

Project Data Summary Sheet¹²¹

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)
Budget at 2 nd Pass Approval	\$13,264.1
Total Approved Budget (Current)	\$15,504.0m
2017-18 Budget	\$1,128.1m
Project Stage	Integration and Test
Complexity	ACAT I



Section 1 – Project Summary

1.1 Project Description

The AIR 6000 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, comprised of the United Kingdom, Canada, Italy, Denmark, Norway, Netherlands and Turkey. Also procuring the F-35A JSF through US Foreign Military Sales (FMS) agreements are Japan, Israel and the Republic of Korea.

1.2 Current Status

Cost Performance

In-year

30 June 2018 – Year end variance of \$58.2m less than planned was as a result of various factors. Aircraft payment delays (due to later than expected invoicing from Prime Contractors, not delivery delay) and foreign exchange loss. Non-Aircraft contract variations including: replan, invoicing timing and value variations and slippage in contracts for Reprogramming Laboratory, Autonomic Logistics Information System, Support and Test Equipment, Maintenance Facilities, Training Equipment, Initial US Training and Information and Communication Technology (ICT) integration replan. Higher than planned expenditure was achieved against Weapons Foreign Military Sales due to increased disbursements and a higher than expected payment in June 2018.

Project Financial Assurance Statement

In consideration of risks disclosed at Section 5.1, as at 30 June 2018, Project AIR 6000 Phase 2A/2B has reviewed the approved scope and budget for those elements required to be delivered by the project. Defence considers, there is sufficient budget, including contingency, remaining for the project to deliver the agreed scope. **The project will address cost risks in the annual update to Government in October 2018.**

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

Australia's first two aircraft, from production Lot 6, were delivered in 2014, as part of Materiel Release 1 (MR1) commencement of Pilot training in the US. In the first six months of 2018, four Lot 10 aircraft were delivered. Facilities construction at RAAF Base Williamtown is on schedule despite some minor delays. The land acquisition process has delayed the ability for the full length of the runway extension to be operational. Deferred works at Williamtown and Forward Operating Bases are in the design phase. Initial Operating Capability (IOC) remains on track as planned for 2020.

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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.

<p>Construction work at RAAF Base Tindal is well underway and tracking ahead of schedule. Mission Systems Block 2B software Fleet Release was achieved in July 15 (for US Marine Corps IOC Declaration). Mission Systems Block 3i software development and test was completed in May 16, with the F-35 Joint Program Office (JPO) declaring the final increment of the Block 3i software suitable for United States Air Force (USAF) IOC requirements, after some stability issues experienced in the test phase had been resolved. The first two Australian aircraft delivered in November 14 received the initial increment of the Block 3i software (released in September 14) which was suitable for early pilot training. The two Australian aircraft received the latest (final) Block 3i software in September 16.</p> <p>Mission Systems Block 3F software, the final software release under the System Development and Demonstration (SDD) phase of the program, delivered the final increment of warfighting capability and is the requirement for Australian IOC, which is planned by December 20. Block 3F development is now complete. Australia's Lot 10 aircraft are being delivered in the Block 3F configuration.</p> <p>The Australian F-35 sustainment solution is still maturing. The 2014 US Government assignment of regional Airframe and Engine Maintenance, Repair, Overhaul and Upgrade responsibilities to Australia has assisted in the planning of Australian Sustainment. In November 16 the US Government assigned the regional maintenance and repair of 64 of 65 Tier 1 components 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.</p> <p>The F-35 Partner Reprogramming Lab contract signature was awarded on 9 April 15, with risk to Mission Data File delivery in time for IOC being monitored.</p> <p>The first eight Australian F-35A pilots have completed training to Instructor Qualification standard and four additional Australian pilots have commenced F-35A training, with one more pilot scheduled to commence from October 18. The first cadre of aircraft maintainers have completed theory training and are now undergoing On The Job Training with the Lockheed Martin workforce at Luke Air Force Base.</p> <p>First aircraft arrival in Australia is on schedule, with the first two aircraft to be ferried to Australia in December 18 to support the start of Australian Verification and Validation (V&V) activities in early 2019. Aircraft 7-72 are scheduled to be delivered progressively between July 2018 and Final Operating Capability (FOC) in December 23.</p>
<p>Material Capability Delivery Performance</p> <p>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. 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, and training systems. V&V activities in 2019-20 will seek to retire or re-characterise these risks. Risks remain in project elements required to achieve FOC in 2023. While Defence has extant maritime strike capabilities, the project is investigating options to address the F-35A specific maritime strike capability.</p>
<p>Note</p> <p>Some forecast dates and capability assessments are excluded from the scope of the review.</p>

1.3 Project Context

<p>Background</p> <p>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 one of nine Partner Nations. 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:</p> <ul style="list-style-type: none"> • 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 Dec 06 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 Apr 14 to acquire an additional 58 CTOL F-35A JSF aircraft and enabling elements. The combined acquisition of 72 aircraft will achieve FOC in 2023 comprising of three operational squadrons of fifth generation F-35A JSF to replace the F/A-18A/B Hornet aircraft.
<p>Uniqueness</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • 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

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<p>deliveries (LRIP 11). Subsequent procurements, subject to Government agreement, will leverage off a Block Buy initiative available to some 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.</p> <ul style="list-style-type: none"> 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. <p>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.</p>
<p>Major Risks and Issues</p> <p>The JSF is a large and complex program and many challenges remain. As a MoU Partner Australia does have a role overcoming technical challenges, however these are primarily a US responsibility to resolve.</p> <p>The major risks facing the AIR 6000 Phase 2A/2B Project are:</p> <ul style="list-style-type: none"> Shortfalls in integrating the F-35A capability into the Australian Defence Force (ADF) systems may result in poor interoperability. Late establishment and insufficient functionality of the required Information, Communications and Technology (ICT) infrastructure, systems and connectivity, including the Autonomic Logistics Information System (ALIS) 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 may be affected by requirements being deferred or cancelled, hardware or software deficiencies, or modifications and retrofits not being completed on schedule. 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 may 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 may fail to yield expected economic benefits. Workforce constraints, including the need for higher level security clearances, may impact project cost and schedule. The RAAF capability declarations may be affected by an Australian F-35A Training System not established in time, and without the required capability to support RAAF training of personnel. <p>Air Force is considering options for maritime strike capability across multiple platforms and will advise Government in October 18.</p> <p>The issues facing the AIR 6000 Phase 2A/2B Project are:</p> <ul style="list-style-type: none"> A delay in 'small group try outs' for some maintenance activities in Australia due to a delay in equipment installation. The F-35 ejection system promotes greater risk than other ejection systems. Continuous Capability Development and Delivery (C2D2) increases Australia's total development costs. Delays in software upgrades have impacted Verification and Validation events. The timeline for "Follow on Modernisation" has not met Air Force's expectation. Communications capability delivery schedule has not met Air Force's expectation. Delivery of F-35A Enterprise Architecture Management has been impeded by the primary software application. Delayed provision of contracted Training workforce has affected milestone delivery.
<p>Other Current Sub-Projects</p> <p>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.</p> <p>AIR 6000 Phase 5 - Air Combat Capability Air-to-Air Weapons: This project was approved by Government in Mar 16 and will acquire reserve stocks of air-to-air Within-Visual-Range (WVR) and Beyond-Visual-Range (BVR) missiles for the Air Combat Capability including the F-35A Joint Strike Fighter.</p> <p>AIR 6000 Phase 3 - Air Combat Capability Air-to-Surface Weapons: This project was approved by Government in May 18 and will acquire the reserve stocks of weapons for the F-35 Joint Strike Fighter (JSF), including new countermeasures and ammunition but excluding air-to-air missiles. AIR 6000 Phase 2A/2B will identify the weapons to be acquired based on the weapons integrated onto the F-35A platform.</p>
<p>Note</p> <p>Major risks and issues are excluded from the scope of the review.</p>

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
	Total at Second Pass Approval	13,264.1	
Apr 18	Real Variation – Transfer	(8.4)	3
Jul 10	Price Indexation	351.0	4
Jun 18	Exchange Variation	1,897.3	
Jun 18	Total Budget	15,504.0	
	Project Expenditure		
Prior to Jul 17	Contract Expenditure – US Government – LRIP 10 Production	(361.5)	5
	Contract Expenditure – US Government – LRIP 6 Production	(257.2)	5
	Contract Expenditure – US Government – PSFD MoU (FY14/15 – 22/23)	(193.2)	5
	Contract Expenditure – US Government PSFD MoU (FY 09/10 – 13/14)	(181.0)	5
	Contract Expenditure – US Government – Reprogramming Laboratory Phase 1	(65.3)	5
	Contract Expenditure – US Government – LRIP 10 Propulsion	(55.9)	5
	Contract Expenditure – US Government – LRIP 6 Propulsion	(49.6)	5
	Contract Expenditure – US Government – LRIP 8 – Production and Non-Annualised Sustainment	(41.9)	5
	Contract Expenditure – US Government – LRIP 11 – Production	(37.7)	5
	Contract Expenditure – US Government – FMS Case AT-D-YAF, AT-P-AMN (Weapons)	(15.0)	5
	Contract Expenditure – US Government - FY 17 Air Vehicle Initial Spare	(3.0)	5
	Contract Expenditure – US Government - LRIP 10 Non-Annualised Sustainment Contract	(1.1)	5
	Other Contract Payments / Internal Expenses	(337.1)	7
		(1,599.5)	
FY to Jun 18	Contract Expenditure – US Government – LRIP 10 Production	(415.7)	5
	Contract Expenditure – US Government – LRIP 11 – Production	(218.6)	5
	Contract Expenditure – LRIP 10 Propulsion	(75.3)	5

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	Contract Expenditure – US Government - Block Buy Contract (BBC)	(60.1)	6
	Contract Expenditure – US Government – LRIP 8 – Production and Non-Annualised Sustainment	(29.7)	5
	Contract Expenditure – US Government – Reprogramming Laboratory Phase 1	(26.1)	5
	Contract Expenditure – US Government – FMS Cases AT-D-YAF, AT-P-AMN (Weapons)	(21.8)	5
	Contract Expenditure – US Government - FY 17 Air Vehicle Initial Spare	(19.8)	5
	Contract Expenditure – US Government - FY10 Non-Annualised Sustainment Contract	(19.3)	5
	Contract Expenditure – US Government – LRIP 11 – Propulsion	(16.5)	5
	Contract Expenditure – US Government – LRIP 6 Production	(0.9)	5
	Other Contract Payments / Internal Expenses	(166.1)	8
Jun 18	Total Expenditure	(1,069.9)	
		(2,669.4)	
Jun 18	Remaining Budget	(12,834.6)	
Notes			
1	A May 12 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 New Air Combat Capability (NACC) Program. In September 12, 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 14 for an additional 58 CTOL F-35A JSF aircraft.		
3	Transfer to Estate and Infrastructure Group following request for funding scope changes for RAAF Base Tindal Joint Strike Fighter facilities.		
4	Up until July 10, 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.		
5	The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.		
6	Previously reported as Lot 12 Long Lead and Economic Order Quantity (EOQ)		
7	Other expenditure for the period prior to July 17 is associated with Support Systems (\$184.6m) which comprises of software capability for the reprogramming lab, facilities, support & test equipment, information communications technology and ALIS; mission systems (\$67.5m) comprising of FMS cases, weapons & aircraft; Project Office services (\$48.8m) comprising of Project Office services (travel, contract support services) & contract administration in relation to the Joint Project Office; NACC Operating Expenditure (\$35.0m) comprising of Project Office expenses, initial support & maintenance, US pilot training and NACC ISP Grants Program; and monitoring (\$1.2m) which includes Diminished Manufacturing Supply (DMS).		
8	Other expenditure for the period July 17 to June 18 is associated with support systems (\$97.4m) comprising of software capability for the reprogramming lab, facilities, support and test equipment, information communications technology and the ALIS; Project Office services (\$22.4m) comprising of Project Office services (travel, contract support services) and contract administration in relation to the Joint Project Office; mission systems (\$21.8m) comprising of FMS cases, weapons and aircraft; NACC operating expenditure (\$20.5m) comprising of Project Office expenses, initial support and maintenance, US pilot training and the NACC ISP Grants Program (\$4.1m).		

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
1,148.2	1,113.3	1,128.1	PBS – PAES: The acquisition is as forecast in the Defence PBS 2017-18. The variance is due to the FOREX price basis adjustment down from PBS 2017-18. PAES – Final Plan: The acquisition is as now forecast in PBS 2018-19. The variation is due to the FOREX price basis adjustment from PAES to PBS 2018-19.
Variance \$m	(34.9)	14.8	Total Variance (\$m): (20.1)
Variance %	(3.0)	1.3	Total Variance (%): (1.7)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
		(11.8)	Australian Industry	Year-end variance of (\$58.2m) was as a result of various factors: aircraft payment delays (not delivery delay) and FOREX loss. Non-aircraft contract variations including: replan, invoicing timing and value variations and slippage in contracts for Reprogramming Laboratory, ALIS, support and test equipment, maintenance facilities, training equipment, initial US training and ICT integration replan. Higher than planned expenditure against weapons FMS activity.
		(51.2)	Foreign Industry	
			Early Processes	
		(4.0)	Defence Processes	
		8.8	Foreign Government	
			Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
1,128.1	1,069.9	(58.2)	Total Variance	
		(5.2)	% Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature \$m	30 Jun 18 \$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	575.3	Various	MoU	2, 12, 13
US Government (LRIP 6 Production)	May 11	22.0	272.6	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	890.8	Fixed Price Incentive	USG Contract	5, 12, 13
US Government (LRIP 10 Propulsion)	Mar 15	13.4	145.1	Fixed Price Incentive	USG Contract	6, 12, 13
US Government (Reprogramming Laboratory Phase 1)	Mar 15	119.0	128.0	Fixed Price Incentive	USG Contract	7, 12, 13
US Government (LRIP 8 Production and Non-Annualised Sustainment)	Jun 15	99.9	109.1	Fixed Price Incentive	USG Contract	8, 12, 13
US Government (LRIP 11 Production)	Dec 15	88.2	556.0	Fixed Price Incentive	USG Contract	9, 12, 13
US Government (AT-D-YAF)	Jun 16	111.9	102.5	Reimbursement	FMS	12, 13
US Government (LRIP 10 Non-Annualised Sustainment Contract)	Jun 16	31.8	165.3	Various	USG Contract	12, 13, 16
US Government (AT-P-AMN)	Jul 16	132.3	132.3	Reimbursement	FMS	12, 13
US Government (LRIP 11 Propulsion)	Jul 16	14.2	155.9	Fixed Price Incentive	USG Contract	12, 13, 15
US Government (Block Buy Contract)	Feb 17	236.3	459.7	Fixed Price Incentive	USG Contract	10, 12, 13

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US Government (FY17 Air Vehicle Spares & ACURL Spares)	Mar 17	114.4	141.9	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 06 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 09 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 06 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 14. 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'. Subsequent to full funding being awarded for this contract further modifications (contract changes) have occurred. These include: (1) Long Lead funding for Lot 12 (15 aircraft), (2) initial sparring for operating units, maintenance depots and the Global Pool and (3) the migration of ALIS propulsion data.					
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 and an aircrew fitting service.					
9	LRIP 11 Production contract for Australia's next tranche of eight F-35A aircraft. This contract includes Long Lead items and is progressively modified, forming the basis of the Air System contract for the complete system – per Section 1.3 'Uniqueness'. This contract is near Full Funding award with the increase in contract value a result of the staged procurement and provision of funding for the F-35 production line to build the aircraft.					
10	The Block Buy Contract encompasses Long Lead items and Economic Order Quantity (EOQ) parts procurement for the planned Block Buy of aircraft spanning Lots 12, 13 and 14. This contract was previously reported as Lot 12 Long Lead and EOQ. Australia will commit to aircraft purchases on an annual basis via this contract, subject to annual approvals by Government.					
11	FY17 Air Vehicle Initial Spares & ACURL Spares contract for Australia's Deployable Spares Pack (DSP), Australia's contribution to F-35 global spares pool and spares for the Reprogramming Lab.					
12	Contract value as at 30 June 18 is based on actual expenditure to 30 June 2018 and remaining commitment at current exchange rates. This includes adjustments for indexation (where applicable). The initial contract for LRIP 11 was signed July 16 whereby materiel was procured under contract N00019-16-C-0001 as per the AAC S23 (Folder 12.03). Once the LRIP 11 contract was established, this contract number was updated to the new contract number of N00019-17-C-0020.					
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 it 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.					
15	LRIP 11 Propulsion contract for eight engines for installation on Australia's tranche of eight F-35A aircraft being procured through the LRIP 11 Production Lot. 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'.					
16	LRIP 10 Non-Annualised (NA) Sustainment contract consists of one-time tasks and infrastructure stand up activities. The contract undergoes discrete modifications for each individual good and/or service being procured which in turn dictates the 'type' of contract. For the LRIP 10NA Sustainment contract, the following contract types were included within the various modifications: Cost Plus Incentive Fee (CPIF), Cost Plus Fixed Fee (CPFF) and Fixed Price Incentive (FPI).The majority of each discrete procurement is acquisition related, examples being initial non-aircraft spares, site activation, depot stand-up, hardware procurement and delivery, training systems, support equipment and ALIS.					

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 18		
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 and spares associated with propulsion systems for the next eight F-35A aircraft procurement. This contract has also been modified to include Long Lead items to support Lot 12 aircraft.	
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)	8	8	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 Countermeasures.	
US Government Block Buy Contract	N/A	N/A	Procurement of long lead supply items for Lots 12 and 13 and economic order quantity items for Lots 12, 13 and 14. Leading to Full Funding contract award in 2018 for procurement of 15 F-35A aircraft under Lot 12. A further 15 aircraft are scheduled for Full Funding award for Lot 13 in 2019 and likewise for Lot 14 in 2020.	2
US Government FY17 Air Vehicle Initial Spares & ACURL Spares	N/A	N/A	F-35 global spares pool, Deployable Spares Pack and spares for the Reprogramming Lab.	
US Government (LRIP 11 Propulsion)	8	8	Procurement of propulsion systems required for the eight F-35A aircraft being procured through the LRIP 11 Production Lot.	
US Government (LRIP 10 Non-Annualised Sustainment Contract)	N/A	N/A	Procurement of initial non-aircraft spares, site activation, depot stand-up, hardware procurement and delivery, training systems, support equipment and ALIS	
Major equipment received and quantities to 30 June 18				
Six F-35A aircraft delivered to support commencement of training in the USA.				
Notes				
1	No equipment delivered as part of this contract.			
2	This contract was previously reported as Lot 12 Long Lead and EOQ.			

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Section 3 – Schedule Performance

3.1 Design Review Progress

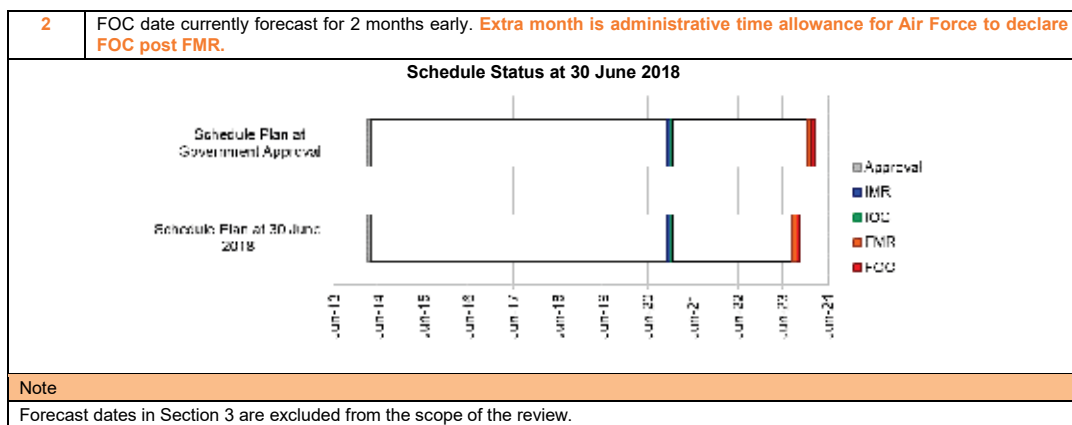
Review	Major System/Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
Preliminary Design	JSF Air System (CTOL Variant)	Mar 03	N/A	Jul 03	4	1
Critical Design	JSF Air System (CTOL Variant)	Apr 04	Feb 06	Feb 06	22	2
Notes						
1	Aircraft weight was the major issue 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 04, was re-scheduled to February 06 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	Aug 17	0	3, 4
Acceptance	Accept and deliver two (LRIP 6) aircraft to US Pilot Training Centre	Mar 14	Nov 14	Nov 14	8	6
	Accept and deliver aircraft 3-14	Dec 16	Jun 19	Apr 19	28	7
	Accept and deliver aircraft 15-72	Dec 23	Sep 23	Aug 23	(4)	8
Notes						
1	Block 2B supported the United States Marine Corps IOC declaration which occurred on 31 July 15.					
2	Block 3i Initial Release software provides initial pilot training capability for the 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	F-35 aircraft software is developed and released in capability blocks. Block 3F software is the final release under the System Development and Demonstration (SDD) phase of the program and is the requirement for Australian IOC declaration. It is noteworthy; all Block 3F software is developed to support full Australian weapons requirements, where Australia's weapons approval is dependent on US and Australian clearances.					
4	Block 3F software was fleet released August/October 17 onto late LRIP 9 US and Partner aircraft. Fleet release dates indicate software has finished development, while the release of partner nation specific loads follows with minor adjustments to meet sovereign requirements. The priority for the release of partner specific loads is driven by a nation's aircraft delivery schedules.					
5	Australia accepted its first three Block 3F aircraft March 18. Acceptance, initially planned February 18 as contracted Bed Down Plan, was delayed to remediate non-software related production issues. All new aircraft are to be accepted in Block 3F (or later) configuration.					
6	The March 14 original delivery date was based on Australian IOC in December 18 . The November 14 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.					
7	The remaining 12 Stage 1 aircraft were originally scheduled for delivery by December 16 leading to Australian IOC in 2018. In March 10, 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) currently forecast to be accepted in April 19 . This will achieve a revised Australian IOC by December 20.					
8	Variance is due to the expected completion of Aircraft 72 production in July 23, resulting in Aircraft 72 early acceptance and ferry to Australia in August 23.					

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	Sep 23	(3)	1
Final Operational Capability (FOC)	Dec 23	Oct 23	(2)	2
Notes				
1	FMR date currently forecast as 3 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

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:

The Department is considering options to deliver the Maritime Strike Capability in a more holistic manner. This may mean the original Maritime Strike scope may be delivered under a different project.

Red:

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

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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 September 2023.	Not yet achieved
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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 sustainable and airworthy system will be affected by elements of Fundamental Input to Capability (FIC) not in place, leading to an impact on the integration of F-35A enterprise systems and existing Australian Defence Force (ADF) systems.	JSF Division is to lead the proactive coordination between all organisations responsible for certifying, operating with, integrating and sustaining the F-35A Air System to exploit the full 5th generation capabilities across the ADF FIC.
There is a chance that because ALIS is so fundamental to F-35A capability it is by nature a critical vulnerability that will require ongoing development and cyber protection.	Ongoing engagement is required between JSF Information Systems staff, the JPO and key stakeholders to ensure ICT systems development and integration are synchronised with the broader JSF program, including facilities. 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.
There is a chance that F-35A capabilities originally anticipated to be available will be late to Australian need resulting in a delay to, or redefinition of, capability milestones and that elements of FIC will not be in place to create a battleworthy system due to a failure to integrate F-35A enterprise systems and existing ADF systems.	Joint Strike Fighter Division; in consultation with the Capability Manager is to lead ADF stakeholders engagement to identify the minimum essential F-35A capabilities and their need date, ensuring their incorporation into the JPO led Continuous Capability Development and Delivery (C2D2) development roadmap. Capability gaps resulting from late delivery of essential F-35A capabilities, thereby impacting battleworthiness, are to be addressed through coordinated efforts across extant ADF capabilities and systems. The Department is considering options to deliver the Maritime Strike Capability in a more holistic manner. This may mean the original Maritime Strike scope, may be delivered under a different project.
There is a chance that the Global Support Solution (GSS) does not meet Australia's sustainment needs, leading to degraded aircraft availability and capability.	The US has released strategies for Australia's involvement in aircraft and engine depots; these are being planned and executed. Continued close engagement is required with the JPO to understand the developing GSS). Australia has defined an Australian F-35 sustainment solution and focus is now on implementing this and adjusting as GSS evolves. The design of the Australian F-35 sustainment solution needs to be flexible and reflective of a progressive capability build up strategy.
There is a chance that the F-35 reprogramming enterprise will be affected by the timeliness and scope leading to an impact on capability delivery.	Improve understanding of technical and programmatic issues via Australian participation in initial development of the joint Reprogramming Laboratory solution with the UK. Australia is co-chair of a steering group to manage reprogramming development; mitigation plans are being developed with steering group oversight. This participation has improved our understanding of technical and programmatic issues. 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).

There is a chance that the establishment support and operation of the capability will be affected by unaffordability or budget programming leading to an impact on capability, scope and schedule.	Conduct on-going engagement of the JPO and major project suppliers to have them 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.
There is a chance that Australian Industry participation in the global F-35 Program will fail to yield expected economic benefits.	Coordinated activity with Defence Industry Division including close working relationship with the 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).
There is a chance that the F-35A capability realisation will be affected by the inability to establish and maintain the required workforce with appropriate competencies, security clearances and Australian industry participation leading to an impact on acceptable cost, schedule and capacity.	Provision of supplemental resources to develop and fully support JSF project management activities. Consideration of workforce needs in the development and delivery of the Sovereign Sustainment Requirements. Maintain an effective integrated Workforce Plan that considers the evolving F-35A workforce requirements, and engage regularly with military and APS workforce planning organisations to ensure the Workforce Plan priorities are enacted.
There is a chance that enterprise delivered aircrew training devices are inadequate for the full range of individual aircrew training in the medium term, and that the long term enterprise delivered devices will never meet the need of integrated training for a technically evolving, networked Air Force.	The JSF Training System is still being developed. Work continues with stakeholders to understand the Training System to ensure expectations are clearly understood. Additional people resources have been engaged to deliver the Australian Training System and associated support contracts. Defence representation at critical and essential JPO meetings, including Periodic Technical Interchange Meetings with Lockheed Martin and JPO.
There is a chance that 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, the Joint Program Office and JSF Stakeholders 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.
Emergent Risks (risk not previously identified but has emerged during 2017-2018)	
Description	Remedial Action
N/A	N/A

5.2 Major Project Issues

Description	Remedial Action
The Maintenance Weapon Loading Small Group Try Outs (MX SGTO) have been delayed as a result of schedule slip of the Weapons Load Trainer (WLT) installation.	Pursuance of contractor contractual installation date. Joint Program Office will determine way forward in consultation with Australia and resolve accordingly.
The design of the F-35A ejection system has been identified as having a greater risk exposure compared to legacy ejection systems.	The risk reduction modification for incorporation has now been released and modifications are occurring throughout the fleet. Full fleet modification is expected towards the end of 2018.
The proposed Continuous Capability Development & Delivery (C2D2) framework increases Australia's contribution to total development costs, including infrastructure costs). Revised embodiment (forward fit / retrofit) cost estimates have not been disclosed as yet. This has produced an additional cost pressure on the AIR 6000 Ph2A/2B budget.	The Follow On Modernisation Sub-Project monitors cost estimate information out of the JPO to stay abreast of any potential cost increases, identifying any cost pressures and keeping Air Force abreast of the impact so they can make an informed decision of the way forward if required.
Verification & Validation events and Initial Operating Capability have been affected by the delay to software upgrades to the Full Mission Simulator.	Extensive engagement with the JPO, Lockheed Martin and their stakeholders is being conducted, combined with consistent communication with Air Force to manage expectations, obtain guidance and assess impacts.
The timeframe for the Follow On Modernisation upgrades have not delivered an F-35A capability that satisfies Air Force's FOC requirements/timeframe.	Joint Strike Fighter Division is working with Air Force to determine a variety of alternative options to deliver the required FOC capabilities.
The delivery schedule for the BLOS communications capability does not satisfy Air Force's FOC requirements/timeframe.	Joint Strike Fighter Division is working with Air Force to determine an alternative option to deliver the required FOC capability.

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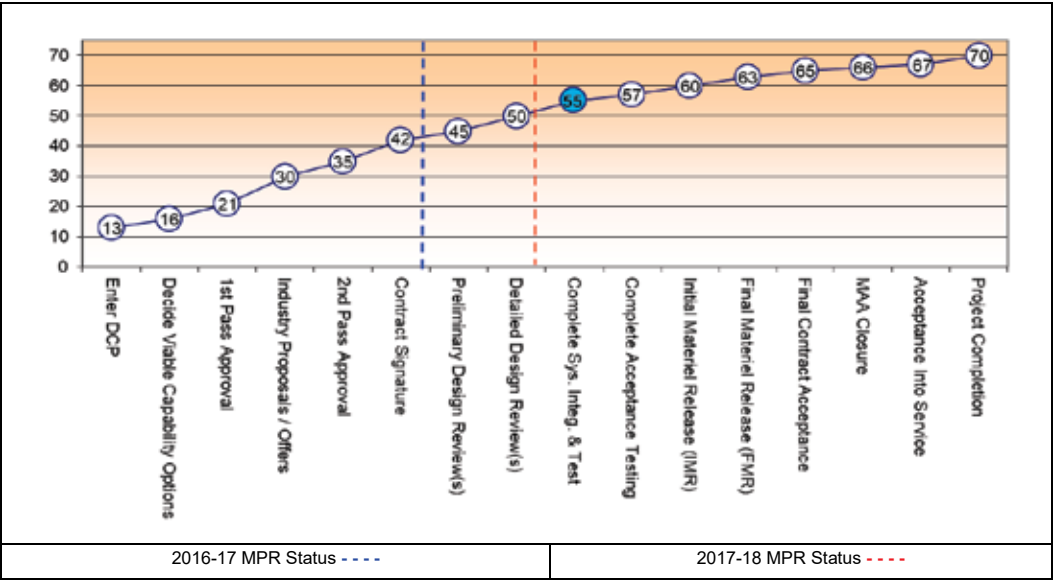
Delivery of the F-35A Enterprise Architecture Management has been affected by the level of support available by for the primary software application.	JSF Division has prioritised engagement and resolution of this issue with Directorate Technical Regulatory Architecture Group and Commonwealth Information Officer Group.
Delayed provision of Interim Contractor Support Training Workforce has affected capability milestone delivery	Joint Strike Fighter Division is actively working with Lockheed Martin and the JPO to identify alternative delivery solutions for the stand-up of the Integrated Training Centre, first aircraft arrival and Verification and Validation preparation.

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	8	7	8	8	8	8	8	55
Integration and Testing	Project Status	7	7	7	7	8	8	7	51
	Explanation	<ul style="list-style-type: none"> • 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. • Requirement: The final SDD Block 3 capability was delivered in early 2018, however elements of the support system remain to be fully proven and the additional Block 4 capabilities are in early development. • Technical Understanding: The JSF Air System is an extremely complex weapon system that will drive significant change in how Australia supports and conducts air combat operations. The initial air vehicle design is mature with Critical Design Review completed in 2006 and the final SDD Block 3 capability delivered in early 2018. However elements of the support system remain to be fully proven and the additional Block 4 capabilities are in early development. 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. 							



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 2017-2018

Position	Name
Division Head	AVM Leigh Gordon
Branch Head	AIRCDRE Terry Saunder (to Dec 17) AIRCDRE Damien Keddle (Dec 17–current)
Project Director	GPCAPT Guy Adams
Project Director	Mr Stephen McDonald
Project Director	GPCAPT Neil Pearson (to Nov 17) GPCAPT Steve Green (Nov 17–current)

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