Project Data Summary Sheet[131]

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
Capability Manager	Chief of Air Force
Government 1st Pass Approval	Nov 06
Government 2nd Pass Approval	Nov 09 (Stage1) Apr 14 (Stage 2)
Total Approved Budget (Current)	**$16,004.9m**
2016-17 Budget	**$613.4m**
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. 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

30 June 2017, In-year expenditure **$131.1m over budget** (an overspend of **21.4 per cent**). The major **contributors** to the variance **include aircraft contract payments (revised Lot 10 contracting and payment schedule resulted in higher billable level of effort), Diminished Manufacturing Supply payments, and Memorandum Of Understanding payments.**

Project Financial Assurance Statement

Notwithstanding the risks disclosed at Section 5.1, as at **30 June 2017**, 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 **including contingency** remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

131 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.

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 **at RAAF Base Williamtown is generally ahead of schedule, although some buildings are behind schedule; replanning has ensured that these delays do not impact the critical path, although any additional delay may impact Initial Operating Capability (IOC) scheduled for 2020. Ongoing delay to the acquisition of land at RAAF Base Williamtown has the risk of delaying the opening of the extended runway.** **Construction is underway at RAAF Base Tindal, whilst planned works on the Forward Operating Bases is in the design phase.**

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

Mission Systems Block 3i software development and test was completed in May 2016, with the **Joint Program Office (**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 **received** the latest (final) Block 3i software in **September** 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 development is **largely** complete and **is undergoing** flight test through 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 **full** Block 3F software **in late 2017 for the F-35A variant which Australia is acquiring**. The schedule risk is considered manageable in the context of Australian IOC capability requirements and timeline, and for Australian **Verification and Validation (V&V)** 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. **In November 2016 the US Government assigned the regional maintenance and repair of the first 65 (of 774) components. 64 of these were assigned to four Australian companies.** 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 **four** Australian F-35A pilots have completed training and the training of additional Australian pilots is ongoing. **The first cadre of aircraft maintainers commenced training in the US in February 2017. MR2, the "Complete delivery of materiel and services supporting the start of the maintenance training in US" was declared achieved by Air Force on 24 August 2017.**

Aircraft 3-72 are scheduled to be delivered **progressively between 2018 and** 2023, **with the Final Operating Capability (FOC) milestone planned by December 2023. First aircraft arrival in Australia is on schedule, with two aircraft to be ferried to Australia in December 2018 to support start of Australian V&V in early 2019.**

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, risks to achieving IOC **remain** and **are being managed closely. These risks are centred around the** enabling systems and capabilities including: sustainment establishment, facilities, information systems, reprogramming, weapons integration and training systems. **The delivery of the originally scoped maritime strike capability is expected to be delayed due to decisions made in conjunction with global partners**.

Note

Forecast dates and capability assessments are excluded from the scope of the 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 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, **subject to Government agreement, will leverage off a Block Buy initiative available to all nations spanning production lots 12 to 14, and a Multi-Year Procurement strategy for subsequent production lots. For Lots 12 to 14, Australia's commitment to the single lots will continue on an annual basis through exercising options under the proposed Block Buy contract.**
- The Australian F-35A JSF capability **will** be supported **via a F-35 Global Support Solution that is progressively being implemented and a range of Australian sovereign sustainment contracts, with all arrangements planned to be** performance-based.

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

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**. This risk is now managed as part of the procurement risk below.**
- **Shortfalls in integrating the F-35A capability into Australian Defence Force systems will result in reduced interoperability.**
- **Late establishment and insufficient functionality of the required Information, Communications and Technology (ICT) infrastructure, systems and connectivity could impact stand up of the F-35A capability.**
- **Delays in releasability of F-35 technology and information, driven by US policy, may impact the timely, efficient and effective integration of the F-35A Air System into the Australian Defence Force.**
- **F-35A Capability States will be affected by requirements being deferred or cancelled, hardware or software deficiencies, or modifications and retrofits not being completed on schedule.**
- Transition of the JSF into service at the same **time as Air Force transitions other platforms. This risk is now managed as part of the workforce risk below.**
- **Sustainment Performance, Cost & Schedule may be affected by the ongoing evolution of the Global Support Solution (GSS).**
- **Timeliness and scope of F-35 reprogramming enterprise will impact capability delivery.**
- **Procurement may be affected by acquisition funding issues due to cost increases and budget programming difficulties leading to an impact on IOC and FOC scope and schedule.**
- **Australian Industry participation in the global F-35 program will fail to yield expected economic benefits.**
- **Competing priorities across Defence may impact F-35A capability realisation due to the inability to establish and maintain the required workforce.**
- **The RAAF capability declarations will be affected by an Australian F-35A Training System not established in time, and without the required capability to support RAAF training of personnel.**

The project has one major issue that it is managing, whereby **the originally scoped maritime strike capability is expected to be delayed due to decisions made in conjunction with global partners**.

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 Group (DSTG) conducting a Pacific Rim Command, Control, Communication, Computing, Intelligence, Surveillance, and Reconnaissance study. All AIR JSF SDD financial milestones have been completed. **Completion of the** US SDD Phase is **expected by mid-2018, although administrative close-out of SDD contracts will occur much later**.

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
	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 17	Exchange Variation		**2,389.7**	
Jun 17	**Total Budget**		**16,004.9**	
	Project Expenditure			
Prior to Jul 16	Contract Expenditure – US Government – LRIP 6 Production	**(252.8)**		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)	**(130.0)**		4
	Contract Expenditure – US Government – LRIP 10 Production	**(69.3)**		4
	Contract Expenditure – US Government – LRIP 6 Propulsion	**(49.4)**		4
	Contract Expenditure – US Government – Reprogramming Laboratory Phase 1	**(37.0)**		**4**
	Contract Expenditure – US Government – LRIP 8 – Production and Non-Annualised Sustainment	**(17.8)**		**4**
	Contract Expenditure – US Government – LRIP 11 – Production	**(4.0)**		**4**
	Contract Expenditure – US Government – FMS Case AT-D-YAF (Weapons)	**(1.8)**		**4**
	Other Contract Payments / Internal Expenses	**(190.1)**		5, **6**
			(933.2)	
FY to Jun 17	Contract Expenditure – US Government – LRIP 10 Production	**(342.5)**		**4**
	Contract Expenditure – US Government – PSFD MoU (FY14/15 – 22/23)	**(63.3)**		**4**
	Contract Expenditure – LRIP 10 Propulsion	**(62.2)**		**4**
	Contract Expenditure – US Government – LRIP 11 – Production	**(40.9)**		**4**
	Contract Expenditure – US Government – Reprogramming Laboratory Phase 1	**(28.2)**		**4**

	Contract Expenditure – US Government – LRIP 8 – Production and Non-Annualised Sustainment	(24.3)		4
	Contract Expenditure – US Government – FMS Cases AT-D-YAF, AT-P-AMN (Weapons)	(13.2)		4
	Lot 12 Long Lead & EOQ	(6.1)		4
	Contract Expenditure – US Government – LRIP 6 Production	(4.7)		4
	FY 17 Air Vehicle Initial Spare	(3.3)		4
	Other Contract Payments / Internal Expenses	(156.6)		5, 7
			(745.3)	
Jun 17	**Total Expenditure**		(1,678.5)	
Jun 17	**Remaining Budget**		14,326.3	

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	The project has reviewed the list of major contracts reported in the PDSS to ensure the PDSS reflects only the most significant contracts of the project. This has resulted in some contracts previously reported separately now being reported as part of the other contract payments/internal expenses.
6	Other expenditure for the period prior to July2016 is primarily associated with activity to integrate NACC specific information systems into the Defence Information Environment (DIE) ($58.2m), FMS minor Weapons cases various ($17.5m), Construction services for the F-35 Partner Reprogramming Lab facility ($10.5m), the NACC Industry Support Program (Grants) ($10.5m), Diminishing Manufacturing Supplies ($9.6m), LRIP 9 – Non-Annualised Sustainment ($5.9m), Enterprise Architecture Modelling activity ($5.6m), Verification and Validation ($4.0m), F-35A base planning and facility design and Environmental Impact Statement development ($3.9m), Co-operative Program Personnel (US based) expenses ($3.3m), LRIP 7 ($3.2m), Reprogramming Support ($3.0m), Reprogramming Laboratory Fit-Out ($1.4m), LRIP 10 Propulsion ($1.1m), and Safety Case ($0.1m). The remainder ($52.3m) is comprised of expenditure associated with internal Defence activity support, project travel, minor office expenses and contractors.
7	Other expenditure for the period July 2016 to June 2017 is primarily associated with Ghosthawk ($31.0m), Project Office Services (Capital) ($22.5m), FMS Cases ($20.6m), Diminished Manufacturing Supply ($14.6m). The remainder ($67.9m) is comprised of expenditure associated with internal Defence activity support, project travel, minor office expenses and contractors.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
725.7	644.2	613.4	PBS – PAES: The variance is attributed to aircraft contract payments being reduced to reflect latest estimate of contract schedules and invoicing, some earlier payments than expected, rescheduling of FMS case activities and foreign exchange movements. PAES – Final Plan: The variance mainly relates to non-aircraft activities where a range of activities required reprogramming, resulting in either +/- variations compared to the PAES. The main contributors being updated schedules for Weapons FMS and Training Equipment activities.
Variance $m	(81.4)	(30.8)	Total Variance ($m): (112.3)
Variance %	(11.2)	(4,8)	Total Variance (%): (15.5)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
			Australian Industry	The in-year overspend is mainly due to aircraft contract payments (revised LOT 10 contracting and payment schedule resulted in higher billable level of effort); Diminished Manufacturing Supply payments, and Memorandum Of Understanding payments.
			Foreign Industry	
			Early Processes	
			Defence Processes	
		131.1	Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
613.4	745.3	131.1	**Total Variance**	
		21.5	**% Variance**	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 17 $m			
US Government PSFD MoU (FY 09/10 – 13/14)	Dec 06	167.1	181.0	Various	MoU	1, 12, 13
US Government PSFD MoU (FY 14/15 – 22/23)	Dec 06	253.1	554.9	Various	MoU	2, 12, 13
US Government (LRIP 6 Production)	May 11	22.0	272.7	Fixed Price Incentive	USG Contract	3, 12, 13
US Government (LRIP 6 Propulsion)	Aug 11	5.8	50.9	Fixed Price Incentive	USG Contract	4,12, 13
US Government (LRIP 10 Production)	Dec 14	79.2	896.6	Fixed Price Incentive	USG Contract	5, 12, 13
US Government (LRIP 10 Propulsion)	Mar 15	13.4	141.4	Fixed Price Incentive	USG Contract	6, 12, 13
US Government (Reprogramming Laboratory Phase 1)	Mar 15	119.0	123.4	Fixed Price Incentive	USG Contract	7, 12, 13
US Government (LRIP 8 Production and Non-Annualised Sustainment)	Jun 15	99.9	109.6	Fixed Priced Incentive	USG Contract	8, 12, 13
US Government (LRIP 11 Production)	Dec 15	88.2	85.2	Fixed Price Incentive	USG Contract	9, 12, 13
US Government (AT-D-YAF)	Jun 16	111.9	103.7	Reimbursement	FMS	12, 13
US Government (AT-P-AMN)	**Jul 16**	**132.3**	**122.9**	**Reimbursement**	**FMS**	**12, 13**
US Government (Lot 12 Long Lead and Economic Order Quantity Contract)	**Feb 17**	**236.3**	**233.7**	**Fixed Price Incentive**	**USG Contract**	**10, 12, 13**
US Government (FY17 Air Vehicle Spares & ACURL Spares)	**Mar 17**	**114.4**	**126.5**	**Fixed Price Incentive**	**USG Contract**	**11, 12, 13**

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	LRIP 6 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	LRIP 6 Propulsion 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	LRIP 10 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	LRIP 10 Propulsion 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'. The increase in this contract value is due to full funding contract now being in place.
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	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'.
10	**Lot 12 Long Lead items for the next tranche of F-35A aircraft for Australia. This contract also encompasses the first instalment of Economic Order Quantity (EOQ) parts procurement for the planned Block Buy of aircraft spanning Lots 12 to 14.**
11	**FY17 Air Vehicle Initial Spares & Australia, Canada and United Kingdom Reprogramming Lab (ACURL) Spares contract for Australia's Deployable Spares Pack (DSP), Australia's contribution to F-35 global spares pool and spares for the ACURL.**
12	Contract value as at **30 June 2017** is based on actual expenditure to **30 June 2017** and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).
13	The scope of these contracts is explained further below.
14	**The project has reviewed the list of major contracts reported in the PDSS to ensure the PDSS reflects only the most significant contracts of the project. This has resulted in some contracts previously reported separately now being reported as part of other contract payments/internal expenses and being removed from the list of major contracts.**

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 17		
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 (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 11 Production)	N/A	N/A	Procurement of Advanced Acquisition items associated with the next eight F-35A aircraft procurement.	
US Government (AT-D-YAF)	N/A	N/A	Procurement of small diameter bombs (SDB 1) and associated racks.	
US Government (AT-P-AMN)	**N/A**	**N/A**	**Procurement of Radio Frequency Counter Measures.**	
Lot 12 Long Lead and Economic Order Quantity	**15**	**15**	**Procurement of long lead supply items and economic order quantity items, leading to Full Funding contract award in 2018 for procurement of the next 15 F-35A aircraft under Lot 12.**	
FY17 Air Vehicle Initial Spares & ACURL Spares	**N/A**	**N/A**	**F-35 global spares pool, Deployable Spares Pack and spares for the Australia, Canada and United Kingdom Reprogramming Lab.**	

Major equipment received and quantities to 30 June 17
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	**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	**May** 19	**29**	5
	Accept and deliver aircraft 15-72	Dec 23	Sep 23	**Aug** 23	(**4**)	6

Notes	
1	Block 2B supported the United States Marine **Corps** 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.

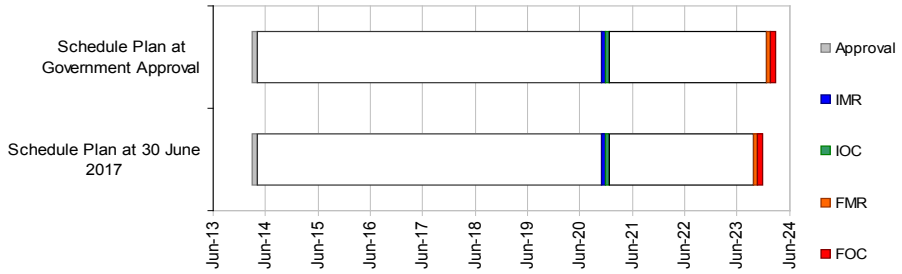
3	Block 3F Fleet Release is the final capability software state under the SDD Program. The latest software schedule from Lockheed Martin indicates that 3F Fleet Release has been split into variant specific Fleet Release Loads, and subsequently capability specific loads. The F-35A Full Envelope with AIM9-X 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 **by May** 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 **August** 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	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. **The project now has a** more robust and stable Integrated Master Schedule **that provides improved information for decision making and greater confidence in forecast performance against project milestones**.
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.

Schedule Status at 30 June 2017



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

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 expects to meet the majority of capability requirements as expressed in the Materiel Acquisition Agreement and supporting suite of Capability Definition Documentation, with delivery in accordance with requirements of the relevant Technical Regulatory Authorities. **Amber:** N/A **Red:** The originally scoped maritime strike capability is expected to be delayed due to priorities set in conjunction with global partners. Defence is committed to delivering a maritime strike capability to meet requirements and will provide regular updates to Government.
Note	
This Pie Chart represents Defence's expected capability delivery. Capability assessments and forecast dates are excluded from the scope of the review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	Delivery of 33 aircraft to RAAF Base Williamtown between 2018 and 2020 to support Australian V&V and stand-up of No.3 Squadron (SQN) and No.2 Operational Conversion Unit; this includes the aircraft temporarily located at Luke Air Force Base in Arizona for initial pilot training in the US. 3SQN facilities fully fitted, accredited, staffed and ready to support flying operations. Materiel delivery, V&V, training, support and transition activities required for IOC completed. IMR is expected to be achieved October to December 2020.	Not yet achieved
Final Materiel Release (FMR)	Delivery of final 39 aircraft between 2021 and 2023, 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, V&V, training, support and transition activities required for FOC completion. FMR is expected to be achieved October to December 2023.	Not yet 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.	This risk is now managed as part of the procurement risk below.

Shortfalls in integrating the F-35A capability into Australian Defence Force systems will result in reduced interoperability.	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.
Late establishment, and insufficient functionality of the required Information, Communications and Technology (ICT) infrastructure, systems and connectivity could impact stand up of the F-35A capability.	Ongoing engagement **is required between JSF IS staff,** the JPO and key stakeholders to ensure ICT systems development and integration are synchronised with the broader JSF facilities program. **This engagement needs to include design influence and sharing of system data to support the protection of Australian networks and to meet the National systems and accreditation requirements.**
Delays in releasability of F-35 technology and information, driven by US policy, may impact the timely, efficient and effective integration of the F-35A Air System into the Australian Defence Force.	Ongoing engagement with the **US Government and industry, including at Ministerial level where necessary, to identify and obtain the necessary F-35 technology and information needed to enable effective integration of the F-35A Air System into the Australian Defence Force.**
F-35A Capability States will be affected by requirements being deferred or cancelled, hardware or software deficiencies, or modifications and retrofits not being completed on schedule.	Pro-active coordination between all organisations with responsibilities for acquiring, integrating and supporting the JSF in-service **to ensure information concerning deficiencies in delivered requirements to achieve capability states is shared and managed in conjunction with the Capability Manager to ensure that any influence or remediation action required is conducted jointly so that, ultimately, the requirements are met**.
Transition of the **F-35A into service at the same time as Air Force transitions other platforms. This risk is now managed as part of the workforce risk below.**	**This risk is now managed as part of the workforce risk below.**
Sustainment Performance, Cost & Schedule may be affected by the ongoing evolution of the Global Support Solution (GSS).	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.
Timeliness and scope of F-35A reprogramming enterprise will impact capability delivery.	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. **While ACURL Phase 1 is an interim and limited capability, ACURL Phase 2 requirements are being developed to meet full capability needs at FOC, including the need to support multiple aircraft configurations (ie with Follow On Modernisation (FOM) in mind).**
Australian Industry, as a Fundamental Input to Capability, may not grow adequately to support the sovereign JSF and associated ADF capabilities.	**This risk is now managed as part of the Australian Industry risk below.**
Procurement may be affected by acquisition funding issues due to cost increases and budget programming difficulties leading to an impact on IOC and FOC scope and schedule.	**Conduct on-going engagement of the F-35 Joint Program Office and major project suppliers to have them to provide better cost data to allow the F-35 project to meet budgeting and programming expectations. To identify cost pressures and engage with the Capability Manager (CM) to prioritise requirements to deliver project capability within the approved project budget. Where necessary, develop options for CM consideration to achieve project affordability by aligning project expenditure with the Defence integrated investment program capacity in any specific year.**

Australian Industry participation in the global F-35 Program fails to yield expected economic benefits	Coordinated activity with Defence Industry Division including close working relationship with **Centre for Defence Industry Capability** 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).
Competing priorities across Defence may impact F-35A capability realisation due to the inability to establish and maintain the required workforce.	**Maintain an effective integrated Workforce Plan that considers the evolving F-35A workforce requirements, and engage regularly with miltary and APS workforce planning organisations to ensure the Worforce Plan priorities are enacted.**
The RAAF capability declarations will be affected by an Australian F-35A Training System not established in time, and without the required capability to support RAAF training of personnel.	**Defence representation at critical and essential JPO meetings, including Periodic Technical Interchange Meetings (PTIM) with LM and JPO, to burn-down risk through persistent, consistent influencing.**

Emergent Risks (risk not previously identified but has emerged during 2016-2017)	
Description	Remedial Action
N/A	N/A

5.2 Major Project Issues

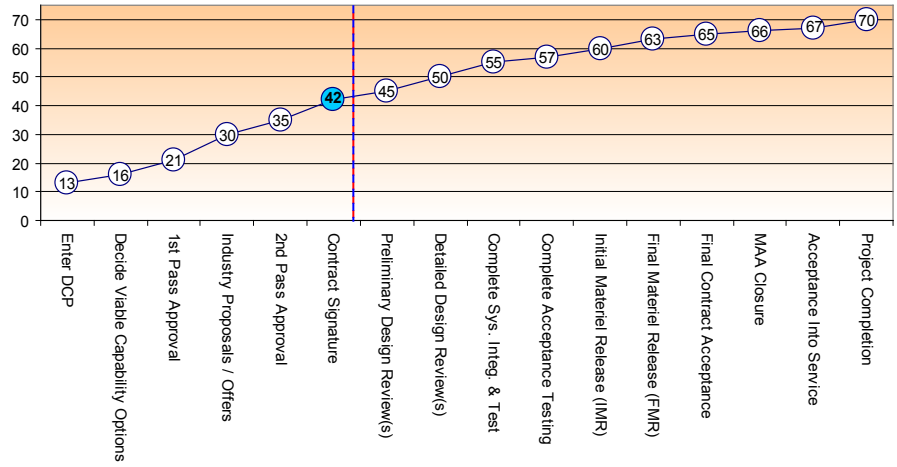
Description	Remedial Action
The project has one major issue that it is managing, whereby **the originally scoped maritime strike capability is expected to be delayed due to priorities set in conjunction with global partners**.	**Defence is committed to delivering a maritime strike capability to meet requirements and will provide regular updates to Government.**

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	42
Enter Contract	Project Status	7	6	6	6	7	6	5	43
	Explanation	• **Schedule:** Recent Project Management Baseline initiatives **have provided** improved Milestone Definitions (primary and secondary milestones) and a more robust Integrated Master Schedule, where critical paths can be better analysed and managed. **The project now has a reliable suite of tools that provide improved confidence in schedule forecasts that aids in better decision making.** • **Technical Difficulty:** 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. • **Operations and Support:** 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.							



2015-16 MPR Status - - - - 2016-17 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 2016-17

Position	Name
Division Head	AVM Leigh Gordon
Branch Head	AIRCDRE Terry Saunder
Project Director	GPCAPT David Scheul **(to Jan 17)** **GPCAPT Guy Adams (Jan 17 – current)**
Project Director	WGCDR Vince Palmeri (Acting **to Oct 16)** **Mr Stephen McDonald (Oct 16 – current)**
Project Director	GPCAPT Neil Pearson