

Project Data Summary Sheet¹³⁰

Project Number	AIR 8000 Phase 2
Project Name	BATTLEFIELD AIRLIFT – CARIBOU REPLACEMENT
First Year Reported in the MPR	2013-14
Capability Type	Replacement
Acquisition Type	MOTS
Capability Manager	Chief of Air Force
Government 1st Pass Approval	Apr 12
Government 2nd Pass Approval	Apr 12
Budget at 2 nd Pass Approval	\$1,156.5m
Total Approved Budget (Current)	\$1,433.3m
2017-18 Budget	\$69.2m
Project Stage	Initial Materiel Release
Complexity	ACAT II



Section 1 – Project Summary

1.1 Project Description

This project was approved to replace the retired Caribou capability and provide the Australian Defence Force (ADF) with an enhanced intra-theatre and regional airlift capability through acquisition of a fleet of ten new Light Tactical Fixed Wing aircraft. The Government approved solution is acquisition through United States Air Force (USAF) Foreign Military Sales (FMS) of the Leonardo built C-27J aircraft modified by L-3 Product Integration Division (PID) to the United States (US) Department of Defense Joint Cargo Aircraft (JCA) C-27J configuration, known as Spartan. The JCA C-27J is a Military Off The Shelf (MOTS) acquisition offering enhanced self-protection and interoperability that meets Australian requirements. The aircraft will be operated by 35 Squadron with its Interim Main Operating Base (MOB) at Royal Australian Air Force (RAAF) Base Richmond. Government agreed in May 2016 to both delay Final Operating Capability (FOC) and the relocation of the C-27J to RAAF Amberley until December 2019. Project acquisition includes the ten aircraft, a training system, support system materiel elements, and three years of initial FMS training and support services from the aircraft In-Service Date (ISD), through Initial Operational Capability (IOC) to FOC.

1.2 Current Status

<p>Cost Performance</p> <p><u>In-year</u></p> <p>The Year End underspend of \$7.5m was largely driven by adjusted forecasts for the Interim and Mature Training Systems, revisions to the Structural Substantiation Program, and delays against contract milestones for the fitment of Mode 5 Identification Friend or Foe equipment, resulting from Commonwealth requirements changes; these were offset by higher-than-forecast expenditure associated with commercial spares procurements, and foreign exchange losses over the year.</p> <p><u>Project Financial Assurance Statement</u></p> <p>As at 30 June 2018, Project AIR 8000 Phase 2 has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope, but yet-to-execute contracts carry some cost risk.</p> <p><u>Contingency Statement</u></p> <p>The project has not applied contingency in the financial year.</p> <p>Schedule Performance</p> <p>The original schedule of IMR and IOC were declared with caveats in December 2016. The IOC declaration encompassed the materiel caveats described by the project at IMR. FOC at end of 2017, as originally planned, was unachievable as a result of: Leonardo aircraft production delays associated to the transfer of the fuselage assembly line; reduced training throughput due to aircraft availability; the delayed start to US-based training in 2014; and delays associated with establishing facilities at the Main Operating Base at RAAF Base Amberley. Under a revised schedule agreed by Government, FOC is to be achieved by December 2019 (24 months behind original schedule); noting the capability will continue to mature beyond FOC. The most significant milestones achieved in financial year 2017-18 include delivery of the final three C-27J aircraft (A34-008, A34-009</p>
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130 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.

and A34-010), establishment of an interim training system based in Australia, contract signature for a Mode 5 Identification Friend or Foe (Mode 5 IFF) upgrade with Leonardo, and contract signature on 15 November 2017 for Through Life Support services with Northrup Grumman Australia (NGA).

Material Capability Delivery Performance

The C-27J aircraft is a relatively mature and well tested MOTS product. Notwithstanding, the project office is working through a number of capability baseline considerations identified post-establishment of the FMS Case. These baseline issues are associated with the configuration and certification status of the USAF JCA C-27J program, which were not finalised by the USAF at the time of divestiture. All ten aircraft have been accepted, with the last aircraft accepted in December 2017.

Note

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

1.3 Project Context

Background

A requirement to replace Defence's battlefield airlift capability was first identified in the 1980s. Defence ensured the battlefield airlift capability was maintained via a sustainment commitment to the Caribou until their retirement in 2009 and lease of additional B300 King Air aircraft until suitable replacement platforms and appropriate Defence Capability Plan funding could be allocated.

Government authorised Defence to issue a Letter of Request seeking price and availability information from the USAF for the C-27J on 30 September 2011. Defence approached Airbus Military for price and availability data for the Airbus Military C295 aircraft. Raytheon data for C-27J was solicited via Direct Commercial Inquiry. On 10 May 2012 Government announced it had approved the purchase of ten C-27J battlefield airlift aircraft via FMS from the US Government to replace the Caribou aircraft, at a total program cost of up to A\$1.4 billion.

Leonardo manufactured the C-27J Military Industrial Baseline Aircraft configuration which was then flown to the US for modification. L-3 PID, acting as the prime contractor to the US Government, was responsible for post-production integration of US improved mission systems. The design and integration work by L-3 PID enhanced the effectiveness of the baseline aircraft, ensuring that the US JCA variant, as offered through the FMS agreement, meets the battlefield airlift capability needed by Defence.

The USAF's potential to divest the C-27J was a known consideration that was factored into the business case presented to and approved by Government at project combined First and Second Pass in April 2012. In early 2013 the USAF confirmed its intention to divest their C-27J fleet and accelerated its schedule for withdrawal. Subsequently, in mid-2013, the USAF advised that it would not complete Military Type Certification (MTC) and that L-3 PID was, contrary to earlier advice, required by the Air National Guard to vacate the facilities occupied by the C-27J training school located at Robins Air Force Base, Georgia USA. This resulted in a late notice requirement for relocation of the L-3 training school to L-3 facilities in Arlington and Waco Texas, which resulted in a three-month delay to ISD (achieved June 2015).

Military Type Certification (MTC) is leveraging the Federal Aviation Authority civilian certification and USAF work completed at the time of its decision to cease its MTC. The USAF decision not to complete MTC has materially increased the cost, effort and schedule risk associated with achieving MTC. The Commonwealth has secured significant Intellectual Property licensing rights to technical data from Leonardo and L-3 PID to aid in MTC and through-life support of the C-27J.

Training Systems were impacted by the USAF's inability to acquire a suitable system for the Commonwealth. Consequently, the decision was made to manage and undertake training in Australia and acquire the Mature Training System via commercial arrangements.

Uniqueness

The C-27J is a MOTS aircraft acquisition with a limited number of changes to meet Australian requirements, such as: paint scheme; upgraded Radar Warning Receiver; updates to address obsolescence; and upgrade to the Mode 5 IFF system.

The uniqueness of the project lies in the degree of Australian-specific contracting effort that was conducted by the USAF C-27J FMS Program Office to establish initial FMS training and support services as a result of USAF C-27J divestiture (generally, FMS leverages off a contemporary US military procurement). USAF contracting of US-based initial training from L-3 PID utilising the ADF Airworthiness Management System is also atypical. Historically, the USAF airworthiness management system has been utilised for such training arrangements; however, due to USAF C-27J divestiture, this option was no longer possible. Both the USAF and L-3 were unfamiliar with Australian airworthiness management system requirements.

Major Risks and Issues

The Government endorsed acquisition strategy accepted a number of risks stemming from, or exacerbated by, the likelihood of USAF C-27J divestiture. Notwithstanding these risks, the benefits of acquiring the USAF JCA-configured C-27J via FMS were assessed to outweigh these risks, and their likelihood of occurring was taken into account when developing initial project strategies and plans. However, the accelerated pace of USAF C-27J divestiture resulted in greater impact to the program than originally anticipated.

Current major project residual risks and issues are as follows:

C-27J Capability Baseline. The project has reviewed the C-27J capability baseline and identified a number of known incomplete capability requirements, some of which will be matured beyond FOC. Following confirmation of divestment, USAF ceased MTC activity and rectification of those incomplete capability requirements. The project has undertaken a detailed analysis to quantify and characterise the structural life-of-type of the airframe and proposed capability upgrades. These include Electronic Warfare Self Protection systems which impact project budget and schedule. They are not anticipated to be an impediment to achieving the overall capability defined in approved scope, but the capability is expected to mature beyond FOC.

<p>Sustainment. The availability of spares, and Support and Test Equipment under the FMS case has not met the requirements of the Commonwealth. The US Government and L-3 are working to deliver all spares on order under the FMS Case expeditiously. The project has reviewed the Logistics Support System including a detailed analysis of the future requirements for spare parts and Support and Test Equipment, the supply pipeline, delivery timeframes and stock levels to improve the operational availability. As a result, the project redirected a range of acquisitions away from the FMS case to the aircraft Original Equipment Manufacturer and other suppliers through direct commercial sales. The project has placed final orders for spares and support and test equipment to be acquired as part of the project. A Through Life Support (TLS) contract with Northrop Grumman was signed in November 2017 with services commencing in January 2018.</p> <p>Facilities. Delays in approval for construction of the new 35 Squadron facilities at RAAF Amberley currently represent a low risk to FOC. 35 Squadron is currently planning to relocate to RAAF Amberley into the new facilities in 2019.</p> <p>USAF divestiture of C-27J. The C-27J capability delivery has been affected by US Government divestiture of their C-27J program leading to an impact on project schedule and cost. The USAF decision to divest of C-27J effectively decreases the global fleet by approximately 150 aircraft to an estimated 80 aircraft, reducing opportunities for sustainment and training cost sharing. The requirement to move the training facility from Robins AFB to L-3 facilities at Waco and Arlington has had an impact on acquisition cost and schedule. The impact to cost will be understood once contracts are finalised between the US Government and L-3; until final cost impact is known, there remains additional risk to the overall project budget.</p> <p>US Government contracting. As a result of US divestiture and downsizing of the domestic USAF program office, the contracting processes to establish initial training and support arrangements took longer than planned, which has had an impact on project schedule and affordability.</p> <p>Aircraft production delays. The risk of aircraft production delays was not anticipated to represent a significant risk to project IOC or FOC given the significant schedule contingency contained in the original production schedule. However, Leonardo's decision in May 2015, based on commercial considerations, to close its Naples C-27J fuselage production facility and consolidate all C-27J production at its Turin facility delayed delivery of Aircraft 5 through 10 by up to 19 months. The magnitude of production restructure made the December 2017 FOC date unachievable. Leonardo applied additional resources in an effort to recover the schedule where possible and have now completed aircraft production to the revised approved schedule.</p> <p>IMR/IOC caveats. Achievement of these milestones were declared with caveats relating to deficiencies in supply support and training courseware, which have been resolved.</p> <p>Spares availability. The availability of spares and Support and Test Equipment delivered under the FMS case has not met the requirements of the Commonwealth.</p>
<p>Other Current Sub-Projects N/A.</p>

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	\$m	Notes
Project Budget			
Apr 12	Original Approved (Second Pass Approval)	1,156.5	
Oct 17	Exchange Variation	276.8	
Oct 17	Total Budget	1,433.3	
Project Expenditure			
Prior to Jul 17	Contract Expenditure – US Government	(633.1)	1
	Contract Expenditure – Leonardo	(50.1)	1
	Other Contract Payments/Internal Expenses	(40.6)	3
		(723.8)	
FY to Jun 18	Contract Expenditure – US Government	(15.0)	1
	Contract Expenditure – Leonardo	(16.4)	1
	Intellectual Property and Technical Data		
	Contract Expenditure – Leonardo- Mode 5 IFF Upgrade	(3.8)	1
	Contract Expenditure – Leonardo- Structural Substantiation Program (Fuselage)	(3.5)	1
	Other Contract Payments/Internal Expenses	(23.0)	3
Jun 18	Total Expenditure	(785.5)	
Jun 18	Remaining Budget	647.8	
Notes			
1	The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.		
2	Other expenditure comprises: operating expenditure, minor contract expenditure and other capital expenditure not attributed to the listed contracts.		
3	Other expenditure comprises: Support and Test Equipment, spares and global freight costs (\$13.9m) , contractor support costs for Structural Substantiation Program, loadmaster seat development and certification purposes (\$4.1m) , operating expenditure related to initial sustainment costs (\$2.6m) , and other project management and administrative costs also contribute to other expenditure (\$2.5m) .		

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
78.0	68.4	69.2	PBS - PAES: The variation is primarily due to reprogramming of spend associated with proposed aircraft modification contracts, revised delivery schedules for commercial spares and support equipment procurements, and refinement of training systems requirements. PAES - Final Plan: Variance is due to foreign exchange updates to Project Approval.
Variance \$m	(9.6)	0.8	Total Variance (\$m): (8.8)
Variance %	(12.3)	1.2	Total Variance (%):(11.3)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
		0.2	Australian Industry	Year End Variance was largely driven by adjusted forecasts for Interim and Mature Training System requirements, revisions to the Structural Substantiation Program, and delays within the Mode 5 IFF contract milestones; these were partially offset by higher-than-forecast spend associated with commercial spares procurements, and foreign exchange losses over the year to date. Other minor variances also apply.
		0.4	Foreign Industry	
			Early Processes	
		(8.6)	Defence Processes	
		0.5	Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
69.2	61.7	(7.5)	Total Variance	
		(10.9)	% 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	May 12	882.4	682.5	Reimbursement	FMS	1,2,3, 6
Leonardo	May 12	62.0	71.9	Firm Price	Modified ASDEFCON (Complex)	1,2
Leonardo	Sept 17	18.7	19.3	Firm Price	ASDEFCON (Complex)	1,2,4
Leonardo	Dec 17	16.9	17.4	Firm Price	ADEFCON (Shortform Goods)	1,2,5
Notes						
1	Contract value as at 30 June 2018 is based on actual expenditure to 30 June 2018 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).					
2	The scope of this contract is explained further below.					
3	Amendment 4 to FMS case AT-D-SGU was approved in May 2017 reducing the case value to \$US655.5m. The Amendment reflects removal of training device acquisition funding and an overall release of management reserve funding no longer require under the case. The amendment also reflects the CoA's intention to close the case early.					
4	Mode 5 IFF upgrade contract.					
5	Aircraft Fuselage contract.					
6	Amendment 5 to FMS case AT-D-SGU was approved on 2 July 2018 reducing the FMS Case value to \$US617.7m. The Amendment releases further management reserve funding no longer required under the case. The amendment also reflects the CoA's intention to close the case early.					
Contractor	Quantities as at		Scope	Notes		
	Signature	30 Jun 18				
US Government	10	10	10 C-27J Aircraft and associated training, training equipment, spares, ground support equipment and initial support			
Leonardo	N/A	N/A	C-27J Intellectual Property and Technical Data			
Leonardo	10	10	Mode 5 IFF modification for 10 C-27J aircraft			
Leonardo	1	1	Aircraft Fuselage procurement in support of C-27J Structural Substantiation Program			
Major equipment received and quantities to 30 Jun 18						
Ten aircraft accepted plus a substantial amount of the IP rights and Technical data received.						
Notes						
1	N/A					

Project Data Summary Sheets

Auditor-General Report No.20 2018-19
2017-18 Major Projects Report

Section 3 – Schedule Performance

3.1 Design Review Progress

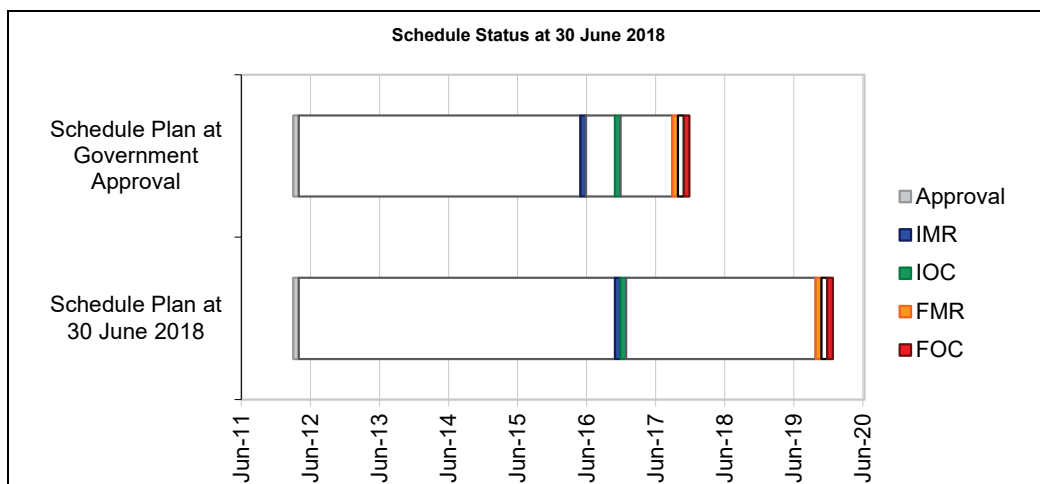
Review	Major System/Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	Operational Flight Trainer	TBA	TBA	TBA	TBA	1,2
	Fuselage Trainer	TBA	TBA	TBA	TBA	1
Preliminary Design	Operational Flight Trainer	TBA	TBA	TBA	TBA	1,2
	Fuselage Trainer	TBA	TBA	TBA	TBA	1
Critical Design	Operational Flight Trainer	TBA	TBA	TBA	TBA	1,2
	Fuselage Trainer	TBA	TBA	TBA	TBA	1
Notes						
1	Contracts for the acquisition of the training devices have yet to be established. Training devices are not included in the revised FOC definition approved by Government in May 2016.					
2	The Project expects to approach the market to procure a suitable flight simulator in Quarter 1 2019 following the completion of future aircraft baseline configuration planning.					

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System/Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	Operational Flight Trainer	TBA	TBA	TBA	TBA	1,2
	Fuselage Trainer	TBA	TBA	TBA	TBA	1
Acceptance	C-27J Aircraft 1 (A34-001)	Jul 14	N/A	Nov 14	4	
	C-27J Aircraft 2 (A34-002)	Sep 14	N/A	Dec 14	3	
	C-27J Aircraft 3 (A34-003)	Nov 14	N/A	Aug 15	9	3
	C-27J Aircraft 4 (A34-004)	Feb 15	N/A	Mar 16	13	4
	C-27J Aircraft 5 (A34-005)	Aug 15	N/A	Aug 16	12	5
	C-27J Aircraft 6 (A34-006)	Oct 15	N/A	Nov 16	13	5
	C-27J Aircraft 7 (A34-007)	Dec 15	N/A	Mar 17	15	5
	C-27J Aircraft 8 (A34-008)	Feb 16	N/A	Aug 17	18	3, 5
	C-27J Aircraft 9 (A34-009)	Apr 16	N/A	Oct 17	18	3, 5
	C-27J Aircraft 10 (A34-010)	May 16	N/A	Dec 17	19	3, 5
		Operational Flight Trainer	TBA	TBA	TBA	TBA
	Fuselage Trainer	TBA	TBA	TBA	TBA	1
Notes						
1	Contracts for the acquisition of the training devices have yet to be established.					
2	See Section 3.1 Note 2.					
3	Delivery of Aircraft 3 was delayed due to the requirement for repair of the life raft door following damage sustained during the acceptance test flight, and the requirement for delivery of minor waiver data to support aircraft acceptance (later rectified through a contract change proposal).					
4	Delivery of Aircraft 4 was delayed due to availability of required spares from Leonardo to rectify a number of discrepancies and the prioritisation of aircraft components for use on other aircraft.					
5	Leonardo's decision to close its Naples fuselage production facility and consolidate all C-27J production at its Turin facility resulted in a delay to delivery of Aircraft 5 through 10. However, Leonardo's production consolidation was beneficial to the overall production of aircraft. From Aircraft 5, there were considerable improvements in aircraft build quality and the project was able to recover some lost production schedule. Improvements continued as a result of Leonardo's consolidation decision and management of its supply chain.					

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
In-Service Date (ISD)	Mar 15	Jun 15	3	1
Initial Materiel Release (IMR)	Jun 16	Dec 16	6	2
Initial Operational Capability (IOC)	Dec 16	Dec 16	0	3
Final Materiel Release (FMR)	Oct 17	Oct 19	24	4
Final Operational Capability (FOC)	Dec 17	Dec 19	24	4
Notes				
1	Variance due to delays in establishing FMS support and training arrangements in the US.			
2	Variance due to delay in delivery of Aircraft and adequate support. IMR was declared with caveats relating to deficiencies in supply support and training courseware.			
3	IOC was declared with caveats in December 2016 with four aircraft delivered to Australia. The IOC caveats encompassed the limitations described by the project at IMR, which have been resolved.			
4	Variance due to delays in aircraft production, and construction of facilities at RAAF Amberley. In May 2016, noting the decision by Leonardo to consolidate aircraft production at its Turin facility and cognisant of issues surrounding USAF C-27J divestiture, Government agreed to delay FOC to December 2019 and redefine FOC to exclude the Mature Training System including the flight simulator. These changes are included in project management documentation.			



Section 4 – Materiel Capability Delivery Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	<p>Green: The Project is currently meeting capability materiel requirements as per the Joint Project Directive, Materiel Acquisition Agreement and relevant Technical Regulatory Authority, including supply support and training courseware described at IMR issues, which have been resolved.</p>
	<p>Amber: N/A</p>
	<p>Red: N/A</p>
<p>Note This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the Project are not subject to the ANAO's assurance review.</p>	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	Delivery of three aircraft and sufficient logistics support (including trained personnel) to support initial operations. IMR was declared with caveats in December 2016 (refer to section 5.2).	Achieved with caveats
Final Materiel Release (FMR)	All 10 aircraft delivered and associated logistics support (including trained personnel) to support mature level of operations. Aeromedical Evacuation and Search and Rescue roles enabled, and logistics support available at the final Main Operating Base. FMR is forecast for October 2019.	Not yet achieved

Project Data Summary Sheets

Auditor-General Report No.20 2018–19
2017–18 Major Projects Report

Section 5 – Major Risks and Issues

5.1 Major Project Risks –

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
<p>C-27J Capability Baseline. The project has reviewed the C-27J capability baseline and identified a number of known incomplete capability requirements, some of which will be matured beyond FOC. The review identified limitations to the structural life-of-type of the airframe and proposed capability upgrades including Electronic Self Protection systems impacting project budget and schedule.</p>	<p>A capability baseline confirmation process has been established to address the known deficiencies. The baseline confirmation process has culminated in a plan to address deficiencies. Each deficiency will be assessed based on its acceptability or importance to capability in order to determine a priority for rectification. A Structural Substantiation Program will test the life-of-type of the airframe. Post mitigation review of the structural life-of-type assesses the wing risk as medium and the fuselage risk as low as it is assumed that testing will be completed before the fuselage life of type is reached.</p> <p>As approved by Government in the original 2012 project approval, an upgrade to the Mode 5 IFF system was signed in September 2017 with the Original Equipment Manufacturer of the aircraft. Additional resources are being applied to Mode 5 IFF delivery (which incorporates AIMS) in an attempt to meet FOC and Chief of Air Force directive.</p> <p>The Project monitored the sustainment TLS provider ramp up forecasting possible additional workload prior to the TLS provider reaching certified engineering entity status.</p> <p>Management and mitigation activities for the whole of project affordability assess the risk to achieving capability requirements as low.</p>
<p>Training. Delays in establishment of contracts between the US Government and L-3 has impacted the training schedule and student throughput. The courseware standard delivered required active involvement by the Commonwealth to implement ongoing improvements and meet perceived gaps in US based training.</p>	<p>The project transitioned training from the USA to RAAF Richmond in July 2017, with the simulator element undertaken in Italy. Continuity of training leading up to cessation in the US was actively managed, planned and tested to ensure continuity without impact to capability.</p> <p>The project continues to investigate options to deliver a Mature Training System at RAAF Amberley. During 2016-17 the Government agreed that alternative approaches to FMS are required.</p> <p>The Estate and Infrastructure Group has now completed construction of the Training Support Facility at RAAF Amberley, and the facility was accepted by the project in February 2018.</p>
<p>Sustainment. The availability of spares, Support and Test Equipment may not meet the requirements of the Commonwealth. The project has undertaken a detailed analysis of future requirements for spare parts and Support and Test Equipment to improve the operational availability.</p>	<p>The project is working closely with the Air Force to manage critical spares, and Support and Test Equipment. The project has: moved new orders away from the US FMS case to direct commercial arrangements, which have demonstrated shorter lead times; utilised airfreight to expedite delivery; and worked with Air Mobility Group for emerging requirements. The Support and Test Equipment risk has reduced due to the advanced status of the capability and no reports which suggest S&TE posture is insufficient to support aircraft operations.</p> <p>The Commonwealth has contracted with Northrup Grumman Australia for C-27J Through Life Support (TLS); both parties are working together to deliver the remaining spares and support and test equipment.</p> <p>Associated risks have all reduced from High to Medium with mitigation actions proactively implemented and closely managed.</p>
<p>Facilities. Delays in approval for construction of the new 35 Squadron training facilities at RAAF Amberley currently represent a low risk to FOC.</p>	<p>The Training Support Facility is now complete at RAAF Amberley, and has been accepted by the project. Government approved a decoupling of mature training to FOC and it will now be delivered post FOC. As a result this risk has now been closed.</p>
Emergent Risks (risk not previously identified but has emerged during 2017-18)	
Description	Remedial Action
N/A	N/A

5.2 Major Project Issues –

Description	Remedial Action
<p>USAF Divestiture of C-27J. The USAF C-27J divestiture has had a greater than anticipated impact on project budget and schedule. Accelerated USAF divestiture resulted in incomplete Military Type Certification (MTC) by the USAF with unanticipated impact on airworthiness and training outcomes.</p>	<p>Completion of MTC has required additional Project resourcing to achieve FOC on schedule.</p> <p>The delayed start to training in the US translated to a three month delay to achievement of the planned ISD at 35 Squadron.</p>

	<p>Finalisation and closure of the US-based initial training system has occurred and the interim training system was established in Australia in July 2017.</p> <p>The final impact to cost will be understood once the mature training system contracts have been finalised.</p>
<p>US Government contracting. The USAF's contracting processes to establish initial training and support arrangements took longer than planned, which has had an impact on project schedule and affordability.</p>	<p>The project worked closely with the USAF FMS Program Office to contain the initial training cost and schedule impact. Initial training and associated support arrangements in the US ceased in July 2017.</p> <p>As a result this issue has now been closed.</p>
<p>Aircraft production delays.</p> <p>As a result of USG's divestiture, Leonardo made a commercial decision to consolidate all C-27J production into its Turin facility. The decision affected delivery of aircraft 5 through 10 by up to 19 months. The magnitude of the production restructure was expected to make the December 2017 FOC date unachievable.</p>	<p>The Government was advised of Leonardo's production restructure in 2016 and agreed to an updated FOC of December 2019.</p> <p>The Project engaged USAF, L-3 and Leonardo to convey the Commonwealth of Australia's requirement to improve the aircraft production schedule.</p> <p>After the project rebaselined the schedule, Leonardo and L-3 applied additional resources to successfully deliver all ten aircraft by December 2017 (the original Government approved FOC date).</p> <p>As a result this issue has now been closed.</p>
<p>Spares availability. The availability of spares and Support and Test Equipment delivered under the FMS case has not met the requirements of the Commonwealth.</p>	<p>The project is continuing to work closely with the USAF FMS Program Office and L-3 to minimise delays to the delivery of spares and Support and Test Equipment. The project is also acquiring spares via direct commercial arrangements to improve delivery schedules for critical items.</p>
<p>Aircrew and Maintenance Training systems (caveat). Deficiencies were identified in the US-based training requiring additional training for aircrew and maintenance personnel in Australia.</p>	<p>The deficiencies in US-based training were managed in Australia by the project office in conjunction with Air Mobility Group under the aircrew 'Check to line' process and a similar process for 35 Squadron maintenance workforce certifications.</p> <p>Training ceased in the US in July 2017. Aircrew ground training is now conducted in Australia with the simulator element undertaken in Italy. All maintenance training is now undertaken in Australia</p> <p>The Aircrew and Maintenance Training systems caveat against the achievement of IOC has now been removed due to the improved quality of training under the Commonwealth-managed training system.</p> <p>As a result this issue has now been closed.</p>
<p>Logistics Support System (caveat). The Logistics Support System is established providing Authorised Engineering Organisation and Authorised Maintenance Organisations and Supply Support. The project has only partially met the support system requirements due to deficiencies in spares and Support and Test Equipment to support four aircraft operations at RAAF Richmond.</p>	<p>Deficiencies in spares, and support and test equipment, are being managed by the project office and Air Lift Systems Program Office in order to achieve a suitable level of support.</p> <p>The Logistics Support Systems caveat against the achievement of IOC has now been removed, due to the increased number of spares receipted into the Commonwealth's supply system.</p> <p>As a result this issue has now been closed.</p>

Project Data Summary Sheets

Auditor-General Report No.20 2018–19
2017–18 Major Projects Report

Section 6 – Project Maturity

6.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total																																																			
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support																																																				
Project Stage	Benchmark	10	8	8	8	9	8	9	60																																																			
Initial Materiel Release	Project Status	7	6	8	8	9	6	9	53																																																			
	Explanation	<ul style="list-style-type: none"> Schedule: Critical Path activities understood, however, delays to critical milestones have been realised against original schedule and since has been replanned in line with advice to Government. Cost: Progress of USAF contracting action has enabled FMS cost to be better understood. The costs are currently expected to be contained within the available contingency budget. Commercial: Contractor is in the early stages of delivery and starting to demonstrate some degree of risk management necessary. 																																																										
<p>The graph plots the Project Maturity Score (MPR) on the y-axis (0 to 70) against project milestones on the x-axis. Two data series are shown: 2016-17 MPR Status (dashed blue line) and 2017-18 MPR Status (dashed red line). The 2017-18 MPR is consistently higher than the 2016-17 MPR at every milestone. The 2017-18 MPR is highlighted in blue at the 'Initial Materiel Release (IMR)' milestone, with a score of 60.</p> <table border="1"> <caption>Project Maturity Score (MPR) Data</caption> <thead> <tr> <th>Milestone</th> <th>2016-17 MPR Status</th> <th>2017-18 MPR Status</th> </tr> </thead> <tbody> <tr><td>Enter DCP</td><td>13</td><td>16</td></tr> <tr><td>Decide Viable Capability Options</td><td>16</td><td>21</td></tr> <tr><td>1st Pass Approval</td><td>21</td><td>30</td></tr> <tr><td>Industry Proposals / Offers</td><td>30</td><td>35</td></tr> <tr><td>2nd Pass Approval</td><td>35</td><td>42</td></tr> <tr><td>Contract Signature</td><td>42</td><td>45</td></tr> <tr><td>Preliminary Design Review(s)</td><td>45</td><td>50</td></tr> <tr><td>Detailed Design Review(s)</td><td>50</td><td>55</td></tr> <tr><td>Complete Sys. Integ. & Test</td><td>55</td><td>57</td></tr> <tr><td>Complete Acceptance Testing</td><td>57</td><td>60</td></tr> <tr><td>Initial Materiel Release (IMR)</td><td>60</td><td>63</td></tr> <tr><td>Final Materiel Release (FMR)</td><td>63</td><td>65</td></tr> <tr><td>Final Contract Acceptance</td><td>65</td><td>66</td></tr> <tr><td>MAA Closure</td><td>66</td><td>67</td></tr> <tr><td>Acceptance Into Service</td><td>67</td><td>70</td></tr> <tr><td>Project Completion</td><td>70</td><td>70</td></tr> </tbody> </table>										Milestone	2016-17 MPR Status	2017-18 MPR Status	Enter DCP	13	16	Decide Viable Capability Options	16	21	1st Pass Approval	21	30	Industry Proposals / Offers	30	35	2nd Pass Approval	35	42	Contract Signature	42	45	Preliminary Design Review(s)	45	50	Detailed Design Review(s)	50	55	Complete Sys. Integ. & Test	55	57	Complete Acceptance Testing	57	60	Initial Materiel Release (IMR)	60	63	Final Materiel Release (FMR)	63	65	Final Contract Acceptance	65	66	MAA Closure	66	67	Acceptance Into Service	67	70	Project Completion	70	70
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Section 7 – Lessons Learned

7.1 Key Lessons Learned –

Project Lesson	Categories of Systemic Lessons
The level of risk and complexity contained in an FMS Letter of Offer and Acceptance is often understated and poorly understood. Whilst an FMS program for MOTS equipment and associated support affords a number of advantages, the transfer of a significant amount of project and technical management to the US Government implementing agency, and the weak bargaining position of the Commonwealth, increases the project's exposure to technical, schedule and cost risk. For an FMS program the level of Commonwealth contract and financial management involvement and oversight of industry is very low in comparison to that mandated for Direct Commercial Sale contracts, yet both procurement methods confront similar issues. This accords the FMS customer a 'Best Endeavours' approach to business. Adequate Commonwealth participation in key project management and technical oversight activities in the US, as provided for in the Government Combined First and Second Pass submission, is critical to providing the necessary level of project and contract management. In the case of C-27J, divestiture has further accentuated project risk and complexity, increasing the need for ongoing engagement of the USAF FMS program office and L-3 PID to ensure Commonwealth requirements and risks are adequately understood and managed. The planned downsizing and closing of the USAF's project office and cessation of USAF C-27J activities and contracts further reduces the ability of the USG to achieve customer requirements normally delivered under the FMS system. This drives the Commonwealth's approach to deliver certain outputs via Direct Commercial Sales.	Contract Management
The practice of approving projects with staffing to be found from within existing Divisional resourcing can result in 'late to need' or understaffing at critical project planning and execution phases that is counter productive to achieving project outcomes. Further, the recruitment process lead times for candidates not already within the ADF or Australian Public Service can create significant extended vacancies within the Project workforce, with this being exacerbated by the relatively short notice that personnel are obliged to provide for internal transfers. This is exacerbated when the Department imposes a recruiting freeze on the workforce. Whilst outsourced services may be suitable in some instances to mitigate this risk, in such circumstances they are not always available, the most efficient, or affordable, and come with an additional administrative overhead. In particular, rapidly approved projects, such as AIR 8000 Phase 2, which gained combined Government Pass approval, should be priority staffed as outlined in the approved project workforce plan, on which the Materiel Acquisition Agreement schedule was developed.	Resourcing
Accelerated project approval, through a combined government 1st and 2nd Pass, carries additional project execution risk given the likelihood that data fidelity and planning maturity will be otherwise inherently lower. As such, all effort should be made to understand the associated risk premium versus the benefit an accelerated project approval offers. In the case of AIR 8000 Phase 2 the potential impact of USAF divestiture was not fully appreciated across the full breadth and depth of the project. Any assumption that because procurement is via FMS it is low risk must be fully tested.	Off-The- Shelf Equipment

Section 8 – Project Line Management

8.1 Project Line Management in 2017-18

Position	Name
Division Head	AVM Catherine Roberts (Mar 16-current)
Branch Head	AIRCDRE Phil Tammen (Jan 13 to Dec 17) AIRCDRE Graham Edwards (Dec 17-current)
Project Director	GPCAPT Gerry van Leeuwen (Dec 15 to Dec 17) GPCAPT Chris Ellison (Dec 17-current)
Project Manager	WGCDR Jamie Scott (Jan 16-current)

Project Data Summary Sheets

Auditor-General Report No.20 2018–19
2017–18 Major Projects Report