

Project Data Summary Sheet¹⁴⁹

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)	\$1,442.1m
2018-19 Budget	\$55.7m
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 was operated by 35 Squadron at its Interim Main Operating Base (MOB) at Royal Australian Air Force (RAAF) Base Richmond **and is now operated from its Final MOB at RAAF Base Amberley**. Government agreed in May 2016 to delay Final Operating Capability (FOC) 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

Cost Performance

In-year
The end of financial year underspend of \$7.7m is due to reductions in spares procurement requirements, refinement to implementation schedules for aircraft modification programs, and realignment of Structural Substantiation Program delivery timings.

Project Financial Assurance Statement
 As at 30 June 2019, 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.

Contingency Statement
 The project has not applied contingency in the financial year.

149 Notice to reader

Forecast dates and Sections: 1.2 (Materiel Capability Delivery Performance), 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), and 5 (Major Risks and Issues) are excluded from the scope of the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the *Independent Assurance Report* by the Auditor-General in **Part 3** of this report.

Schedule Performance

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 with 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, **including delivery of the Mature Training System. A key achievement of financial year 2018-19 was agreement of a head contract with Leonardo S.p.A., known as the Enduring Leonardo Contract deed, under which packages of work in support of project outcomes could be delivered. Under the deed, Defence signed contracts for Leonardo to establish a Program Management Office to manage work assigned by Defence, and for Leonardo to conduct a Flight Loads Test Program, which centres on gaining data to manage aircraft structural fatigue for the aircraft's life-of-type.**

FMR is unlikely to be achieved in October 2019 due to further work being required to support the Identification Friend or Foe (IFF) modification upgrade, achievement of full military type certification and provision of spares to support achievement of FMR.

Materiel 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.

The project remains committed to the timely delivery of capabilities to support the operational intent of the C-27J. The project is unlikely to achieve FMR in October 2019 with further work required to support an ongoing IFF modification upgrade, achievement of full military type certification, and final spares delivery (less than 1% remaining).

Note

Forecast dates and capability assessments are excluded from the scope of the 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 the project 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. **The accepted Interim Training System currently offers training to aircrew and maintenance personnel at a dedicated training facility at RAAF Base Amberley and in Italy.**

Defence continues to build a close commercial and working relationship with Leonardo S.p.A., the original equipment manufacturer of the C-27J Spartan. In early 2019, Defence established a four-person C-27J Resident Project Team, located in Leonardo's facilities in Turin, Italy. This has contributed to the Project retiring numerous Risks and Issues associated with contracting, delivery of spares and support, Government approved aircraft upgrades, and OEM technical support.

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.

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.

Spares Availability. The availability of spares and Support and Test Equipment delivered under the FMS case has not met the requirements of the Commonwealth. **The Project has completed all FMS and direct commercial sales ordering and is completing receipting into logistics systems.**

Commonwealth Support. The Project provided required Commonwealth support to Leonardo at the required time to conduct flight test activities in Italy. Competing priorities and the requirement for RAAF Aircraft Research and Development Unit (ARDU) personnel to participate had the potential to delay flight test, delaying the IFF Mode 5 upgrade.

Training. Delays in establishment of training services contracts under FMS impacted the training schedule and student throughput. Once established, the courseware standard delivered required active involvement by the Commonwealth to implement ongoing improvements.

During 2016-17 the Government agreed that alternative approaches to the training delivered under FMS were required. The project transitioned training from the USA to RAAF Richmond in July 2017, with the simulator element undertaken in Italy.

The project continues to investigate opportunities to deliver a Mature Training System at RAAF Amberley. Work is in progress to procure the Operational Flight Trainer through the Enduring Leonardo Contract. An opportunity to procure a Fuselage Trainer is also under development. These activities will form the basis of Mature Training System delivery post-FOC.

Other Current Related Projects/Phases

N/A.

Note

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

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	\$m	Notes
	Project Budget		
Apr 12	Original Approved (Second Pass Approval)	1,156.5	
Jun 19	Exchange Variation	285.6	
Jun 19	Total Budget	1,442.1	
	Project Expenditure		
Prior to Jul 19	Contract Expenditure – US Government	(648.1)	1
	Contract Expenditure – Leonardo Intellectual Property and Technical Data	(66.5)	1
	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	(63.6)	2
		(785.5)	
FY to Jun 19	Contract Expenditure – US Government	(3.2)	1
	Contract Expenditure – Leonardo Intellectual Property and Technical Data	(5.6)	1
	Contract Expenditure – Leonardo- Mode 5 IFF Upgrade	(7.7)	1
	Contract Expenditure – Leonardo- Structural Substantiation Program (Fuselage)	(12.7)	1

	Other Contract Payments/Internal Expenses	(18.8)		3
Jun 19	Total Expenditure		(48.0)	
			(833.4)	
Jun 19	Remaining Budget		608.6	
Notes				
1	The scope of these contracts 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: contractor support costs for Structural Substantiation Program, loadmaster seat development and certification purposes (\$7.7m), Support and Test Equipment, spares and global freight costs (\$5.2m), other project management support and administrative costs (\$5.6m) and operating expenditure related to initial sustainment costs (\$0.3m) also contribute to other expenditure.			

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
68.3	69.0	55.7	PBS - PAES: The variation is primarily due to a combination of adjustments to remaining aircraft spares, aircraft updates, certification, structural substantiation program schedules and other minor changes. PAES - Final Plan: Variance is due to reductions in spares procurement requirements, and refinement to implementation schedules for aircraft modification programs and realignment of Structural Substantiation Program requirements as an outcome of contract negotiations.
Variance \$m	0.7	(13.3)	Total Variance (\$m): (12.6)
Variance %	1.0	(19.3)	Total Variance (%):(18.4)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
		(0.0)	Australian Industry	The major factors contributing to the variance are amendments to aircraft modification contracts forecasts as a result of schedule slippage; revised Structural Substantiation Program and certification schedules; and increased FMS disbursement activity. The key reduction in spend centres on transfer of responsibility for spares and support equipment procurement to the C27J sustainment organisation.
		(9.6)	Foreign Industry	
			Early Processes	
		(1.3)	Defence Processes	
		3.2	Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
55.7	48.0	(7.7)	Total Variance	
		(13.8)	% Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature \$m	30 Jun 19 \$m			
US Government	May 12	882.4	664.1	Reimbursement	FMS	1,2,3,
Leonardo	May 12	62.0	72.1	Firm Price	Modified ASDEFCON (Complex)	1,
Leonardo	Sept 17	18.7	23.1	Firm Price	ASDEFCON (Complex)	1, ,4
Leonardo	Dec 17	16.9	18.0	Firm Price	ADEFCON (Shortform Goods)	1,5
Leonardo	Feb 19	27.4	27.6	Firm price	Modified ASDEFCON (Complex)	1, 6
Leonardo FLTP	Mar 19	19.8	19.9	Firm price	Modified ASDEFCON (Complex)	1, 7
Notes						
1	Contract value as at 30 June 2019 is based on actual expenditure to 30 June 2019 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).					

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2	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.			
3	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. Amendment 6, was approved in May 19 and has further reduced the FMS case to a value of \$US601.9m.			
4	Mode 5 IFF upgrade contract. Contract Change 1 was approved in October 2018 updating the milestone payment schedule introducing new maintenance related activities and DASR certification requirements.			
5	Aircraft Fuselage contract (Structural Substantiation Program Test Article).			
6	Leonardo Management of Services Contract.			
7	Flight Loads Test Program.			
Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 19		
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	
Leonardo	N/A	N/A	Provision of Project Management Services in support of the Enduring Leonardo Contract (ELC)	
Leonardo	1	1	Provision of a Flight Loads Test Program in support of the C-27J Structural Substantiation Program	
Major equipment received and quantities to 30 Jun 19				
Ten aircraft accepted plus a substantial amount of the IP rights and Technical data received.				
Notes				
1	N/A			

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System/Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	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. Initial work is underway for the acquisition and maintenance support contracting for a Fuselage Trainer through L-3, USA.					
2	As of Quarter 1 2019, collaborative development of detailed requirements for the Operational Flight Trainer acquisition is underway with Leonardo S.p.A. Final negotiations are anticipated to commence in Quarter 4 2019.					

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	1, 2

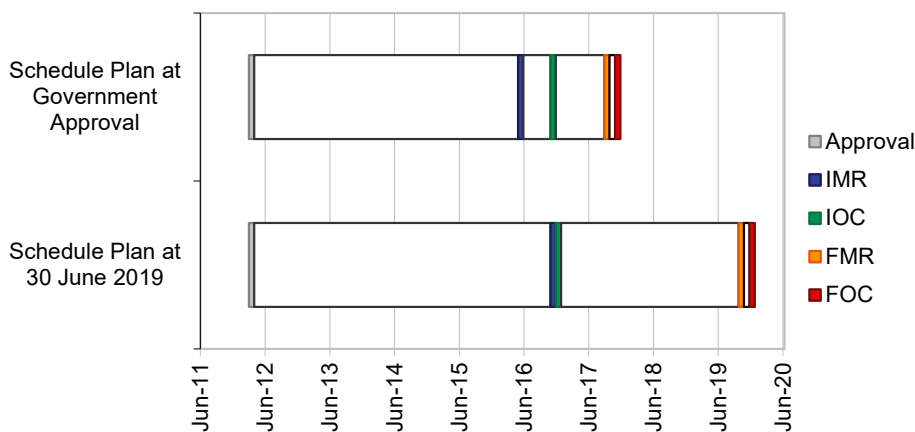
	Fuselage Trainer	TBA	TBA	TBA	TBA	1
Notes						
1	Contracts for the acquisition of the training devices have yet to be established.					
2	See Section 3.1 Note 2.					
3	Delivery of Aircraft was delayed due to the requirement for repair of the life raft door following damage sustained during the acceptance 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, 5
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. Scoping work for capability improvements in avionics and electronic self-protection systems may contribute to capability maturity post-FOC. These changes are included in project management documentation.
5	The project is unlikely to achieve FMR in October 2019 due to further work being required to support the IFF modification upgrade, achievement of full military type certification and provision of spares to support achievement of FMR.

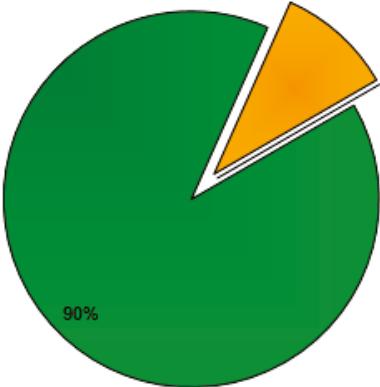
Schedule Status at 30 June 2019



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

Section 4 – Materiel Capability Delivery Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
 <p>A pie chart showing the percentage breakdown of Materiel Capability Delivery Performance. The chart is divided into two segments: a large green segment representing 90% and a smaller yellow segment representing 10%.</p>	<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: AIR8000PH2 remains committed to the timely delivery of capabilities to support operational intent of the C-27J. AIR8000PH2 is forecasting the project will be unable to complete FMR in October 19 and that further work is required to support an ongoing Identification Friend or Foe (IFF) modification upgrade, achievement of the full military type certification, and final spares delivery (less than 1% remaining).</p>
	<p>Red: N/A</p>
<p>Note This Pie Chart represents Defence's expected capability delivery. Capability assessments and forecast dates are excluded from the scope of the 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). Caveats were resolved Quarter 2 2017.	Achieved
Initial Operational Capability (IOC)	Initial operations from interim Main Operating Base (MOB) (RAAF Richmond). Three C-27J aircraft delivered to the Interim MOB with sufficient operational crews, maintenance teams, training, and support infrastructure. The squadron will conduct air logistics support and airborne operational roles.	Achieved
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
Final Operational Capability (FOC)	Mature level of operations from the final MOB. MOB Operational Facilities complete and occupied. Sufficient spares and maintenance equipment to maintain mature operations. A training system sufficient to maintain mature operations is achieved.	Not yet achieved

Section 5 – Major Risks and Issues

5.1 Major Project Risks –

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
<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 was 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.</p> <p>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>During 2016-17 the Government agreed that alternative approaches to FMS were required. The project continues to investigate opportunities to deliver a Mature Training System at RAAF Amberley. Work is in progress to procure the Operational Flight Trainer through the Enduring Leonardo Contract. An opportunity to procure a Fuselage Trainer is also under development. These activities will form the basis of Mature Training System delivery post-FOC.</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>
Emergent Risks (risk not previously identified but has emerged during 2018-19)	
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 In-Service Date 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>Activities to refine scope of the mature training system, avionics and electronic self-protection systems are progressing to schedule.</p> <p>The final impact to cost will be understood once the contracts for the various systems have been finalised.</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 worked closely with the USAF to minimise delays to the delivery of spares and Support and Test Equipment. The Project has completed all FMS and Direct Commercial Sales ordering, is completing receipting into logistics systems, and the sustainment organisation is managing and modelling spares requirements into the future.</p> <p>As a result this issue has been closed.</p>
<p>Inability of Commonwealth to support Leonardo Mode 5 IFF flight test activities.</p>	<p>The Project continues to support Leonardo in refining the Mode 5 IFF schedule to an acceptable standard and actively managing resources availability to ensure competing priorities are considered and alternatives implemented. Flight test support was achieved during February – March 2019.</p> <p>As a result this issue has been closed.</p>
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	10	8	8	8	9	8	9	60																																																				
Initial Materiel Release	Project Status	7	7	8	9	9	6	9	55																																																				
	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. Performance against the schedule indicates achievement within the delivery window of the Materiel Acquisition Agreement. Cost: Progress of USAF contracting action has enabled FMS cost to be better understood. Current activity for Mature Training System delivery and scoping of capability enhancements indicate that the costs are currently expected to be contained within the available budget. Technical Understanding: Knowledge necessary to operate and support the solution has been transferred to ADF and contractors as appropriate. Commercial: Contractor has delivered all ten aircraft and has the plans, skills and capacity to undertake the remaining work and ramp-up resources needed as planned. 																																																											
		<table border="1"> <caption>Project Maturity Score Progress</caption> <thead> <tr> <th>Project Stage</th> <th>2017-18 MPR Status</th> <th>2018-19 MPR Status</th> </tr> </thead> <tbody> <tr><td>Enter DCP</td><td>13</td><td></td></tr> <tr><td>Decide Viable Capability Options</td><td>16</td><td></td></tr> <tr><td>1st Pass Approval</td><td>21</td><td></td></tr> <tr><td>Industry Proposals / Offers</td><td>30</td><td></td></tr> <tr><td>2nd Pass Approval</td><td>35</td><td></td></tr> <tr><td>Contract Signature</td><td>42</td><td></td></tr> <tr><td>Preliminary Design Review(s)</td><td>45</td><td></td></tr> <tr><td>Detailed Design Review(s)</td><td>50</td><td></td></tr> <tr><td>Complete Sys. Integ. & Test</td><td>55</td><td></td></tr> <tr><td>Complete Acceptance Testing</td><td>57</td><td></td></tr> <tr><td>Initial Materiel Release (IMR)</td><td>60</td><td></td></tr> <tr><td>Final Materiel Release (FMR)</td><td>63</td><td></td></tr> <tr><td>Final Contract Acceptance</td><td>65</td><td></td></tr> <tr><td>MAA Closure</td><td>66</td><td></td></tr> <tr><td>Acceptance Into Service</td><td>67</td><td></td></tr> <tr><td>Project Completion</td><td>70</td><td></td></tr> </tbody> </table>									Project Stage	2017-18 MPR Status	2018-19 MPR Status	Enter DCP	13		Decide Viable Capability Options	16		1st Pass Approval	21		Industry Proposals / Offers	30		2nd Pass Approval	35		Contract Signature	42		Preliminary Design Review(s)	45		Detailed Design Review(s)	50		Complete Sys. Integ. & Test	55		Complete Acceptance Testing	57		Initial Materiel Release (IMR)	60		Final Materiel Release (FMR)	63		Final Contract Acceptance	65		MAA Closure	66		Acceptance Into Service	67		Project Completion	70	
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Section 7 – Lessons Learned

7.1 Key Lessons Learned –

Description	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
Contracting with commercial entities that have had no previous experience with how the Commonwealth contracts, manages, controls, and reviews contract performance requires significant awareness, education and adjusting by both parties. Commonwealth acknowledgement that outcomes can be achieved without following the Commonwealth's usual or embedded processes requires substantial effort by Commonwealth personnel to accept the change, mentor and educate other Commonwealth entities, and to act with restraint towards the contractor. Commonwealth personnel having largely only worked with or in one system, the Commonwealth system, and are challenged to accept other ways to achieve the same outcome. Similarly, processes judiciously established in Defence are not always easily mapped to a civilian entity's system. This requires substantial detailed communication and time commitment to map dissimilar system outcome points between the two organisations' systems by Subject Matter Experts in that field - this takes time and effort that may not have been foreseen.	Contract Management

Section 8 – Project Line Management

8.1 Project Line Management as at 30 Jun 2019

Position	Name
Division Head	AVM Catherine Roberts
Branch Head	AIRCDRE Graham Edwards
Project Director	GPCAPT Chris Ellison
Project Manager	WGCDR Susan Liddy

Project Data Summary Sheets

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