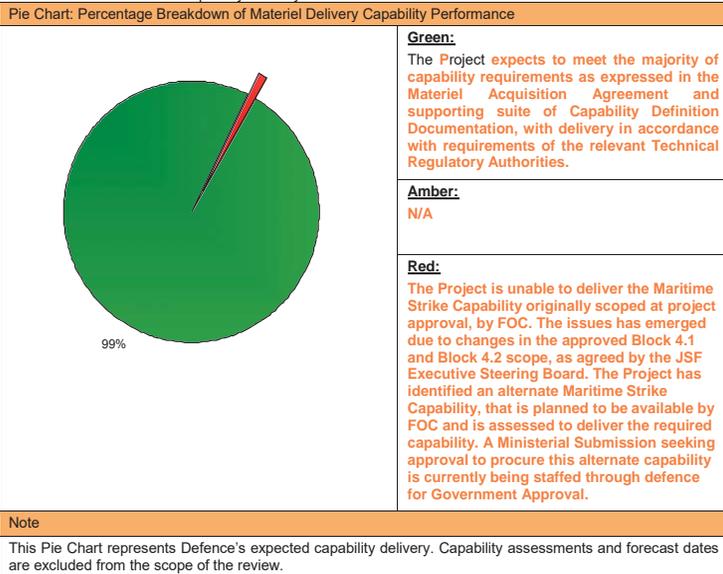
Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Oct - Dec 20	Dec 20	0	1
Initial Operational Capability (IOC)	Dec 20	Dec 20	0	1
Final Materiel Release (FMR)	Oct - Dec 23	Oct 23	(2)	
Final Operational Capability (FOC)	Dec 23	Oct 23	(2)	2

Notes	
1	The Integrated Master Schedule is the subject of on-going critical analysis following recent improvement in Primary and Secondary Materiel Release milestone definitions. A more robust and stable Integrated Master Schedule is expected in the first half of the 2016/17 financial year.
2	FOC date currently forecast as 2 months early. The driving activity for this date is the arrival of the last tranche of Australian aircraft from the US.



## Section 4 – Materiel Capability Delivery Performance

### 4.1 Measures of Materiel Capability Delivery Performance



### 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. 3SQN 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 <b>yet</b> achieved
Final Materiel Release (FMR)	Delivery of final nine aircraft <b>throughout 2023</b> 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 <b>yet</b> 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 ICT infrastructure to support stand up of the JSF capability. <b>Core to this is on-schedule delivery of the Autonomic Logistics Information System (ALIS) with the required functionality and security provisions to protect sovereign data, and the subsequent integration of ALIS into the Defence Information Environment in time for first aircraft arrival in Australian in 2018.</b>	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 releasability of JSF program information that impacts the timely, efficient and effective integration of the F-35 aircraft system into the (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. While most development under the SDD phase has been completed, testing is ongoing. Thus new problems could be found during test and cause late delivery or deferment of capability to Follow-on Modernisation (FoM) phase, with the consequence that the SDD delivered capability is less than required for IOC. Further, Block 4.1 and 4.2 under the FoM phase is required for IOC. This is still under development, hence could be delivered late and/or without the required FOC functionality.	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 aircraft and engine depots, and these are being executed. Continued close engagement is required with the JPO to understand the developing Global Support Solution (GSS). Australia has defined an Australian F-35 sustainment solution and focus is now on implementing this and adjusting as GSS evolves.
The NACC Project has identified schedule and cost pressures for the Reprogramming element of the program. While development of the initial capability is underway, it may be late-to-need and may not deliver the full capability expected. Further, as the F-35 capability develops under FoM, the Reprogramming Laboratory capability must stay aligned with the Aircraft capabilities.	Australian participation in initial development of the joint Reprogramming Laboratory solution with the UK has improved our understanding of technical and programmatic issues. Australia is co-chair of a steering group to manage reprogramming development and mitigation plans are being developed with steering group oversight.
Australian Industry, as a Fundamental Input to Capability, may not grow adequately to support the sovereign JSF and associated ADF capabilities.	Coordinated activity with Defence Industry Division including close working relationship with Defence Industry Innovation Centre, Australian Government engagement, and participation in JPO governance boards to influence assignment of work in this region. A Commercial Strategy has also been developed and is being implemented.
Expected economic benefits (return on investment, market share/regional footprint) of Australian Industry participation in the global JSF Program are not realised.	Coordinated activity with Defence Industry Division including close working relationship with Defence Industry Innovation Centre, utilisation of the NACC grant program that provides financial support for industry capacity and capability growth, and JSF Division advocacy on behalf of Australian Industry (with JPO, US Prime Contractors and Original Equipment Manufacturers).
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.

The Australian Training System may not be established in time or with the required capability to support RAAF training of personnel with the consequence of affecting RAAF capability declarations.	The Australian Training System requirements and schedule have been established through the Baseline Control Board. The JSF Training System is still being developed. Work continues with stakeholders to understand the Training System to ensure expectations are clearly understood. Training System sustainment cost impacts to be determined. Additional people resources have been engaged to deliver the Australian Training System and associated support contracts. This risk was previously an issue identified in Section 5.2 but due to the work conducted over the last 12 months it has been reinstated as a risk.
Emergent Risks (risk not previously identified but has emerged during 2015-16)	
Description	Remedial Action
N/A	N/A

#### 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.	This is no longer assessed as a major issue or major risk and will be removed from this Section in the next report. An environmental impact statement was developed on the proposed flying operations of the F-35A aircraft. This was required to be assessed under the requirements of Commonwealth legislation, specifically the <i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i> . As part of the environmental assessment the potential impact of noise on the Williamtown area was assessed. The final Environmental Impact Statement (EIS) consisting of the Draft EIS and Supplementary report were presented to the Minister for the Environment in March 2015.  The Minister for the Environment finalised his approval decision for the operation of F-35A on 17 July 2015. The approval contained the conditions with which Defence must comply with while operating JSF.  Deputy Chief of Air Force noted the Approval and conditions in September 2015. Provided the conditions are met by Defence, this is no longer a major issue for the project.
The project is unable to deliver the Maritime Strike Capability originally scoped at project approval, by FOC. This issue has emerged due to changes in the approved Block 4.1 and Block 4.2 scope, as agreed by the JSF Executive Steering Board.	The project has identified an alternate Maritime Strike Capability that is planned to be available by FOC and is assessed to deliver the required capability. A Ministerial Submission seeking approval to procure this alternate capability is currently being staffed through defence for Government approval.

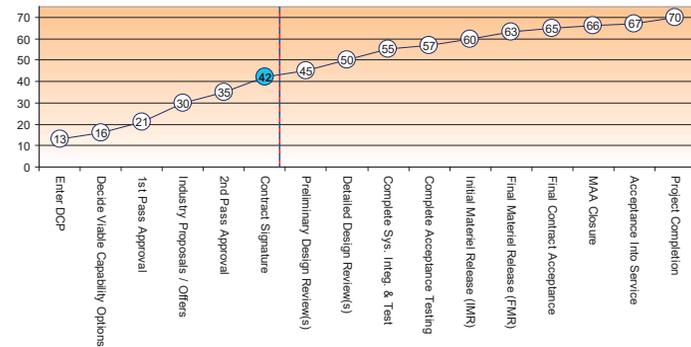
#### Note

Major risks and issues in Section 5 are excluded from the scope of the 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	6	6	6	6	6	6	6	6	42
Enter Contract	Project Status	7	6	6	6	7	6	5		43
	Explanation	<ul style="list-style-type: none"> <li> <b>Schedule:</b> Recent Project Management Baseline initiatives culminated in April 2016 with improved Milestone Definitions (primary and secondary milestones) and a more robust Integrated Master Schedule, where critical paths can be better analysed and managed.         </li> <li> <b>Technical Difficulty:</b> The JSF Air System is an extremely complex weapon system; that will drive significant change in how Australia supports and conducts air combat operations. Technical challenges remain, however progress is being achieved with risks and issues incrementally mitigated or retired. The risks and issues experienced to date are not unexpected in a development program of this complexity.         </li> <li> <b>Operations and Support:</b> The global support solution is still being developed, with significant oversight from the JSF Executive Steering Board. Australia is progressively developing its own sovereign plans for operating and supporting the F-35A capability. This includes ongoing cost modelling to better understand operating and support costs as the capability matures.         </li> </ul>								



2014-15 MPR Status - - - -

2015-16 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 2015-16

Position	Name
Division Head	AVM Chris Deeble (to Mar 16) AVM Leigh Gordon (Mar 16–current)
Branch Head	AIRC DRE Terry Saunder
Project Director	GPCAPT David Scheul
Project Director	Mr Todd Russell (to Mar 16) WGCDR Vince Palmeri (Acting Mar 16–current).
Project Director	GPCAPT Michael Brown (to Dec 15) GPCAPT Neil Pearson (Dec 15–current)
Project Manager	Mr Bill Greenwood (to Jan 16) GPCAPT Ian Nesbitt (Jan 16–current)