

Project Data Summary Sheet<sup>162</sup>

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 (or key Government pre-Second Pass Approval)	Apr 12
Budget at 2 <sup>nd</sup> Pass Approval (or key Government pre-Second Pass Approval)	\$1,156.5m
Total Approved Budget (Current)	\$1,439.2m
2019-20 Budget	\$91.7m
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.

To date the project has delivered 10 aircraft, the initial training and support services, an interim training system, and the support system materiel elements. The project will mature beyond FOC in order to deliver capability improvements.

## 1.2 Current Status

## Cost Performance

## In-year

The end of financial year underspend of \$19.1m is due to the effect of COVID 19 on contractual arrangements with overseas suppliers creating delays against the Mode 5/IFF and Fuselage Trainer contracts, and delays in contract development activity for the Structural Substantiation Program. Also contributing are lower than forecast requirement to seek contractor certification support, lower than forecast FMS spend, delays in agreeing a sustainment contract for the C27J fuselage trainer and in longer lead time than expected for spares deliveries.

## Project Financial Assurance Statement

As at 30 June 2020, 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 are budget pressures for current obligations and Defence is revalidating the remaining scope against the revised force structure plan and will present these options to Government in December 2020.

## Contingency Statement

The project has not applied contingency in the financial year.

## 162 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 material 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 **was** to be achieved by December 2019 (24 months behind original schedule), noting the capability would continue to mature beyond FOC, including delivery of the mature training system.

**FMR was not achieved in October 2019, and FOC was not declared in December 2019.**

**Key achievements of financial year 2019-20 centred on contracts signed under the Enduring Leonardo Contract (ELC) deed to support the ongoing development of the Avionics Block Upgrade design. The Fuselage Trainer has been delivered by L3-Oceania however, COVID-19 travel restrictions have delayed contractor final testing and commissioning. The Wing and Fuselage test articles have been accepted and Wing test article delivered to Australia, these are significant achievements against the Structural Substantiation Program. A military type certificate was issued in June 2020, and Configuration Control Board approval (February 2020) achieved for the modification incorporation of the Mode 5 IFF upgrade. An amended date for FMR and FOC declaration is anticipated to be advised after completion of capability revalidation activity currently underway by Defence, the project anticipates a revised execution strategy for the residual acquisition activity after December 2020.**

**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.

The project remains committed to the timely delivery of capabilities to support the operational intent of the C-27J. **The project did not achieve FMR in October 2019 with further work continuing in order to support the Mode 5 IFF modification upgrade and final spares delivery (less than 1% remaining). The project has completed transition of spares acceptance to sustainment. The project achieved military type certification in June 2020.**

**The capability will continue to mature post FOC noting Defence is revalidating the business case and execution strategy for this residual acquisition activity during 2020.**

**Note**

Forecast dates and capability assessments are excluded from the scope of the Auditor-General's Independent Assurance Report.

## 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) was 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. **MTC was achieved in June 2020.**

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.

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<p><b>The project was unable to achieve FOC as planned during 2019. Defence has formally advised Government of the inability to achieve FOC and will inform Government of a revised FOC schedule in December 2020 after reviewing available options during 2020.</b></p>	
<p><b>Uniqueness</b>          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 4 IFF system.          The uniqueness of the project <b>can be measured by;</b></p> <p>1. 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.</p> <p>2. <b>The degree of IFF system upgrade activities from Mode 4 to Mode 5 on a delivered in-service sustainment product that are required to meet project outcomes given the limited availability of an off-the-shelf design for the C-27J platform globally.</b></p>	
<p><b>Major Risks and Issues</b>          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:</p> <p><b>C-27J Capability Baseline.</b> 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> <p><b>USAF divestiture of C-27J.</b> 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.</p> <p><b>Training.</b> 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 <b>was entered into with L-3 Oceania for delivery in 2019-2020.</b> These activities will form the basis of mature training system delivery post-FOC.</p> <p><b>COVID-19. Key suppliers in Italy have been directly affected by reduced ability to deliver on schedule due to COVID-19 requiring workplace closures, and social distancing requirements. This has resulted in a reduction in outputs from March to June 2020. Suppliers in Australia have also been affected by workplace and interstate travel restrictions. International travel restrictions on the Commonwealth, international commercial and military partners has reduced the ability of the project to conduct in-person contract acceptance activities. Every possible measure has been taken to reduce the impact to cost and schedule to project outcomes.</b></p> <p><b>FMR/FOC requirements. The C-27J Capability will be affected by the inability to complete all requirements on schedule.</b></p>	
<p><b>Other Current Related Projects/Phases</b>          N/A</p>	
<p><b>Note</b>          Major risks and issues are excluded from the scope of the Auditor-General's Independent Assurance Report.</p>	

## Section 2 – Financial Performance

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

Date	Description	\$m	Notes
<b>Project Budget</b>			
Apr 12	Original Approved <b>(Second Pass Approval)</b>	1,156.5	
Jun 20	Exchange Variation	283.7	
Nov 19	Real Variation - Transfer	(1.0)	4
Jun 20	<b>Total Budget</b>	<b>1,439.2</b>	
<b>Project Expenditure</b>			
Prior to Jul 19	Contract Expenditure - US Government	(651.3)	1
	Contract Expenditure - Leonardo Intellectual Property and Technical Data	(72.1)	1

FY to Jun 20	Contract Expenditure - Leonardo - Structural Substantiation Program (Fuselage)	(16.2)	1
	Contract Expenditure - Leonardo - Mode 5 IFF Upgrade	(11.5)	1
	Other Contract Payments/Internal Expenses	(82.4)	2
		(833.5)	
	Contract Expenditure - US Government	(8.2)	1
	Contract Expenditure - Leonardo - Flight Loads Test Program	(7.6)	1
	Contract Expenditure - Leonardo - Avionics Risk Reduction Activity	(6.5)	1
	Contract Expenditure - Leonardo - Mode 5 IFF Upgrade	(7.0)	1
	Contract Expenditure - Leonardo - Management of Services	(5.0)	1
	Contract Expenditure - Leonardo - Structural Substantiation Program (Fuselage)	(2.5)	1
Jun 20	Other Contract Payments/Internal Expenses	(35.8)	3
Jun 20	<b>Total Expenditure</b>	(72.6)	
		(906.1)	
Jun 20	<b>Remaining Budget</b>	533.1	

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: Support and Test Equipment, spares and global freight costs (\$14.2m), contractor support costs for Structural Substantiation Program, loadmaster seat development, aircraft modification and certification purposes (\$9.3m), training devices related procurement and support costs (\$6.6m), and other project management support and administrative costs (\$5.7m) contribute to the other expenditure.
4	Transfer to Defence Science and Technology Group for the provision of ongoing contractor technical support for the Structural Substantiation Program.

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
93.5	92.1	91.7	PBS - PAES: The variation is primarily due to a combination of adjustments to remaining aircraft spares, aircraft updates, certification, structural substantiation program and training device schedules and other minor changes. PAES - Final Plan: Variance is primarily due to refinement to implementation schedules for aircraft modification programs and reduced contractor support costs as an outcome of contract negotiations.
Variance \$m	(1.4)	(0.4)	Total Variance (\$m): (1.8)
Variance %	(1.5)	(0.4)	Total Variance (%): (1.9)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
		(0.7)	Australian Industry	The major factors contributing to the variance are the effect of COVID 19 on contractual arrangements with Leonardo including spares procurements, Structural Substantiation Program test article and Mode 5 IFF deliveries. Also contributing to the variance are schedule delays against the C27J fuselage trainer acquisition contract, agreeing a sustainment contract for the C27J fuselage trainer, reduced contractor support requirements and reduced FMS disbursements driving lower spend.
		(4.1)	Foreign Industry	
			Early Processes	
		(11.4)	Defence Processes	
		(2.9)	Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
91.7	72.6	(19.1)	Total Variance	
		(20.8)	% Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature \$m	30 Jun 20 \$m			
US Government	May 12	882.4	664.5	Reimbursement	FMS	1,2,3,
Leonardo IP Technical Data	May 12	62.0	72.1	Firm Price	Modified ASDEFCON (Complex)	1,

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Leonardo <b>Mode 5 IFF</b>	Sept 17	18.7	<b>23.2</b>	Firm Price	ASDEFCON (Complex)	1,4
Leonardo <b>Aircraft Fuselage Test Article</b>	Dec 17	16.9	<b>18.7</b>	Firm Price	ADEFCON (Shortform Goods)	<b>1,5</b>
Leonardo <b>Management of Services</b>	Feb 19	27.4	27.9	Firm price	Modified ASDEFCON (Complex)	1
Leonardo <b>Flight Loads Test Program</b>	Mar 19	19.8	<b>20.1</b>	Firm price	Modified ASDEFCON (Complex)	1
Leonardo <b>Avionics Risk Reduction</b>	<b>Sept 19</b>	<b>16.2</b>	<b>16.4</b>	<b>Firm Price</b>	<b>Modified ASDEFCON (Complex)</b>	<b>1</b>

Notes	
1	Contract value as at <b>30 June 2020</b> is based on actual expenditure to <b>30 June 2020</b> and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).
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. <b>There were no amendments to the case in the 2019-2020 financial year. The change to the contract value from the prior year is due to foreign exchange movements.</b>
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	<b>Aircraft Fuselage Test Article Contract Change 1 was approved Nov 19 adding additional production requirements to address shortfalls found in initial reviews of the test article deliverables.</b>

Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 20		
US Government	10	10	10 C-27J Aircraft and associated training, training equipment, spares, ground support equipment and initial support	
Leonardo <b>IP Technical Data</b>	N/A	N/A	C-27J Intellectual Property and Technical Data	
Leonardo <b>Mode 5 IFF</b>	10	10	Mode 5 IFF modification for 10 C-27J aircraft	
Leonardo <b>Aircraft Fuselage Test Article</b>	1	1	Aircraft Fuselage procurement in support of C-27J Structural Substantiation Program	
Leonardo <b>Management of Services</b>	N/A	N/A	Provision of Project Management Services in support of the Enduring Leonardo Contract (ELC)	
Leonardo <b>Flight Loads Test Program</b>	1	1	Provision of a Flight Loads Test Program in support of the C-27J Structural Substantiation Program	
Leonardo <b>Avionics Risk Reduction</b>	<b>N/A</b>	<b>N/A</b>	<b>Provision of risk reduction activities in support of development of the C-27J Avionics Block Upgrade.</b>	

Major equipment accepted and quantities to 30 Jun 20  
 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	N/A	N/A	N/A	N/A	1,3
Preliminary Design	Operational Flight Trainer	TBA	TBA	TBA	TBA	1,2
	Fuselage Trainer	N/A	N/A	N/A	N/A	1,3
Critical Design	Operational Flight Trainer	TBA	TBA	TBA	TBA	1,2
	Fuselage Trainer	N/A	N/A	N/A	N/A	1,3

Notes						
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1	Contracts for the acquisition of the Operational Flight Trainer device has yet to be established. Training devices are not included in the revised FOC definition approved by Government in May 2016. <b>Work continues for the installation and maintenance for the Fuselage Trainer through L-3 Oceania.</b> No design process is required for the Fuselage Trainer as a decommissioned US-based system has been acquired for refurbishment by the Commonwealth from L-3 Oceania.
2	<b>As of 30 June 2020, collaborative development of detailed requirements for the Operational Flight Trainer acquisition has resulted in Statement of Work submission to Leonardo S.p.A and work commenced by Leonardo S.p.A to select suppliers to satisfy requirements. Final contract negotiations are anticipated in Quarter 1 2021.</b>
3	<b>The Fuselage Trainer was a COTS purchase. No design reviews were required.</b>

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	May 20	N/A	Oct 20	5	1,6,7
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	May 20	N/A	Oct 20	5	1,6,7	

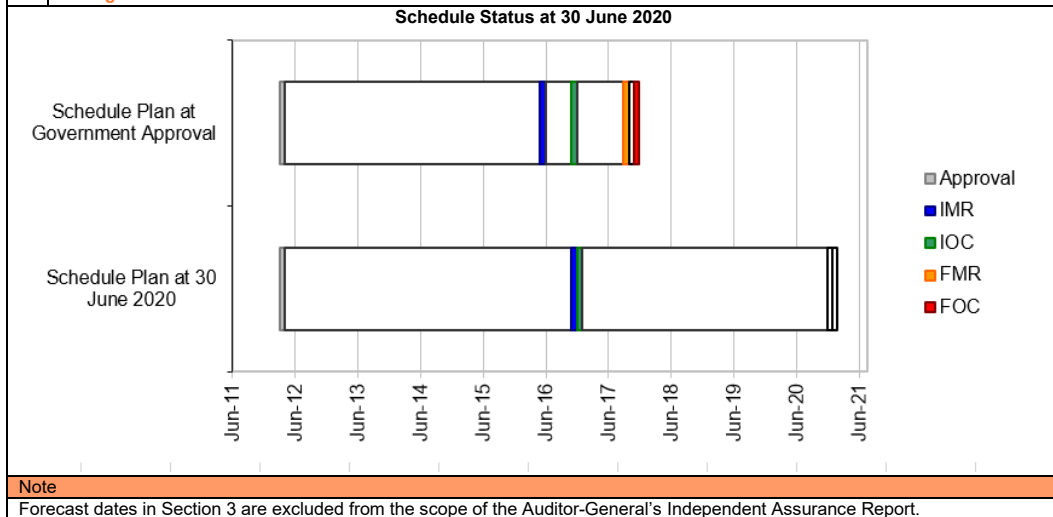
Notes	
1	<b>The acquisition contract for the Fuselage Trainer was established on 29 July 2019. Contracts for the acquisition of the remaining training devices are under development.</b>
2	See Section 3.1 Note 2.
3	Delivery of Aircraft was delayed due to the requirement for repair of the life raft door 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.
6	<b>Variance due to delays in shipment of the Fuselage Trainer from the United States (e.g. quarantine delays), and delayed completion of installation activities and documentation. Acceptance was planned to be completed by May 20 prior to COVID-19.</b>
7	<b>COVID-19 travel restrictions came into force in Mar 20 immediately prior to the commencement of formal acceptance testing which is now paused subject to interstate travel restrictions. Once travel restrictions are lifted, there is expected to be 2 months of activity to achieve acceptance.</b>

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	TBA		4,5
Final Operational Capability (FOC)	Dec 17	TBA		4,6

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 <b>was unable to achieve FMR as planned during 2019. Defence has formally advised Government of the inability to achieve FMR and will inform Government of a revised schedule after reviewing available options during 2020. The project continues to progress work to achieve the IFF modification upgrade, a military type certification was issued June 2020 and the transition of acceptance to the sustainment organisation for final provision of spares to support achievement for FMR has been completed.</b>
6	<b>Defence has commenced a capability assessment of the project and has formally advised Government of the inability to achieve FOC and will inform Government of a revised FOC schedule after reviewing available options during 2020.</b>



**Section 4 – Materiel Capability Delivery Performance**

4.1 Measures of Materiel Capability Delivery Performance

<b>Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance</b>	
	<p><b>Green:</b> 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><b>Amber:</b> AIR8000PH2 remains committed to the timely delivery of capabilities to support operational intent of the C-27J. AIR8000PH2 was unable to complete FMR in October 19. However, achievement of the military type certification was achieved in June 20 with minor limitations that are being progressed to be removed. Final spares delivery (less than 1% remaining) has been transitioned to sustainment for acceptance, and is not currently being reported as a significant shortfall to capability. Further work is required to achieve the Identification Friend or Foe (IFF) modification incorporation into the fleet; this will be achieved under supervision of the sustainment organisation and capability managers. The MAA identifies a requirement for Defence to deliver a response on retention, replacement or upgrade of the Missile Approach Warning System (MAWS). Options have been considered by the project and Defence in 2019 and a remediation decision forms part of the overall project capability consideration by Defence in 2020 for the execution strategy for all residual acquisition activity.</p> <p><b>Red:</b> N/A</p>
<b>Note</b> This Pie Chart represents Defence's expected capability delivery. Capability assessments and forecast dates are excluded from the scope of the Auditor-General's Independent Assurance Report.	

4.2 Constitution of Materiel Release and Operational Capability Milestones

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. 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. <b>The project was unable to achieve FMR was forecast for October 2019. Defence will inform Government of a revised schedule after reviewing available options during 2020.</b>	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. <b>The project was unable to achieve FOC as forecast for December 2019. Defence has formally advised Government of the inability to achieve FOC and will inform Government of a revised FOC schedule after reviewing available options during 2020.</b>	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><b>C-27J Capability Baseline.</b> 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 <b>reassessed</b> capability requirements <b>within approved budget</b> as low. <b>Defence is revalidating the remaining scope against the revised force structure plan and will present these options to Government in December 2020.</b></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>

Project Data Summary Sheets

Auditor-General Report No.19 2020–21  
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	<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 <b>was entered into with L-3 Oceania for delivery in 2019-2020</b>. These activities will form the basis of mature training system delivery post-FOC.</p> <p>The Estate and Infrastructure Group has completed construction of the Training Support Facility at RAAF Amberley, and the facility was accepted by the project in February 2018.</p>
<b>Emergent Risks (risk not previously identified but has emerged during 2019-20)</b>	
<b>Description</b>	<b>Remedial Action</b>
<p><b>Project Engineering, Training, SSP, contracting, and IFF Mode 5 activities will be affected by the COVID-19 pandemic (control orders, isolations, shut downs) leading to an impact on achievement of project milestones.</b></p>	<p><b>The project transitioned to a series of routine video conferencing meetings to connect project personnel working remotely and also implemented video conferencing with Italian and American partners to continue progressing project outcomes and collaborations.</b></p> <p><b>The project explored COVID-19 impacts with contractors and addressed schedule and milestone expectations with contractors in an attempt to reduce the COVID-19 impact.</b></p>

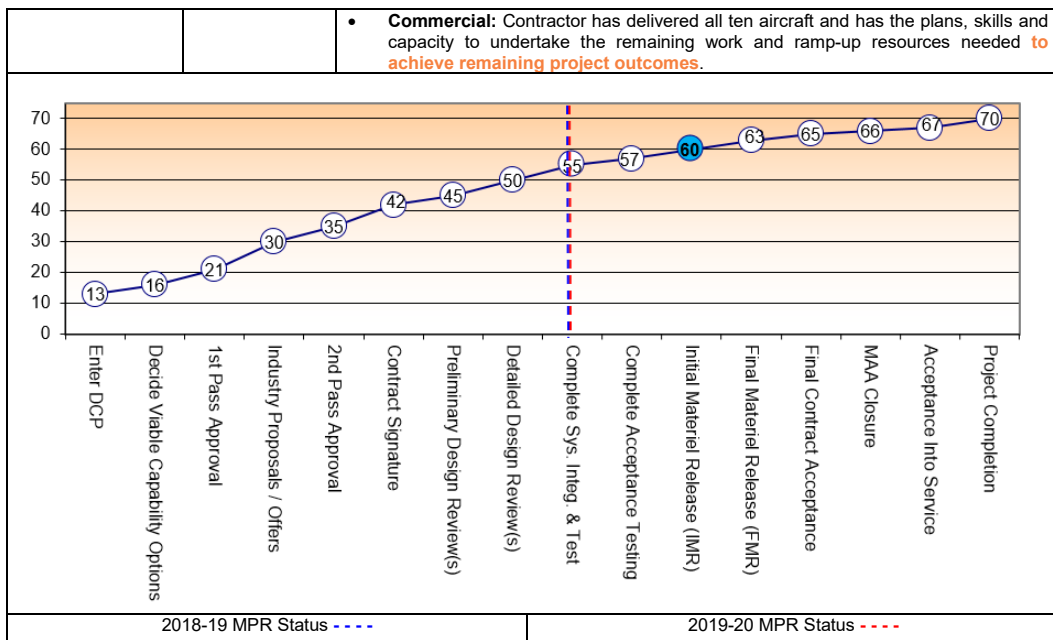
## 5.2 Major Project Issues

<b>Description</b>	<b>Remedial Action</b>
<p><b>USAF Divestiture of C-27J.</b> 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. <b>MTC was achieved in June 20.</b></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><b>FMR/FOC requirements. The C-27J Capability will be affected by the inability to complete all requirements on schedule (MTC, IFF mode 5 and spares).</b></p>	<p><b>Routine regular engagement with Commonwealth and commercial stakeholders to help reduce delays and by working closely with those stakeholders to:</b></p> <ul style="list-style-type: none"> <li>- ensure correct detailed planning,</li> <li>- expedite approval of artefacts,</li> <li>- agree requirements for releases,</li> <li>- agree interim approaches to enable capability as soon as practical, and</li> <li>- reduce unforeseen circumstances.</li> </ul>
<b>Note</b>	
Major risks and issues in Section 5 are excluded from the scope of the Auditor-General's Independent Assurance 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	7	8	9	9	6	9	55
	Explanation	<ul style="list-style-type: none"> <li>• <b>Schedule:</b> Critical Path activities understood, however, delays to critical milestones have been realised against original schedule. <b>FOC was not achieved in Dec 19 and the project expects an amended date for FOC to be advised after the completion of capability revalidation activity currently underway.</b></li> <li>• <b>Cost:</b> Defence is revalidating the remaining scope and budget against the revised force structure plan and will present these options to Government in December 2020.</li> <li>• <b>Technical Understanding:</b> Knowledge necessary to operate and support the solution has been transferred to ADF and contractors as appropriate.</li> </ul>							



**Section 7 – Lessons Learned**

7.1 Key Lessons Learned

Description	Categories of Systemic Lessons
<p>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.</p>	<p>Contract Management</p>
<p>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 counterproductive 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.</p>	<p>Resourcing</p>

<p>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.</p>	<p>Off-The-Shelf Equipment</p>
<p>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.</p> <p>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.</p>	<p>Contract Management</p>
<p><b>Although C-27J is a MOTS aircraft the project was required to update a number of systems to achieve the directed outcomes for FMR/FOC.</b></p> <p><b>Where a project has a challenging acquisition and implementation period, the Sponsor and Capability Manager must be closely engaged to ensure the requirements set maintains relevance over time, especially leading up to key capability milestones.</b></p>	<p>Requirements Management</p>

**Section 8 – Project Line Management**

8.1 Project Line Management as at 30 Jun 2020

Position	Name
Division Head	AVM <b>Gregory Hoffmann</b>
Branch Head	AIRCDRE Graham Edwards
Project Director	<b>GPCAPT Paul Klose</b>
Project Manager	WGCDR Susan Liddy

