

Project Data Summary Sheet¹⁴²

Project Number	AIR 9000 Phase 2, 4 and 6
Project Name	MULTI-ROLE HELICOPTER
First Year Reported in the MPR	2008-09
Capability Type	Replacement
Acquisition Type	Australianised MOTS
Capability Manager	Chief of Navy and Chief of Army
Government 1st Pass Approval	Apr 06 (Phases 4 and 6)
Government 2nd Pass Approval	Aug 04 (Phase 2), Apr 06 (Phases 4 and 6)
Budget at 2 nd Pass Approval	\$3,522.8m
Total Approved Budget (Current)	\$3,771.1m
2018-19 Budget	\$133.7m
Project Stage	Initial Materiel Release
Complexity	ACAT I



Section 1 – Project Summary

1.1 Project Description

The Multi-Role Helicopter (MRH) Program is a key component of the Australian Defence Force (ADF) Helicopter Strategic Master Plan that seeks to rationalise the number of helicopter types in ADF service. The MRH Program consists of three phases of AIR 9000. Phase 2 (12 helicopters) is the acquisition of an additional Squadron of troop lift aircraft for the Australian Army, Phase 4 (28 helicopters) will replace Army's Black Hawk helicopters in the Air Mobile and Special Operations roles, and Phase 6 (6 helicopters) will replace Royal Australian Navy (RAN) Sea King helicopters in the Maritime Support Helicopter role. All three phases are grouped under the AIR 9000 MRH Program.

1.2 Current Status

On 28 November 2011, the Minister for Defence announced this project as a Project of Concern.

Cost Performance

In-year

The project has spent **\$104.8m** against a budget of **\$133.7m** to **June 2019**. The **\$28.9m** underspend to **June 2019** is primarily due to net adjustments to payment phasings across the Prime Acquisition and reduced spend against contracts for other minor procurement requirements. The timing of the end of year payment processing centrally by Defence and positive spend on operating requirements contributes to the remaining variance.

Project Financial Assurance Statement

As at 30 June 2019, project AIR 9000 Phase 2, 4 & 6 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, including contingency remaining for the project to complete against the agreed scope.

Contingency Statement

The project has applied contingency in the financial year primarily for the treatment of various supportability and performance risks such as a replacement Mission Management System (including engineering support, MRH Mission Data Converter (MDC) and Mission Planning Component (MPC)), Eurogrid Preparation and Loading Facility (EPLF), Mini Gun system, Aeromedical Evacuation Mature System (Phase 1), replacement Cargo Hooks, Helicopter Aircrew Respiratory System (HARS), ISU Containers, additional C17 Transportation kits, Heavy Stores Carriers (HSCs) and External Auxiliary Fuel Tanks (EAFTs) Packaging, Flare Separation Modelling, Taipan Gun Mount Government Furnished Equipment and Skilled Workforce. The application of Contingency is directly in support of the transition of the MRH90 into 6Avn Regt.

142 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

As a result of the Deed 2 negotiations with the contractor, the final delivery of aircraft was rescheduled to July 2017; this, and ongoing technical deficiencies, have resulted in delays to the Final Materiel Release (FMR) and Final Operational Capability (FOC) milestones. However, a number of capability milestones have been declared, including Army Initial Operational Capability (IOC) in December 2014, Navy IOC in February 2015, first Operational Capability Land (OCL1) in September 2015, second and third Operational Capability Amphibious (OCA2/3) in December 2015, the second Operational Capability Land (OCL2) in March 2016 and the third Operational Capability Land (OCL3) in February 2018. The FMR and FOC dates **have been updated to June 2021 and December 2021** to support a revised Materiel Acquisition Agreement.

Forty-seven aircraft have been accepted into service with the final aircraft accepted in July 2017. The first thirteen aircraft required an in-service retrofit to bring them up to the full Phase 2, 4 & 6 capability baseline with the final retrofit completed in March 2016.

Both Full Flight Mission Simulators have been accepted (the first in August 2013 and the second in October 2014).

Remediation to rectify concerns regarding configuration management issues of production aircraft slowed the acceptance of production aircraft in 2015, this in turn slowed the rate of capability growth.

The Chief of Army delayed the introduction of MRH90 into 6Avn Regt by 3 years, because of reliability and design shortfalls and subsequently extended the Black Hawk fleet to 2022 to mitigate the risk to capability. The delayed introduction to 6th Avn Regt resulted in the growth in total MRH90 flying hours temporarily stabilised below the planned mature rate.

In September 2017, Chief of Army's Senior Advisory Committee (CASAC) endorsed and CA agreed to continue the transition of MRH90 into 6Avn Regt **which commenced in January 2019 and will conclude with the withdrawal of the Black Hawk helicopters and 6Avn Regt taking on full Special Operations capability by the end of 2021.**

Materiel Capability Delivery Performance

Following achievement of In-Service Date (ISD) with agreed partial achievement of the contracted MRH capabilities, there has been significant work by both Industry and the Commonwealth to define and implement a series of capability block enhancements to bring the MRH90 to contracted standards. This included a retrofit program to progressively bring all aircraft up to the contracted standard. **FMR has been reviewed and is now forecast to be achieved in June 2021** as the technical and supportability issues are resolved to meet the final operational capability. **At this time it is expected that FMR will include the transfer of Project funding and contract management responsibilities concerning the completion of the remaining long lead time acquisition activities for Aero Medical Evacuation Equipment (AMEE) and an Aircraft Maintenance Trainer (AMT) to the Army Aviation System Program Office (AASPO)**

MRH achieved 90.3% of its planned 2018/19 Financial Year Rate Of Effort. This represents hours actually flown, compared to planned flying hours. Any achievement above 90% is considered "green performance".

Note

Forecast dates and capability assessments are excluded from the scope of the review.

1.3 Project Context

Background

The Additional Troop Lift project was first foreshadowed in the Defence White Paper 2000.

The MRH Program consists of Phases 2, 4 & 6. Phase 2 was approved initially, providing 12 additional Troop Lift helicopters for Army. Phases 4 & 6 were approved subsequently with Phase 4 which provided 28 helicopters as the replacement of the Australian Army's fleet of 34 S-70A-9 Black Hawk helicopters, again for troop lift capability, and Phase 6 provided six helicopters as the replacement of the RAN's fleet of six Sea King helicopters, providing maritime support capability for Navy. The delivery of a 47th MRH90 was negotiated as part of Deed 2. This enables the use of one airframe as a Ground Training Device without impacting the operational fleet.

In total, the AIR 9000 MRH Program will acquire 47 MRH90 aircraft and support systems. Support capabilities, such as Electronic Warfare Self Protection Support System, MRH Software Support Centre, MRH Instrumentation System and a Ground Mission Management System, will be acquired along with training systems and in-service support.

The Phase 2 Acquisition Contract was signed with Airbus Australia Pacific (Airbus AP) in June 2005 with the subsequent Sustainment and Program Agreement contracts signed in July 2005.

In November 2005 the Defence Capability and Investment Committee agreed that the way forward was to seek a combined first and second pass approval for both Phases 4 and 6 as part of a single approval process.

Cabinet endorsement was gained in April 2006 in a combined first and second pass process for Phase 4 and Phase 6. The agreed method of procurement, a two stage Contract Change Proposal (CCP), resulted in the execution of options contained in the Program Agreement for the procurement of additional aircraft approved under Phases 4 and 6. Initial CCPs for the Acquisition, Sustainment and Program Agreement Contracts were signed in June 2006.

The three AIR 9000 Phase 2, 4 & 6 contracts (Program Agreement Contract, Acquisition Contract and Sustainment Contract) incorporate the above CCPs. On acceptance of two MRH90, appropriate training, maintenance and supply support, an In-Service Date of December 2007 was achieved with aircraft operating under a Special Flight Permit granted by the Chief of Air Force. This triggered the Sustainment Contract to come into effect and all three contracts are now currently active.

The Commonwealth suspended acceptance of aircraft from Airbus AP in November 2010; deliveries recommenced in November 2011 after negotiations of a remediation plan (Deed of Agreement and CCPs) to address a number of engineering and reliability issues. Concurrent with the recommencement of aircraft acceptance in November 2011, the Minister for Defence announced that the project would be listed as a Project of Concern citing schedule, aircraft technical deficiencies and Airbus AP's performance.

The Commonwealth has conducted negotiations with the prime contractor to review and settle commercial, technical and schedule issues resulting in a variation to the original contract signed on 9 May 2013, which has been termed 'Deed 2'. Deed 2, which came into effect on 1 July 2013 re-baselined the delivery schedule and addressed commercial and technical issues.

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<p>Uniqueness</p> <p>The MRH90 aircraft is based upon the German Army variant of the NH90 Troop Transport Helicopter. The MRH90 design uses well established aerospace technologies, but will introduce new technologies into Army and Navy, primarily in the areas of composite structure, helmet mounted sight and display and fly-by-wire flight control systems.</p> <p>The MRH Program is providing an MRH90 capability to two main users - Army and Navy. The capability delivery complexity this introduces has been mitigated through an agreement between Chief of Army and Chief of Navy. This provides the project with a single interface for introduction into service issues.</p> <p>The MRH Program Office Design Acceptance Strategy is dependent upon the French Military Airworthiness Authority's (Direction Générale de l'Armement (DGA)) prior acceptance of the NH90 variants and certification recommendation for the MRH90. The DGA and other National Qualification Organisations' prior acceptance of European NH90s provide confidence for the ADF to leverage off common certification evidence for the MRH90.</p>
<p>Major Risks and Issues</p> <p>Aircraft system lack of maturity has affected the certification schedule of the MRH90 and subsequently the declaration of capability milestones.</p> <p>Risks and issues include the need for additional spares, the designs of the Cargo Hook, Fast Roping and Rappelling, and self-protection weapons systems, and required upgrades to facilities are being managed within the Project. The Ground Mission Management System has experienced incompatibility and integration issues. Issues with the Flight Mission simulator and delays to FMR are either retired or being remediated through the sustainment organisation.</p> <p>The remediation of the deficiencies and issues through replacement or re-design, will draw upon significant engineering, logistic and commercial resources and will therefore form the critical path toward achieving the Final Materiel Release and enable the introduction of the MRH90 into 6Avn Regt.</p> <p>There is a risk that the project may not be able to retain sufficient levels of experienced and skilled manpower to achieve the required rate of Acquisition deliverables. In addition, there is also a risk that Industry may not be able to retain sufficient workforce, prior to Acquisition Project closure, to sustain the timely delivery of the remaining capability elements.</p>
<p>Other Current Related Projects/Phases</p> <p>AIR 9000 Phase 7 Helicopter Aircrew Training System (HATS): HATS will be an important link in the training continuum for inductees to the MRH 90 training system.</p> <p>AIR 9000 Phase 8 Future Naval Aviation Combat System: The acquisition of 24 helicopters to enable the Navy to deploy at least eight Seahawks embarked at sea across the ANZAC class frigates and the new Hobart class Air Warfare Destroyers.</p> <p>AIR 90 Identification Friend or Foe (IFF): AIR 90 will upgrade the MRH90 to the Mode 5 IFF waveform to maintain interoperability with US and NATO secure combat identification systems.</p>
<p>Note</p> <p>Major risks and issues are excluded from the scope of the review.</p>

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	\$m	Notes
	Project Budget		
Apr 04	Original Approved	3.3	1
Aug 04	Government Second Pass Approval (Phase 2)	953.9	
Jun 06	Real Variation – Scope (Second Pass Phase 4 and 6)	2,565.6	2
	Total at Second Pass Approval	3,522.8	
Oct 06	Real Variation – Transfer	(219.0)	3
Oct 08	Real Variation – Transfer	(20.0)	4
Oct 08	Real Variation – Scope	31.5	5
Sep 17	Real Variation – Budgetary Adjustment	(87.4)	6
Nov 18	Real Variation - Transfer	(0.2)	10
		(295.1)	
Jul 10	Price Indexation	679.8	7
Jun 19	Exchange Variation	(136.4)	
Jun 19	Total Budget	3,771.1	
	Project Expenditure		
Prior to Jul 18	Contract expenditure – Airbus AP	(2,688.1)	
	Contract expenditure – CAE Australia	(172.0)	
	Contract expenditure - Leonardo Helicopters	(3.9)	
	Other Contract Payments / Internal Expenses	(247.2)	8
		(3,111.2)	
FY to Jun 19	Contract expenditure – Airbus AP	(56.5)	

	Contract expenditure – CAE Australia	(4.6)	
	Contract Expenditure – Leonardo Helicopters	(6.4)	
	Other Contract Payments / Internal Expenses	(37.3)	9
Jun 19	Total Expenditure	(104.8)	
		(3,216.0)	
Jun 19	Remaining Budget	555.1	
Notes			
1	This project's original budget amount is that prior to achieving Second Pass Government Approval.		
2	Incorporation of AIR 9000 Phase 4 (Black Hawk Upgrade/Replacement) and AIR 9000 Phase 6 (Maritime Support Helicopter).		
3	The funding related to facilities elements of the project was managed by Defence Estate and Infrastructure Group (DE&IG).		
4	Transfer to DE&IG for Facilities Infrastructure.		
5	Real Cost Increase funding for Full Flight Mission Simulator.		
6	Real Variation for Budget Adjustment (\$87.4m). This was offset and corrected by CFO by a subsequent Exchange Adjustment in the BORIS Bi-Annual update.		
7	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was \$556.1m. In addition to this amount, the impact on the project budget as a result of out-turning was a further \$123.7m having been applied to the remaining life of the project.		
8	Other expenditure: \$247.2m for operating expenditure, contractors, consultants, and other capital expenditure not attributable to the aforementioned contracts.		
9	Other expenditure: \$37.3m which includes \$30.1m for capability re-design expenditure, \$5.1m for contractors and consultants, \$1.1m for other capital expenditure not attributable to the aforementioned contracts, \$0.9m for operating expenditure and \$0.016m for GFM freight costs.		
10	Budget transfer to DE&IG of \$0.201m for temporary amenities at 6 Aviation Regiment		

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
185.5	147.7	133.7	The variation reflects the re-prioritisation of delivery of key capabilities to support integration of MRH90 into 6 Avn Regt, with non-essential elements being delayed. The variance between PAES and Final Plan estimates primarily reflects the reprogramming of capability funding and a net foreign exchange funding decrease.
Variance \$m	(37.8)	(14.0)	Total Variance (\$m): (51.8)
Variance %	(20.4)	(9.5)	Total Variance (%): (27.9)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
		(29.8)	Australian Industry	The \$28.9m underspend reflects the delayed release of cash payments at year end, net adjustments to payment phasings across the Prime Acquisition Contract, and against contracts for other minor procurement requirements. Positive spend on operating requirements contributes to the remaining variance.
			Foreign Industry	
			Early Processes	
			Defence Processes	
			Foreign Government Negotiations/Payments	
			Cost Saving	
		0.9	Effort in Support of Operations	
			Additional Government Approvals	
133.7	104.8	(28.9)	Total Variance	
		(21.6)	% 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			
Airbus AP	Jun 05	846.3	2,945.2	VARIABLE	ASDEFCON (Strategic)	1, 2, 3, 4
CAE Australia	Dec 07	180.5	176.5	VARIABLE	ASDEFCON (Complex)	4, 5
Leonardo Helicopters	Apr 18	16.3	16.7	VARIABLE	Deed	4, 6
Notes						

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1	This contract also includes an Electronic Warfare Self Protection Support System, MRH Software Support System, MRH Instrumented System and 23 Ground Mission Management System (GMMS) (4 Fixed GMMS, 7 Deployable GMMS, 1 Reduced, 9 Light and 2 interim GMMS). Contract Base date is January 2004.			
2	The MRH Instrumented System includes an airborne instrumentation pallet, some ground based instrumentation and three aircraft (from the total fleet of 47) that have provisions to have the instrumentation pallet installed.			
3	The increase from the original contract value is predominantly due to the increase in aircraft ordered and associated systems following government approved scope changes as described in Section 1.3. Since 1 July 2018, there have been key CCPs processed for an Aeromedical Evacuation Mature System (Phase 1), replacement Cargo Hooks and Heavy Stores Carriers (HSCs) and External Auxiliary Fuel Tanks (EAFTs) Packaging.			
4	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).			
5	The Commonwealth conducted negotiations with the Contractor, to review and settle commercial and technical issues, in December 2015.			
6	The Commonwealth entered into contract with Leonardo Helicopters for the establishment of a helicopter transmission repair and overhaul facility.			
Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 19		
Airbus AP	12	47	MRH90 Aircraft	1
CAE Australia	2	2	Full Flight and Mission Simulator	
Leonardo Helicopters	N/A	N/A	Repair and overhaul capability for helicopter transmission, including a repair facility, initial spares, personnel costs, and cargo pallets.	
Major equipment received and quantities to 30 Jun 18				
Forty-seven MRH aircraft have been accepted to date. Both Full Flight Mission Simulators have been accepted by the Commonwealth.				
Notes				
1	The delivery of a 47th MRH90 was negotiated as part of Deed 2. This enables the use of one airframe as a Ground Training Device without impacting the operational fleet.			

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	MRH aircraft - Phase 2	Aug 05	Oct 05	Sep 05	1	1
	MRH aircraft - Phase 4/6	Apr 07	Apr 07	May 07	1	1
	MRH Software Support Centre	N/A	Mar 07	Apr 07	1	
	Electronic Warfare Self Protection Support System	N/A	N/A	Nov 05	N/A	
	Ground based Mission planning and Management System	Oct 05	Oct 05	Feb 07	16	2
	MRH Instrumented System	N/A	Jun 07	Jul 07	1	
	Full Flight and Mission Simulators	May 08	Nov 08	Mar 09	9	3
System Design	Full Flight and Mission Simulators	Oct 08	Mar 09	Jun 09	8	3
Preliminary Design	MRH aircraft - Phase 2	Jan 06	Jan 06	Apr 06	3	
	MRH aircraft - Phase 4/6	N/A	N/A	Jun 08	N/A	
	MRH Software Support Centre	N/A	Jun 07	Jun 07	0	
	Electronic Warfare Self Protection Support System	Mar 06	Mar 06	May 06	2	
	Ground based Mission planning and Management System	Jul 06	Apr 07	Jun 07	11	2
	MRH Instrumented System	N/A	Jun 07	Jul 07	1	
	Full Flight and Mission Simulators	Feb 09	Sep 09	Oct 09	8	3
Critical Design	MRH aircraft - Phase 2	May 06	May 06	Jun 06	1	
	MRH aircraft - Phase 4/6	Aug 08	N/A	Oct 08	2	
	MRH Software Support Centre	N/A	Oct 07	Sep 07	(1)	
	Electronic Warfare Self Protection Support System	Sep 06	Sep 06	Oct 06	1	
	Ground based Mission planning and Management System	Nov 06	Nov 07	Jul 08	20	2
	MRH Instrumented System	N/A	Jun 08	Jun 08	0	
	Full Flight and Mission Simulators	Aug 09	Feb 10	Apr 10	6	3
Notes						

1	Delays in the Systems Engineering process have resulted from the more developmental nature of the aircraft system, with the MRH90 variant being unique in some ways.
2	Ground Mission Management System software delays are directly attributable to aircraft schedule delivery slip.
3	Full Flight Mission Simulators design review delays stem primarily from slow Contractor derivation of requirements into a suitable System and Subsystem Specification. This was compounded by delays in the prime contractor establishing a vital subcontract with the aircraft manufacturer.

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	MRH aircraft - Phase 2	Jul 06	Nov 06	Dec 06	5	
	MRH aircraft - Phase 4/6	N/A	N/A	N/A	N/A	1
	MRH Software Support Centre	N/A	Oct 08	Nov 08	1	
	Electronic Warfare Self Protection Support System	N/A	N/A	Nov 07	N/A	
	Ground based Mission planning and Management System	N/A	N/A	N/A	N/A	2
	MRH Instrumented System	Nov 08	May 09	Dec 09	13	3
	Full Flight and Mission Simulators	Jun 11	Sept 11	Sept 11	4	4
Acceptance	Type Acceptance Review Special Flight Permit 1	Oct 07	N/A	Dec 07	2	5
	Australian Military Type Certificate	Dec 08	Dec 10	Apr 13	52	6
	Full Flight and Mission Simulator #1	Jul 12	Aug 13	Aug 13	13	7
	Full Flight and Mission Simulator #2	Jan 13	Oct 14	Oct 14	21	7
	Ground based Mission planning and Management System Lot 1	Feb 09	Sep 09	Dec 09	10	8
	Ground Mission planning and Management System Lot 2	Feb 09	Dec 09	Apr 10	14	8
	Ground Mission planning and Management System Lot 3	Sep10	Sep10	Mar 13	30	8
	MRH Software Support Centre	Feb 09	Feb 09	Dec 08	(2)	
	Electronic Warfare Self Protection Support System	Dec 07	Dec 07	Dec 07	0	
	MRH Instrumented System	Mar 10	Jun 10	Sep 11	18	9
Aircraft Acceptance	MRH aircraft #01 (First aircraft)	Dec 07	N/A	Dec 07	0	
	MRH aircraft #05 (First Australian built aircraft)	Dec 08	N/A	Dec 08	0	
	MRH aircraft #46	Jul 14	Jun 17	Jun 17	35	10
	MRH aircraft #47 (Final Aircraft)	Jul 17	Jul 17	Jul 17	0	
Notes						
1	Phases 4/6 were rolled into the MRH Program from aircraft 13 onwards, which increased the number of aircraft from 12 to 46.					
2	The acceptance and test-readiness of the Ground Mission Management System (GMMS) was broken into six lots post contract signature. The lots compose of GMMS deliverables that have been aligned to aircraft delivery – location and baseline. The acceptance of GMMS lots are listed in the acceptance area of this table.					
3	The 13 month delay to closure of Test Readiness Review was due to electronic compatibility test design issues not resolved until November 2009. This delay was mitigated by the development of an interim MRH Instrumentation System capability used for a test activity in October 2009.					
4	Achieved through completion of Test Readiness Review for Contractor In-Plant Test and Evaluation in September 2011.					
5	The first Airworthiness Board (for a Special Flight Permit (SFP)) was conducted in November 2007 and a SFP was granted in December 2007. There have been a number of SFP extensions to allow flight trials of the aircraft as it further develops. The most recent SFP was granted in December 2012 and expired in April 2013.					
6	Achievement of the Australian Military Type Certificate proved problematic due to technical and reliability issues, leading to insufficient levels of the Rate of Effort. Rate of Effort was required to validate that in-service support arrangements for the fleet are sufficient to cope with current numbers of aircraft and are growing in maturity to meet fleet requirements. Australian Military Type Certificate and Service Release was achieved 17 April 2013.					
7	Refers to acceptance of Full Flight Mission Simulators in Oakey and Townsville. Delays have been incurred due to the late delivery of facilities and an underestimation of the time required to implement the design.					
8	Lot 1, 2 and 3 have been altered to accommodate the variation in aircraft delivery date and configuration.					

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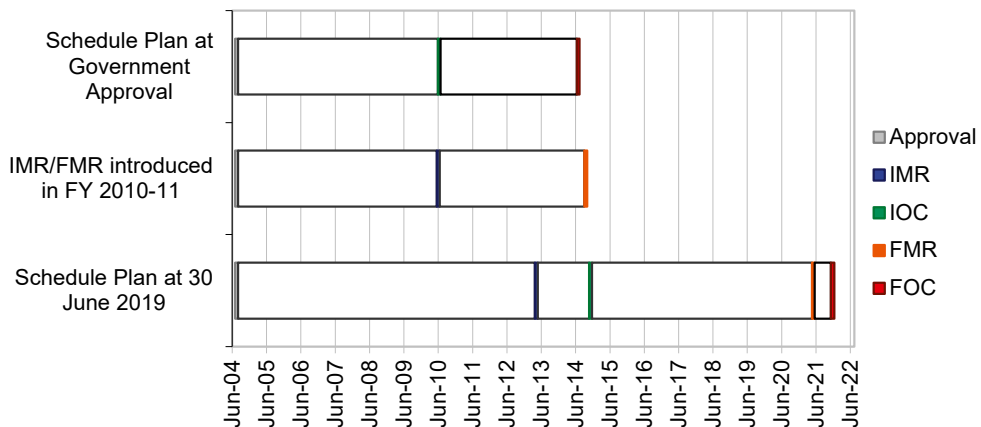
9	The MRH instrumented system incurred delays due to technical and supportability issues that resulted in contractual non-conformances. These non-conformances were rectified by September 2011.
10	The MRH90 program stopped accepting aircraft in November 2010 due to a number of technical and reliability issues. The Commonwealth recommenced accepting aircraft in November 2011 after negotiating a remediation plan to address a number of engineering and contractual issues; however acceptance of aircraft was again suspended in February 2012 pending resolution of another technical concern related to the aircraft's cargo hook. In May 2012 the Commonwealth agreed to accept a further four aircraft based on Airbus AP's agreement to the commercial terms associated with the rectification of the cargo hook issue. Scheduled aircraft acceptance recommenced in June 2012 with aircraft #46 accepted in June 2017 and the final aircraft (#47) accepted in July 2017.

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item		Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Army/Navy	Jun 10	May 13	35	1
Initial Operational Capability (IOC)	Navy	Jul 10	Feb 15	55	2
	Army	Apr 11	Dec 14	44	3
Final Materiel Release (FMR)	Army/Navy	Oct 14	Jun 21	80	4
Final Operational Capability (FOC)	Navy	Dec 12	-	-	5
	Army	Jul 14	Dec 21	89	4,5

Notes	
1	The MRH90 program stopped accepting aircraft in November 2010 due to a number of technical and reliability issues. This has impacted the achievement of capability milestones. The Commonwealth recommenced accepting aircraft in November 2011 after negotiating a remediation plan to address a number of engineering and reliability issues; however acceptance of aircraft was again suspended in February 2012 pending resolution of another technical concern related to the aircraft's cargo hook. In May 2012 the Commonwealth agreed to accept a further four aircraft based on Airbus AP's agreement to the commercial terms associated with the rectification of the cargo hook issue. Scheduled aircraft acceptance recommenced in June 2012 with the final aircraft (#47) accepted in July 17. IMR was declared on 13 May 2013, based on 6 Product Baseline 003 aircraft.
2	Affected by delays to IMR. (Refer to Note 1 above)
3	Affected by delays to IMR. (Refer to Note 1 above)
4	Dates directly impacted by delay to IMR. (Refer to Note 1 above). The remediation of technical deficiencies and issues through replacement or re-design will draw upon significant engineering, logistic and commercial resources and will therefore form the critical path toward achieving FMR. The FMR and FOC dates have been reviewed to reflect this.
5	FOC is now only forecast as a single date. The last capability subset is to be realised by Army as Operational Capability Special Operations 2 (OCS2) in November 2021, which is expected to trigger FOC.

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 illustrating the percentage breakdown of Materiel Capability Delivery Performance. The chart is divided into three segments: a large green segment representing 75%, a smaller orange segment representing 25%, and a very thin red segment representing 0%. The green segment is labeled with '75%'.</p>	<p>Green: A number of key capabilities have been delivered and service releases and the aircraft retrofit program is now completed. The MRHPO is working to achieve the service release of capabilities for the Cargo Hook and improved Fast Roping, Rappelling and Extraction System.</p> <p>Amber: MRHPO continues to work with industry to contract, redesign and deliver outstanding role equipment including the Taipan Gun Mount, Common Mission Management System, and new Mission Troop Seats.</p> <p>Red: N/A</p>
Note	
This Pie Chart represents Defence's expected capability delivery. Capability assessments and forecast dates are excluded from the scope of the review.	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	<ol style="list-style-type: none"> Six Product Baseline 003 aircraft with associated role equipment to support Initial Operational Capability milestones; Issue of Australian Military Type Certificate and Service Release; Completion of all MRH90 facilities at Townsville, Oakey and Nowra; Establishment of mature planned contractor support to maintenance and logistics; and Provision and certification of Mission Management systems necessary for Initial Operational Capability milestones. <p>Initial Material Release was achieved in May 2013.</p>	Achieved
Initial Operational Capability (IOC)	<ol style="list-style-type: none"> Achievement of Operational Capability Maritime Support 1 (OCM1) – embarkment of a single flight for limited daytime operations. Achievement of Operational Capability Amphibious 1 (OCA1) Milestones – deployment of a single troop (three aircraft) in a permissive environment. <p>Initial Operational Capability was achieved in Army – December 2014 and Navy - February 2015.</p>	Achieved
Final Materiel Release (FMR)	<ol style="list-style-type: none"> Forty-seven aircraft configured to the contractual baseline including configuration amendments specified in Deeds 1 and 2 (one aircraft to be used as a Maintenance Training Device); Role equipment delivered to support aircraft. Role equipment completion criteria is to include the transfer of Project funding and contract management responsibilities concerning the completion of the remaining long lead time acquisition activities for Aeromedical Evacuation Equipment (AMEE) to the Army Aviation System Program Office (AASPO); A mature sustainment organisation capable of discharging all in-service responsibilities; including logistic and training requirements; 	Not yet achieved

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	<p>4. Mature training system with all training devices accepted, supported by an effective, functioning training organisation. Training completion criteria to include the transfer of Project funding and contract management responsibilities concerning the completion of the remaining long lead time acquisition activities for an additional Aircraft Maintenance Trainer (AMT) to AASPO; and</p> <p>5. All facilities and support equipment, required to support the capabilities accepted.</p> <p>FMR is forecast to be achieved in June 2021.</p>	
Final Operational Capability (FOC)	<p>FOC is expected to be declared on achievement of all Operational Capability Milestones providing the following capabilities.</p> <ol style="list-style-type: none"> Operational Capability Maritime (OCM3) - Three embarked flights Operational Capability Land (OCL3) - Two Airmobile Squadrons Operational Capability Amphibious (OCA4) - One Squadron capable of supporting amphibious operations Operational Capability Special Operations Support (OCS2) - one Special Operations Aviation Task Unit. <p>Final Operational Capability is forecasted to be achieved in December 2021.</p>	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
There is a chance that the MRH90 capability transition into 6Avn Regt will be affected by delays in delivery of key capability and role equipment leading to a delay of MRH90 transition and extension of Black Hawk for 6Avn Regt operations.	<ol style="list-style-type: none"> Form 6Avn Integrated Project Team. Monitor delivery of key capabilities. Mitigate delays including through Industry collaboration. Implement solution for each deliverable.
There is a risk that the MRH Program may not be able to retain sufficient levels of experienced and skilled manpower to achieve the required rate of Acquisition deliverables leading to an impact on schedule and capability.	<ol style="list-style-type: none"> Early identification of staff transition and turnover. Detailed succession planning. Early engagement with Army and Royal Australian Air Force posting Directorates and CASG, to identify solutions. Identify areas where contracted workforce can supplement where applicable.
There is a risk that Industry may not be able to retain sufficient workforce, prior to Acquisition Project closure, to sustain the timely delivery of the remaining capability elements.	<ol style="list-style-type: none"> Apply provisions of the contract to incentivise delivery to the schedule. Actively engage Industry and scrutinise performance against product delivery through the following forums: <ol style="list-style-type: none"> Schedule Review Project Executive Meetings Project Management Review Weapons Systems Working Group Project Management Stakeholder Group
Emergent Risks (risk not previously identified but has emerged during 2018-19)	
Description	Remedial Action
There is a chance that additional spares are required to support Fast Roping and Rappelling Extraction System (FRRES).	<ol style="list-style-type: none"> Monitor actual damage and failure data over the next 18 months while the FRRES system is being phased in, to determine supportability requirements. At the end of the 18 Month period, or when sufficient actual failure data is accrued to determine realistic support requirements, appropriate types and quantities of spare will be procured for effective support of the FRRES equipment.

5.2 Major Project Issues

Description	Remedial Action
The Full Flight Mission Simulator configuration alignment with the MRH90 aircraft has been affected by the length of time required to upgrade to Sustainment Software Build 1.1.	1. This issue has been transferred to the sustainment organisation. Software upgrades including Sustainment Software Build 1.1 to maintain alignment with the MRH90 aircraft are being delivered under the sustainment contract.
The Electronic Warfare Self Protection (EWSP) system is not performing to specification during specific aircraft manoeuvres.	1. This issue has been closed due to a report being presented which has alleviated performance concerns.
The current Cargo Hook Design is incompatible with Australian Defence Equipment which will delay the final solution delivery.	1. Contract for the design and production of a new Cargo Hook 2. Qualify and test the Cargo hook DASA Design Acceptance Following NQO Review - NLT - 1.5 Weeks to complete from 22 May. 3. MRHPO and Industry to work together to achieve service release by Sep 2019.
The Fast Roping and Rappelling is not suitable which has affected the achievement of operational capability leading to an impact to schedule and performance.	1. Interim Fast Roping and Rappelling System has been design accepted and service release has been achieved. 2. Identify design options for enduring solution. 3. Contract for enduring solution. 4. Implement enduring solution - FRRES.
The achievement of the FMR has been delayed by the late delivery of supplies according to the contracted schedule, leading to an impact on cost, schedule and performance	1. Formation of Cabin Integration Working Group; 2. Industry Prototyping; 3. Accept incremental improvements; 4. Use of Liquidated Damages as offset 5. Leverage NATO Helicopters 90 (NH90) community solutions A new MAA has formally approved a re-baselined FMR.
The initial AME solution is not suitable for high care or multiple extractions which will delay the final solution delivery schedule.	1. Formation of Aero-Medical Evacuation capability working group. 2. Develop and agree on the functional requirements specification with Commonwealth stakeholders and Industry. 3. Implement agreed solution.
Existing helicopter support facilities will require modification or upgrade to accommodate the MRH90.	1. Confirm requirements in accordance with Business Case for 6 Avn
The current design of the self-protection weapons system is not meeting capability requirements.	1. Refurbishment of armouries 2. Maintenance Training for Armourers on M134 3. Deployable packaging (Pelican cases) from M134 OEM (Dillon) 4. Additional Workforce funding for Item Manager 5. Additional spares and S&TE.
The existing Ground Mission Management System (GMMS) is not suitable for integration with the ADF mandated Joint Mission Planning System (JMPS) leading to an impact on MRH90 operational performance.	1. Formation of user working group. 2. Develop and agree on options to meet capability requirements. 3. Implement agreed solution. 4. Contracts for enduring solution are in place.
The Enhanced MRH Armament Sub-System (EMAS) is incompatible with an introduced weapon leading to an impact on operational performance and delivery schedule	1. Implement interim capability. 2. Identify design options for enduring solution for both Navy and Army. 3. Contract for enduring solution. 4. Implement enduring solution - Taipan Gun Mount.
Existing packaging for some equipment has been identified as unsuitable for deployment, due to rapid deterioration and excessive size and weight.	1. CCP-176 provides bespoke packaging to provide a lightweight packaging for safe manual handling (open crates) and fully enclosed containers against extreme environmental conditions. 2. Personnel have been trained in manual handling procedures and provided with equipment to manage the weight of existing packaging
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	7	9	9	8	7	9	57
	Explanation	<ul style="list-style-type: none"> Schedule: The Final Materiel Release and Final Operational Capability dates have been reviewed and approved in a revised Materiel Acquisition Agreement. Cost: Contingency is being used to fund capabilities in project scope. Not all risks have been retired; however the estimate at completion to mitigate remains within contingency guidance. Requirement: The MRH System design and acceptance testing phases are essentially complete, with activities on-going for outstanding elements such as cargo hook and mission troop seat. Additionally, the project office, with Navy and Army, is conducting validation trials to demonstrate that the system meets in-service requirements. Technical Understanding: The knowledge necessary to operate and support the platform is being transferred to the in-service providers. The aircraft has been in-service with Army and Navy since achievement of IOC in 2015. Technical Difficulty: Capability is still being tested fully due to the immaturity of elements of the capability. New capabilities tested during the last 12 months include the new cargo hook, taipan gun mount, C17 transport and an upgrade to the helmet mounted sight and display system. Commercial: Deed 2 settled a number of long outstanding commercial issues and has implemented sound management arrangements to provide confidence that industry effort will be focused on capability realisation. 							

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	
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

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
Early establishment of the Sustainment organisations. Both Commonwealth and Industry teams need to be set up well in advance of the first of the deliveries. The provision of accepted aircraft to an Operational Squadron has led to a range of lessons in regard to command and control of assets and people, stakeholder management and the relationship with Industry.	Resourcing
The impact of attaining limited Intellectual Property rights has been critical to the ongoing development of the capability and achievement of value for money in further contract negotiations. It has also limited the provision of data for integration with other platforms (such as the Landing Helicopter Dock ships).	Contract Management
The MRH Program was incorrectly viewed as a Military off-the-Shelf (MOTS) acquisition. Lessons associated with intended MOTS procurements include: that it is essential that the maturity of any offered product be clearly assessed and understood; and that elements of a chosen off-the-shelf solution may not meet the user requirement.	Off-the-shelf Equipment
Better arrangements should be put in place to ensure appropriate considerations of contractor performance occur before the Commonwealth enters into similar contracts with the same contractor.	Contract Management

Section 8 – Project Line Management

8.1 Project Line Management as at 30 June 2019

Position	Name
Division Head	Mr Shane Fairweather
Branch Head	BRIG Jeremy King
Project Director	Mr Andrew Thomas (acting)
Project Manager	Mr Kieran Gahan