

Project Data Summary Sheet¹⁴⁴

Project Number	AIR 5349 Phase 3
Project Name	EA-18G GROWLER AIRBORNE ELECTRONIC ATTACK CAPABILITY
First Year Reported in the MPR	2013-14
Capability Type	New
Acquisition Type	Australianised MOTS
Capability Manager	Chief of Air Force
Government 1st Pass Approval	Aug 12
Government 2nd Pass Approval	Apr 13
Budget at 2 nd Pass Approval	\$2,641.4m
Total Approved Budget (Current)	\$3,510.3m
2018-19 Budget	\$175.3m
Project Stage	Initial Materiel Release
Complexity	ACAT II



Growler

Section 1 – Project Summary

1.1 Project Description

The EA-18G Growler Airborne Electronic Attack Capability provides for the acquisition of 12 Boeing EA-18G Growler aircraft, ALQ-99 Tactical Jamming Systems (TJS), associated weapons, support and training systems to establish an Airborne Electronic Attack (AEA) capability for the Australian Defence Force (ADF). In December 2014 the scope of the project was expanded to include the Mobile Threat Training Emitter System (MTTES) Electronic Warfare (EW) in Queensland and in the Northern Territory, plus air-to-air and anti-radiation weapons for training activities. In April 2017 the scope was further expanded to include the acquisition and integration of CEA Technologies Pty Ltd (CEA) training systems into the MTTES, to further enhance electronic warfare training outcomes across the Australian Defence Force (ADF).
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1.2 Current Status

Cost Performance
<u>In-year</u> At 30 June 2019 , the project had spent \$127.2m against a budget of \$175.3m . The underspend of \$48.1m has mainly been driven by the activity associated with the Foreign Military Sales program. Facilities work is progressing on schedule but is yet to be fully billed to the Project. Some elements of decision support and the Deployable Mission Planning facilities have slipped.
<u>Project Financial Assurance Statement</u> As at 30 June 2019 , project AIR 5349 Phase 3 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.
<u>Contingency Statement</u> The project has not applied contingency in the financial year.
Schedule Performance
Despite the significant change of scope approved in April 2013 to acquire new aircraft in lieu of modification of existing Lot 33 F/A-18F Super Hornets, the project achieved the initial In-Service Date (ISD) milestone in January 2017, as well as the subsequent Initial Materiel Release (IMR) milestone on schedule on 14 February 2017. All 12 EA-18G Australian aircraft have been accepted and transferred to the RAAF, and have arrived in Australia. The Project met Australian airworthiness board timelines during 2016 to support Australian flight operations from the in-service date (ISD). No 6 Squadron has undergone a role change and now is responsible for operational command of the Growler capability.

144 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.

Part 3. Project Data Summary Sheets

<p>The existing Integrated Visual Environment Maintenance Trainers (IVEMTs) have been successfully upgraded to support F/A- 8F and EA-18G maintenance training.</p> <p>Major Materiel Release (MR2) has been delayed from October 2017 to September 2019 due to a revised integration and certification strategy for the initial MTTES training capability in Queensland, and a minor technical issue recently discovered in some mission equipment. In the interim, aircrew training outcomes have been achieved through the US Navy.</p> <p>Major Materiel Release (MR3) was achieved in September 2018. This milestone principally related to enabling capabilities and training devices for the delivered Growler aircraft.</p> <p>Major Materiel Release (MR4) has been delayed from March 2019 to October 2020 due to ongoing design and integration effort for the MTTES Northern Australia range. In the interim, MTTES Queensland range equipment and other commercial arrangements will be utilised to enable a training effect on the MTTES Northern Australia range.</p> <p>The project is due to achieve its next Major Materiel release (MR 5) milestone in December 2019. This milestone principally relates to final integration and clearance of stores on the Growler aircraft and the initial delivery of advanced range training systems.</p>
<p>Materiel Capability Delivery Performance</p> <p>The project remains on track to deliver a US Navy common Airborne Electronic Attack Capability based on the EA-18G aircraft and ALQ-99 TJS.</p> <p>The EA-18G Growler contains the ALQ-218 Radio Frequency Receiver System as well as the ALQ-227 Communications Countermeasures Set to receive broad spectrum radio frequency signals and subsequently disrupt or jam those signals with the ALQ-99 TJS. As the EA-18G Growler airframe is based on the F/A-18F Super Hornet Block II configuration, it retains an Air-to-Air capability with the APG-79 Radar and AIM-120 Advanced Medium Range Air to Air Missiles (AMRAAM) weapons. Additional AMRAAM tactical missiles and Captive Air Training Missiles (CATMs) are being procured for the expanded air combat fleet. The AIM-9X Sidewinder Air-to-Air missile as integrated on the F/A-18F Super Hornet is also being integrated onto the EA-18G with additional CATMs and tactical missiles for Raise-Train-Sustain (RTS) approved for acquisition in December 2014.</p> <p>The Australian EA-18G Growler will retain the capability for aircrew to train for the employment of AGM-88B High Speed Anti-Radiation Missiles (HARM) and AGM-88E Advanced Anti-Radiation Air to Ground Missiles (AARGM), with various HARM and AARGM CATMs being procured. Further, HARM and AARGM tactical missiles were approved for acquisition in December 2014 for RTS activities.</p> <p>The AN/ASQ-228 Advanced Targeting Forward Looking Infra-Red (ATFLIR) pod will also be integrated onto the EA-18G and 15 ATFLIR pods have been procured. Air Combat Manoeuvring Instrumentation pods have also been procured for the Growler fleet to maximise training effectiveness.</p> <p>In addition to modifying aircrew and maintenance training devices (flight simulators and IVEMTs) that were procured by AIR 5349 Phase 1 for the F/A-18F Super Hornet to enable training on either the F/A-18F or EA-18G, the project has also acquired and delivered for installation, an additional two Tactical Operational Flight Trainers (TOFTs) (flight simulators) to address the increased training requirements of the additional EA-18G Growler aircrew.</p> <p>The project plans to follow a similar approach taken to recent FMS acquisitions (including the F/A-18F Super Hornet) within the aviation domain to ensure compliance with Australian Defence Force airworthiness and workplace health and safety standards.</p> <p>The December 2014 approval of MTTES will provide the ability for in-country EA-18G aircrew training through establishment of EW training range capabilities in Queensland and the Northern Territory. Establishment of these ranges will ensure EA- 8G aircrew can train effectively without needing frequent deployments to use United States electronic combat ranges for skills development. MTTES will enhance ADF EW training range capabilities. The Growler aircraft is just one of the many Defence assets that will use this training range capability. The MTTES began limited operations on the Queensland range during the 3rd quarter of 2018, supporting a number of exercises and a Growler training deployment to the United States. The MTTES equipment for the Queensland range was accepted into operational service in May 2019. The MTTES training capability will be expanded incrementally out to Growler Final Operating Capability.</p> <p>The April 2017 approval for Advanced MTTES includes a number of CEA training systems, associated control equipment, initial training and support planning, integration into the broader MTTES Command and Control system, and development of training programs. Advanced MTTES training capabilities will be incorporated into the incremental expansion of the MTTES training capability out to FOC.</p> <p>EA-18G Growler Initial Operating Capability with one caveat was declared by Air Force in February 2019.</p>
<p>Note</p> <p>Forecast dates and capability assessments are excluded from the scope of the review.</p>

1.3 Project Context

Background

Defence first considered an Airborne Electronic Attack Capability based on the EA-18G Growler as part of the Force Structure Review 2008 (FSR08). While it was noted that an Electronic Attack capability would have broad application in a range of contingencies, the decision at the time was to consider the capability further as part of FSR13. Notwithstanding, in 2008, the Government approved a production modification for the last 12 F/A-18F Super Hornet aircraft procured under AIR 5349 Phase 1, to enable future upgrade to EA-18G Growler configuration, should strategic circumstances dictate.

In early 2011, the US Department of Defence advised the ADF that the US Navy (the sole operator of the EA-18G Growler) would place its final order for these aircraft in the second half of 2012 and the production line would close in 2015. Accordingly, the US Navy advised that if Australia wished to economically acquire an Airborne Electronic Attack capability, the only feasible option would be to add any Australian requirements to the final US Navy production contract.

In August 2012, the Government approved acquisition of an Airborne Electronic Attack Capability based on the EA-18G Growler. The approved scope from this combined pass approval consisted of modification of 12 existing RAAF Lot 33 F/A- 8F Super Hornets. Defence continued to assess the risk associated with the ADF's air combat transition from the F/A-18A/B Hornet and the F/A- 8F

Project Data Summary Sheets

Auditor-General Report No. 19 2019–20
2018–19 Major Projects Report

Super Hornet, to the F-35A Joint Strike Fighter and developed options for Government consideration – the Air Combat Capability Transition Review. In April 2013, the Government approved the preferred option, which included the acquisition of 12 new build EA-18G Growler aircraft in lieu of modification of existing F/A-18F Super Hornets.

The project classification is Australianised Military-Off-The-Shelf as there are a small number of Australian unique changes, such as ATFLIR and AIM-9X Stores Clearances.

The Acquisition Strategy for AIR 5349 Phase 3 is to procure the principal materiel elements of the capability through the US Government FMS program. Accordingly, a number of FMS cases have been established with Navy International Programs Office and Naval Air Systems Command for acquisition of the materiel components of the capability as well as aircrew and maintainer training. Another FMS case will be utilised to acquire AIM-120 AMRAAM missiles from the US Air Force Security Assistance Command and the AMRAAM Joint Program Office. The procurement approach for the sustainment of the capability will mirror, and optimally leverage that already in place for the F/A-18F Super Hornet and will comprise a combination of Australian Industry based commercial support contracts, augmented where necessary with FMS case procured, US Government sourced products and services.

The Materiel System for the capability will comprise 12 Boeing EA-18G Growler aircraft, ALQ-99 TJSs, AIM-120 AMRAAM missiles, and various AGM-88B/E HARM/AARGM training missiles, alternate mission equipment, mission planning systems, training devices, spares and support and test equipment, as well as training for aircrew and maintenance personnel. The Airborne Electronic Attack architecture will be enabled by a US Navy common EW database.

Initially, both aircrew and maintenance personnel will be trained in the US utilising the US Navy's training system for the EA-18G Growler. Following the initial training of maintenance personnel, an EA-18G Growler maintenance training framework will be established at RAAF Base Amberley for ongoing training. For aircrew, training will remain in the US throughout the capability life cycle, supported by Defence managed FMS cases.

In December 2014 the scope of AIR 5349 Phase 3 was expanded to include EW training ranges in Queensland and Northern Australia, plus air-to-air and anti-radiation weapons for RTS activities. Additionally, ongoing EA-18G and F/A-18F aircrew training in the US was approved.

ACEASPO and AIR5349 Phase 3 have established a Support System for the capability, which leverages the significant configuration commonality between the F/A-18F Super Hornet and the EA-18G Growler. Existing support contracts have been modified to include sustainment products and services for the EA-18G Growler, in a similar way to that already in place for the F/A-18F Super Hornet. In addition, US Government FMS cases delivering sustainment products and services have been amended or replaced with arrangements including both F/A-18F and EA-18G systems. Notably, consistent with the Air Combat Capability Transition Review outcomes agreed by Government, the majority of F/A-18F and EA-18G aircrew training has moved to the US as No.6 Squadron has changed from being the F/A-18F training squadron to the EA-18G operational squadron. No. 1 Squadron will retain some Super Hornet aircrew training responsibilities.

Further Government approval in April 2017 provides for acquisition and integration of CEA threat training systems into the MTTES.

In January 2018 an incident involving an in-service EA-18G aircraft occurred in the US at Nellis Air Force Base (near Las Vegas). Investigations into the incident **have been completed and the aircraft has since been classified unrepairable and disposal actions have commenced. The project is working closely with Air Force regarding the development of possible replacement options.**

Uniqueness

Noting that AIR5349 Phase 3 shares many common aspects with AIR5349 Phase 1 and the acquisition of the F/A-18F Super Hornet, the primary area of uniqueness resides in the introduction of an offensive radio frequency Electronic Attack capability, and the underpinning materiel enablers for this new warfare domain for the ADF.

Major Risks and Issues

Several risks have been identified with supply of MTTES hardware to meet schedule, as well as the timely establishment of MTTES operation and maintenance support contracts. The risk of RAAF EA-18G structural life of type being inadequate to meet planned withdrawal date is a longer term consideration that will continue to be monitored over the life of the capability. Participation in the USN F/A-18 E/F Service Life Assessment and Extension program (SLAP/SLEP) will mitigate this risk.

The emergent risk of adapting USN doctrine and command and control structures for EA-18G to the Australian context will be mitigated by the assignment of resources to **develop** doctrine and command and control frameworks **in the ADF Joint electromagnetic operations context, including the development of decision support tools.**

There is an emergent risk that some stores variants will not be fully cleared for use on Growler in time for Materiel Release 5. This will be mitigated by early release of training variants.

The Estate and Infrastructure Group Project to upgrade Northern Australian Range facilities for MTTES has run over budget. A submission seeking approval for the realignment of the program budget to enable completion of facilities effort without delay through FY20/21 **was agreed by government in December 2018.**

Late delivery of MTTES systems and **some Advanced MTTES systems** is being mitigated through additional use of US training ranges. **Late delivery of MTTES systems was a caveat to the declaration of IOC.**

Current accreditation and assurance policy and processes are not structured to accommodate the unique elements of the MTTES. Procedural work-arounds are being used to minimise the impact on aircrew training outcomes while suitable modifications to the accreditation framework are developed.

Other Current Related Projects/Phases:

AIR 5349 Phase 1 – Bridging Air Combat Capability: Provision of 24 F/A-18F Super Hornets and associated supplies and support. Some AIR 5349 Phase 1 delivered supplies will be shared with AIR 5349 Phase 3. AIR 5349 Phase 3 will augment AIR 5349 Phase 1 delivered support arrangements.

AIR 5349 Phase 2 – Bridging Air Combat Capability Weapons: Provision of Air-to-Air and Air-to Surface Weapons and expendables for the F/A-18F Super Hornet. AIR 5349 Phase 2, through a Memorandum of Agreement (MOA) with AIR 5349 Phase 3, is managing the acquisition and introduction into service of the EA-18G weapons (AIM-120 AMRAAM, AIM-9X Sidewinder, AGM-88B HARM and AGM-88E AARGM) and expendables.

AIR 5349 Phase 6 – Advanced Growler: Establishing a co-operative agreement with USN to develop replacement jamming capability, further Electronic Attack capability development activities and acquisition of anti-radiation weapons.

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			
Aug 12	Original Approved	1,155.3	1
Apr 13	Subsequent Second Pass Approval – New build aircraft	1,486.1	2
Apr 13	Total at Second Pass Approval	<u>2,641.4</u>	
Dec 14	Real Variation – Scope	200.6	3
Jan 16	Real Variation – Financial Reduction	(267.9)	4
Nov 16	Real Cost Decrease	(100.0)	5
May 17	Real Variation – Scope (ADV MTTES)	102.7	6
Aug 17	Real Variation – Financial Reduction	(27.0)	10
		<u>(91.6)</u>	
Feb 19	Exchange Variation	960.5	
Jun 19	Total Budget	3,510.3	
Project Expenditure			
Prior to Jul 18	Contract Expenditure – US Government (AT-P-SCI)	(1,278.0)	7
	Contract Expenditure – US Government (AT-P-LEN)	(630.6)	7
	Contract Expenditure – US Government (AT-P-GUW)	(80.1)	7
	Contract Expenditure – US Government (AT-D-YLB)	(69.3)	7
	Contract Expenditure – US Government (AT-P-AZN)	(63.3)	7
	Contract Expenditure – US Government (AT-P-GTM)	(46.1)	7
	Contract Expenditure – CEA Technologies	(31.9)	7
	Other Contract Payments / Internal Expenses	(101.4)	8
		<u>(2,300.7)</u>	
FY to 30 Jun 19	Contract Expenditure – US Government (AT-P-SCI)	(26.1)	7
	Contract Expenditure – CEA Technologies	(24.7)	7
	Contract Expenditure – US Government (AT-P-GUW)	(17.3)	7
	Contract Expenditure – US Government (AT-P-GTM)	(15.3)	7
	Contract Expenditure – US Government (AT-P-LEN)	(9.7)	7
	Other Contract Payments / Internal Expenses	(34.1)	7
		<u>(127.2)</u>	
FY to 30 Jun 19	Total Expenditure	(2,427.9)	
30 Jun 19	Remaining Budget	1,082.4	

Project Data Summary Sheets

Auditor-General Report No. 19 2019–20
2018–19 Major Projects Report

Notes	
1	Government approval in August 2012 for modification of Super Hornet aircraft to EA-18G Growler configuration and acquisition of associated Electronic Attack equipment.
2	Government approval in April 2013 to change acquisition strategy to acquisition of new-build aircraft rather than modification of existing aircraft.
3	Government approval in December 2014 for inclusion of Growler Enabling capabilities – MTTES and RTS Weapons.
4	Real Cost reduction – MAA 3.1 amendment processed January 2016 – for transfer of project funds to offset Growler Facilities funding shortfall, and return of surplus funds to the Defence Capability Plan.
5	Real Cost Decrease – MAA 3.2 amendment processed September 2016 – representing a reduction of Project Contingency due to the mitigation of aircraft production risk.
6	Government approval in April 2017 for acquisition and integration of CEA systems into the MTTES.
7	The scope of this contract is explained further in Section 2.3 – Details of Project Major Contracts.
8	Other expenditure comprises: Operating expenditure, contractors, consultants, other capital expenditure not attributable to the aforementioned contracts and minor contract expenditure.
9	Other Expenditure comprises: DELAWR Facilities work (\$13.1m) , Raytheon support for MTTES (9.3m) , Commercially Contracted resource support (\$6.7m) Operational Test and Evaluation activities (\$3.0m) , FMS Weapons procurement – Case AT-P-AYW (\$1.9m) , Remaining expenditure comprises: Operating expenditure, and other capital expenditure not attributable to the aforementioned contracts and minor contract expenditure.
10	Project contribution to investment program rebalancing activity has been formally recognised as real cost reduction with V4.1 MAA submission and approval mid-2018.

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
197.4	193.1	175.3	PBS – PAES: The acquisition of the project is as forecast in the Defence PBS 2018-19. PAES – Final Plan: The variance is due to a reduction in raise, train, sustain weapons costs and delays to the delivery of deployable mission planning facilities, partially offset by an increase in costs against the Mobile Threat Training Emitter System (MTTES) and MTTES facilities redevelopment projects.
Variance \$m	(4.3)	(17.8)	Total Variance (\$m): (22.1)
Variance %	(2.2)	(9.2)	Total Variance (%): (11.2)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
		(19.3)	Australian Industry	Year End Variance is mainly due to the variation in activity associated with the foreign military sales program. Facilities work is progressing on schedule but was not billed to the Project in FY18/19. Planning software and facilities have slipped to FY19-20 as the requirements are developed. A planned operational test and evaluation training activity in the United States was not required resulting in a cost saving.
			Foreign Industry	
			Early Processes	
			Defence Processes	
		(26.7)	Foreign Government Negotiations/Payments	
		(2.1)	Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
		(48.1)	Total Variance	
175.3	127.2	(27.4)	% 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 (AT-P-LEN)	Aug 12	944.2	721.2	Reimbursement	FMS	1, 2, 7
US Government (AT-P-AZN)	May 13	36.2	81.7	Reimbursement	FMS	1, 2
US Government (AT-P-SCI)	Jul 13	1,313.1	1,420.5	Reimbursement	FMS	1, 2, 8
US Government (AT-P-GTM)	Sep 13	19.3	200.2	Reimbursement	FMS	1, 2, 3
US Government (AT-P-GUW)	Feb 15	88.6	157.0	Reimbursement	FMS	1, 2, 5
US Government (AT-D-YLB)	Feb 15	84.6	135.1	Reimbursement	FMS	1, 2, 4
CEA Technologies Pty Ltd	Jun 17	87.3	86.0	Firm	Official Order	1, 2, 6

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)			
2	The scope of this contract is explained further below.			
3	The large increase in the value of this contract reflects an increase in the training already being procured.			
4	This contract is for the acquisition of AMRAAM missiles and is being managed by Guided Weapons Branch through an FMS case established as part of the AIR 5349 Phase 2 Bridging Air Combat Capability Project.			
5	The value of this contract has increased to reflect higher actual costs for equipment being procured to support the MTTES capability.			
6	This contract is for the acquisition of the Advanced MTTES CEA Technologies Pty Ltd systems			
7	The contract value for AT-P-LEN was decreased significantly in June 2018, with the realisation of savings across a range of supplies and support services.			
8	The contract value for AT-P-SCI was decreased significantly in June 2019, with the realisation of savings across a range of supplies and support services.			
Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 19		
US Government (AT-P-LEN)	Various	Various	Advanced Electronic Attack Kits, ALQ99 TJSs, Launchers, Launch computers, Joint Mission Planning System and Software	
US Government (AT-P-AZN)	Various	Various	HARM and AARGM training missiles, tactical missiles, associated support equipment and training	
US Government (AT-P-SCI)	12	12	EA-18G aircraft, associated spares and support equipment	
US Government (AT-P-GTM)	N/A	N/A	Initial Aircrew and Maintenance Training	
US Government (AT-P-GUW)	Various	Various	EW training ranges systems including threat emitter systems, range control and debrief systems, associated IT, spares, support equipment, integration and test services.	
US Government (AT-D-YLB)	Various	Various	Weapons – AIM-120 C7 AMRAAM air-to-air missiles and associated support equipment and infrastructure	
CEA Technologies Pty Ltd	Various	Various	Advanced MTTES – CEA Technologies Pty Ltd systems – various threat emulation systems, support equipment and services	
Major equipment received and quantities to 30 Jun 19				
Transfer of ownership for aircraft procured under ATPSCI commenced in Jan 17 and transfer of all 12 aircraft is now complete. Upgrade of the two existing Tactical Operational Flight Trainers (TOFTs) to enable both F/A-18F and EA-18G training. New built TOFTs were installed and declared ready for training. Delivery of the H12(A) Software configuration set and associated flight clearance recommendation. Four Mobile Radar Threat Simulators (MRTS) were procured for the MTTES Queensland range.				

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	EA-18G Aircraft	N/A – Military Off the Shelf				
	Aircraft Software – SCS H10A	Jan 14	N/A	Jan 14	0	
	Mission Planning System	May 14	N/A	May 14	0	
	ALQ-99 TJS	N/A – Military Off the Shelf				
	Modified TOFTs	Nov 14	N/A	Jul 15	8	1, 3
	New-build TOFTs	Nov 14	N/A	Apr 15	5	2
	Modified Integrated Visual Environment Maintenance Trainers(IVEMTs)	Nov 14	N/A	Jul 15	8	3
Preliminary Design	EA-18G Aircraft	N/A – Military Off the Shelf				
	Aircraft Software SCS H10A	Jun 14	N/A	Jun 14	0	4
	Mission Planning System	Aug 14	N/A	Sep 14	1	
	ALQ-99 TJS	N/A – Military Off the Shelf				
	Modified TOFTs	May 15	N/A	Aug 15	3	1, 3
	New-build TOFTs	May 15	N/A	Mar 16	10	2
	Modified IVEMTs	May 15	N/A	Oct 15	5	3

Project Data Summary Sheets

Auditor-General Report No. 19 2019–20
2018–19 Major Projects Report

Critical Design	EA-18G Aircraft	N/A – Military Off the Shelf				
	Aircraft Software SCS H10A	Jun 14	N/A	Jun 14	0	4
	Mission Planning System	Sep 14	N/A	Jan 15	4	
	ALQ-99 TJS	N/A – Military Off the Shelf				
	Modified TOFTs	May 15	N/A	Aug 15	3	1,3
	New-build TOFTs	May 15	N/A	Mar 16	10	2
	Modified IVEMTs	May 15	N/A	Oct 15	5	3
Notes						
1	Modified TOFT's contract awarded April 2015.					
2	Revised date reflects post contract award schedule.					
3	Revised date reflects delay in contract award and updated schedule.					
4	SCS H10A Preliminary Design Review (PDR) and Critical Design Review (CDR) (held by US Navy) was a combined event, hence dates are the same.					

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	EA-18G Aircraft	Jun 16	N/A	Jul 16	1	1
	Aircraft SCS H10A	Jul 16	N/A	Jul 16	0	1
	Mission Planning System	Jul 16	N/A	Jul 16	0	1
	ALQ-99 TJS	Jul 16	N/A	Jul 16	0	1
	Modified TOFTs	Sep 16	N/A	Jul 17	10	2
	New-build TOFTs	Sep 17	N/A	Aug 18	11	3
	Modified IVEMTs	Oct 16	N/A	Sep 16	(1)	
	MTTES–Queensland Ranges	Oct 17	N/A	May 19	19	4
Acceptance	MTTES – Northern Australian Ranges	Mar 19	N/A	Oct 20	19	5
	EA-18G Aircraft	Jul 16	N/A	Jul 16	0	1
	Aircraft Software –SCS H10A	Jul 16	N/A	Jul 16	0	1
	Mission Planning System	Jul 16	N/A	Jul 16	0	1
	ALQ-99 TJS	Jul 16	N/A	Jul 16	0	1
	Modified TOFTs	Jan 17	N/A	Jul 17	6	2
	New-build TOFTs	Sep 17	N/A	Aug 18	11	3
	Modified IVEMTs	Nov 16	N/A	Nov 16	0	
MTTES–Queensland Ranges	Oct 17	N/A	May 19	19	4	
MTTES – Northern Australian Ranges	Mar 19	N/A	Oct 20	19	5	
Notes						
1	US Navy conduct a combined development and acceptance test program encompassing aircraft, SCS H10A, mission planning system, stores integration testing including the ALQ-99 TJS. Accordingly, dates for system integration and acceptance testing reflect the same schedule window.					
2	Modification of the TOFTs was deliberately delayed as a risk mitigation activity which ensures that US based TOFT upgrades will be completed prior to execution of the Australian based TOFT upgrade. The TOFTs were accepted with known deficiencies requiring remediation.					
3	Delay to new build TOFTs was caused by limited contractor availability to conduct the installation at Amberley.					
4	MTTES – Queensland range schedule has been delayed to accommodate a revised integration and certification strategy that incrementally delivers training capability.					
5	MTTES – Northern Australian range schedule is delayed due to delivery of long-lead items being later than planned and the complexity of in-country integration. Training capability will be delivered incrementally out to Final Operating Capability.					

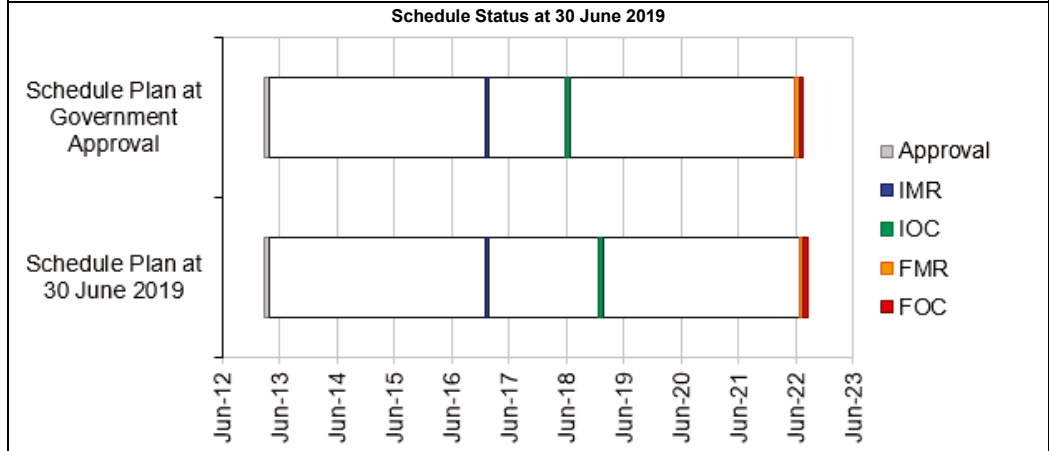
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Feb 17	Feb 17	0	1
In-Service Date (ISD)	Jan 17	Jan 17	0	
Initial Operational Capability (IOC)	Jul 18	Feb 19	7	2
Materiel Release 2 (MR2) MTTES QLD	Oct 17	Sep 19	23	3
Materiel Release 3 (MR3) Various systems	Jul 18	Sep 18	2	
Materiel Release 4 (MR4) MTTES Northern Australia	Mar 19	Oct 20	19	4
Materiel Release 5 (MR5) ADV MTTES, Additional Stores and Stores clearances	Jul 19	Dec 19	5	6
Materiel Release 6 (MR6) MTTES Northern Australia	Mar 20	Oct 21	19	7
Materiel Release 7 (MR7) ADV MTTES	Jul 20	Mar 21	8	8
Materiel Release 8 (MR8) ADV MTTES	Jul 21	Feb 21	(5)	
Final Materiel Release (FMR)	Jul 22	Aug 22	1	
Final Operational Capability (FOC)	Jul 22	Aug 22	1	5

Note

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

- IMR was declared with Caveats on 14 February 17. The caveats related to late delivery of the upgrade of the TOFTs and late delivery of the Aircrew computer based training, and were resolved in 2017-18.
- IOC was due in July 2018 and evidence to support the declaration was supplied by the Project by that date. IOC was declared with one caveat relating to in-country training. (late delivery of MTTES systems). See Section 5.2 for more details. Achievement and declaration of operational capability milestones is a decision made by the Chief of the Air Force (CAF) based upon the maturity of all relevant areas of the fundamental inputs to capability (FIC), inclusive of those elements for which the project is responsible. CAF considered the elements of FIC sufficiently mature to declare Initial Operating Capability in February 2019.
- MR2 has been delayed to accommodate a revised integration and certification strategy for the MTTES – Queensland schedule that incrementally delivers training capability. A minor technical issue with an item of MTTES mission equipment has further delayed the achievement of MR2.
- MR4 has been delayed as it is anticipated that some materiel components for the MTTES- Northern Australian Ranges will not be able to be delivered on time
- In January 2018 an incident involving an in-service EA-18G aircraft occurred in the US at Nellis Air Force Base (near Las Vegas). The project is working closely with Air Force regarding the development of possible replacement options. Declaration of FOC may be affected.
- MR5 delivery of initial materiel and support system for ADV MTTES in Queensland running behind schedule due to delays in production and documentation
- MR6 is dependent on achievement of MR4 and integration of additional FMS materiel, which have also been delayed in production.
- ADV MTTES materiel components of MR7 delayed due to uncertainties in design source data.

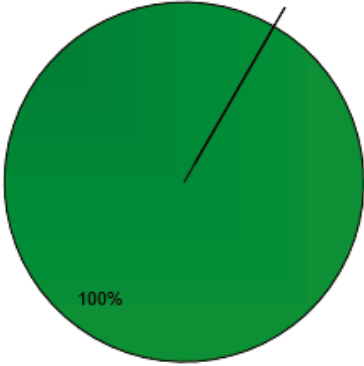


Note

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

Section 4 – Materiel Capability Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
 <p>100%</p>	<p>Green: The project remains on track to deliver a US Navy common Airborne Electronic Attack capability based on the EA-18G Growler aircraft. The operational loss of an aircraft, and the subsequent replacement requirement may become a risk for the project. Air Force Headquarters is responsible for a program strategy to meet FOC, and if required, identify the need to replace the operational loss to achieve FOC.</p> <p>Amber:</p> <p>Red:</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)	<ul style="list-style-type: none"> At least six new-build EA-18G aircraft in USA and associated equipment delivered to support Initial Operational Test and Evaluation (IOT&E) programs. Sufficient aircrew and maintenance personnel to support Growler operations from ISD. Initial in-country aircrew training. <p>IMR was declared on 14 February 2017 with caveats. The caveats associated with this declaration have since been satisfied.</p>	Achieved with caveats
Initial Operational Capability (IOC)	<ul style="list-style-type: none"> Six Growler aircraft delivered and sufficient aircrews trained in Growler employment to meet contemporary limited preparedness requirements; Sufficient ALQ-99 assets delivered to support training and enable Growler operations in one area of operations (AO); In-country logistics and operational support, not including electronic warfare suite support; US-provided electronic warfare suite support; Ability to deploy within AS and near region to conduct Growler operations in a single AO; In-country aircrew currency training and maintenance training capability; Growler facilities completed, occupied and operational; and MTC and MAOC. Air Force declared achievement of IOC in February 2019 with one caveat. 	Achieved with caveat
Final Materiel Release (FMR)	<ul style="list-style-type: none"> All 12 EA-18G aircraft delivered. All assets, equipment and spares delivered. All acquisition tasks completed and transitioned to sustainment organisation completed. MTTES operating at the Queensland and Northern Australian ranges <p>FMR is a future dated milestone projected for July 2022.</p>	Not yet achieved
Final Operational Capability (FOC)	<ul style="list-style-type: none"> Twelve Growler aircraft delivered and sufficient aircrew trained in Growler employment to meet contemporary preparedness requirements. All ALQ-99 assets delivered. Mature in-country logistics and operational support for training and deployment to two locations. The ability to deploy within AS and overseas to conduct Growler operations concurrently in one 	Not yet achieved

	major and one minor AO. FOC is a future dated milestone currently projected for August 2022.	
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Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a possibility that the level of Australian unique development required to meet the MTTES requirements will need design, manufacture, integration and certification effort that cannot be completed within the MAA milestone dates (MR2, MR4 & MR6).	MTTES has established an incremental delivery strategy due to delays for some long-lead items. MTTES final increment deliveries will coincide with Growler FOC. During each increment of capability, the team will aim to identify areas of greatest technical risk and treat as appropriate.
There is a possibility that the Structural Life Of Type of the RAAF EA-18G aircraft may be inadequate to support the planned withdrawal date.	This was closed in November 2018. Risk has been effectively mitigated by participation in the USN F/A-18E/F Service Life Assessment & Extension Program. Management of residual risk was transferred to Growler sustainment organisation for ongoing management
There is a possibility that current USN doctrine and command and control structure for the EA-18G platform cannot be adequately modified for ADF operations.	The Growler Transition Team have successfully bid for resources to address this risk, and are engaging Headquarters Joint Operations Command (HQJOC) to develop and improve command and control frameworks and processes. This risk has closed, and the residual risk is now being managed in the broader context of ADF doctrine and C4I for joint EMS operations, as discussed in the following section.
Emergent Risks (risk not previously identified but has emerged during 2018-19)	
There is a possibility that the Growler utilisation will be restricted by a lack of process, people and ICT tools to manage joint electromagnetic spectrum operations leading to reduced capability.	The project is providing seed funding for the Growler Innovation Support Team within JC4ISPO to manage the development of Decision Support Tool Concept Technology Demonstrator.
There is a possibility that some stores configurations will not be cleared for Growler use by MR5.	Priority is being given to releasing training capabilities while working with DASA and Boeing to streamline the clearance process.

5.2 Major Project Issues

Description	Remedial Action
Late Delivery of MTTES Systems and Advanced MTTES Systems for Queensland and Northern Australia training ranges.	Certification of MTTES Prime Products for Queensland was due in October 17. Delivery of the first Advanced MTTES Prime Product is due in July 19, however there is a forecast delay. Delays are being mitigated by use of alternative systems and an incremental approach to the delivery of training capability. Additional US based training has been scheduled to ensure aircrew training is accomplished.
Late Delivery of Advanced MTTES Systems for Queensland training range. This constituted a caveat to IOC.	Delivery of the first Advanced MTTES Prime Product is due in July 19, however there is a forecast delay. Delays are being mitigated by use of alternative systems and an incremental approach to the delivery of training capability. Additional US based training has been scheduled to ensure aircrew training is accomplished.
Northern Australian Ranges facilities over budget.	This issue was closed in January 2019 following approval of a Real Cost Increase to the Growler Facilities project and realignment of budget to enable completion of facilities effort without delay through FY20/21.
Current accreditation and assurance policy and processes are not structured to accommodate the unique elements of the MTTES.	Relevant accreditation authorities have been identified and engaged. Procedural work-arounds are being used to minimise the impact on aircrew training outcomes while suitable modifications to the accreditation framework are developed.
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	8	8	8	9	8	8	9	58
	Explanation	<ul style="list-style-type: none"> Schedule: The Schedule Score is below the benchmark as the MTES Mission and Support systems have not yet been delivered and the schedule for some of those components are less mature. Technical Understanding: Arrangements for the employment and support of the capability are in place or being put into place. Technical Difficulty: The Technical Difficulty score is below the benchmark as the MTES system design for the complete scope of the Northern Australia range is not yet complete. 							

Project Stage	2017-18 MPR Status	2018-19 MPR Status
Enter DCP	13	
Decide Viable Capability Options	16	
1st Pass Approval	21	
Industry Proposals / Others	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)	61	61
Final Materiel Release (FMR)		63
Final Contract Acceptance		65
MAA Closure		66
Acceptance Into Service		67
Project Completion		70

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Description	Categories of Systemic Lessons
For appropriate management according to Defence best practice benchmarks, allocation of project management resources is required immediately on project approval, particularly for projects with primarily FMS acquisition strategies. These projects inherently experience significant lag between Second Pass approval and schedule and financial management maturity, due to the lag between FMS case establishment and initial prime acquisition contracts when compared to commercially based acquisitions. The delay in achieving maturity benchmarks are only exacerbated when resourcing is not applied early in the acquisition life cycle.	Resourcing
Workforce planning considerations need to capture project drawdown and closure resourcing requirements. If the project workforce is reduced too early, or if key roles are not maintained there is risk to project performance and good governance.	Resourcing

Section 8 – Project Line Management

8.1 Project Line Management as at 30 June 2019

Position	Name
Division Head	AVM Catherine Roberts
Branch Head	AIRCDRE Gregory Hoffmann
Project Director	Ms Justine Baker
Project Manager	WGCDR Andrew McRae