

Project Data Summary Sheet¹⁴⁰

Project Number	SEA 4000 Phase 3
Project Name	AIR WARFARE DESTROYER
First Year Reported in the MPR	2008-09
Capability Type	New
Acquisition Type	Australianised MOTS
Capability Manager	Chief of Navy
Government 1st Pass Approval	May 05
Government 2nd Pass Approval	Jun 07
Budget at 2 nd Pass Approval	\$7,207.4m
Total Approved Budget (Current)	\$9,103.7m
2018-19 Budget	\$226.6m
Project Stage	Initial Materiel Release
Complexity	ACAT I



Section 1 – Project Summary

1.1 Project Description

This project will acquire three Hobart Class Air Warfare Destroyers (AWD) and their support system for the Australian Defence Force (ADF). The capability provided by the AWDs will form a critical element of the ADF's joint air warfare defence capability and will contribute to a number of other joint warfare outcomes.

1.2 Current Status

Cost Performance

In-year

The AWD SEA 4000 Phase 3 Program was underspent by \$27.7 against the approved budget in FY 2018-19.

The underspend variation is due to the Defence Finance Group deferring June 2019 payments of the AWD invoices and paying them in July 2019.

The unpaid invoices in FY 2018/19 predominantly relate to the Alliance Based Target Incentive Agreement contract along with some minor Program Management Office costs.

Project Financial Assurance Statement

Notwithstanding the issues disclosed at Section 5.2, **as at 30 June 2019**, SEA 4000 Phase 3 has reviewed the approved scope and budget for those elements required to be delivered by the program. Having reviewed the current financial and contractual obligations of the program, current known risks and estimated future expenditure, Defence considers, as at the reporting date, and following the completion of the AWD Reform strategy in December 2015, which included a Real Cost Increase of \$1.2 billion to the AWD budget, being approved in July 2015 and provided in September 2015, there is sufficient budget remaining for the Project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

On 6 September 2012, following a stakeholder review of resource considerations and support for a schedule extension, the then Minister for Defence announced that the AWD schedule had been re-baselined. The revised AWD delivery dates were:

- HMAS *Hobart* (Ship 1) – March 2016;
- HMAS *Brisbane* (Ship 2) – September 2017; and
- HMAS *Sydney* (Ship 3) – March 2019.

These delivery dates represented delays of 15, 18 and 21 months respectively against the dates contracted in October 2007.

Following further concerns with AWD delivery, the delivery schedule has been further re-baselined as part of the AWD Reform.

140 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.

The post-Reform contracted delivery dates were

- HMAS *Hobart* (Ship 1) – June 2017;
- HMAS *Brisbane* (Ship 2) – July 2018; and
- HMAS *Sydney* (Ship 3) – December 2019.

These delivery dates represent delays of 30, 28 and 30 months respectively against the dates contracted in October 2007.

The AWD Alliance was contracted to undertake the AIR 9000 Aviation Upgrade Program for Ship 3 NUSHIP *Sydney* while in Adelaide. The increase in scope has moved the date for Provisional Acceptance to February 2020. This represents a delay of 32 months against the contracted dates in October 2007. This represents a delay of 32 months against the contracted dates in October 2007.

Since July 2018 the following major events have occurred:

- July 2018 – Ship 2 achieved Provisional Acceptance
- September 2018 – Ship 3 commenced Combat System Light Off
- October 2018 – Chief of Navy declares Operational Release for NUSHIP *Brisbane*
- October 2018 – HMAS *Brisbane* commissioned for Service with the Royal Australian Navy
- November 2018 – HMAS *Hobart* successfully completes Combat System Sea Qualification Trials in the USA
- December 2018 – Chief of Navy declares Initial Operating Capability for HMAS *Hobart*

Due to the AIR 9000 Aviation Upgrade Program in NUSHIP *Sydney*, Final Materiel Release (FMR) for Ship 3 is now estimated to be March 2020.

Materiel Capability Delivery Performance

All significant government specified capability, with the exception of Radar-Electronic Attack, (R-EA) is currently planned to be achieved and in some warfare areas, the capability will be exceeded. Procurement of the R-EA sub-system has been deferred as currently available technology does not represent a cost-capability benefit. The R-EA budget has been preserved to support a more capable system being installed in the AWD when available.

The Capability Manager has agreed to use part of the quarantined funds to accelerate technical feasibility and early development of an indigenous Electronic Attack system by another Program for potential use in the Hobart Class and other Navy vessels.

Note

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

1.3 Project Context

Background

In May 2005 the Government granted first pass approval to the Program, allowing commencement of Phase 2, the Design phase. Phase 2 oversaw the development of two platform designs:

- The 'Existing' design based upon a modified version of the Navantia designed and built F-100 warship as the Australianised military off-the-shelf option; and
- The 'Evolved' design produced by Gibbs & Cox developed from an in-house design utilising design features of the US Navy class of Aegis Guided Missile Destroyers.

In May 2005, the Government selected ASC AWD Shipbuilder Pty Ltd as the shipbuilder for the AWD Program and determined that the ships should be built in Adelaide. Raytheon Australia Pty Ltd was chosen as the Combat System Systems Engineer.

In October 2005, Defence sought and received Government approval to acquire three Aegis Weapon Systems to provide the core air warfare capability of the AWD. The Commonwealth subsequently entered into a United States (US) Foreign Military Sales (FMS) agreement for the acquisition of the Aegis weapons system and associated engineering services and integrated logistic support.

In June 2007, at Second Pass, the Government granted approval to commence construction of the Hobart Class AWD utilising the existing design. This decision initiated the current phase of Project SEA 4000 Phase 3, the construction phase.

Phase 3 includes detailed design, procurement, ship construction, and set to work of the Aegis Combat System and the F-100 based Platform Systems. This culminates in the delivery of three Hobart Class AWDs together with the ships support systems including initial spares and ammunition outfits, and initial crew training.

Phase 3 concludes with the delivery to the Royal Australian Navy (RAN) of the third AWD, HMAS *Sydney*.

At Second Pass, the Government approved Defence's proposal to close SEA 4000 Program Phase 2, Design, and Phase 3.1, Aegis acquisition activities, and combine the remaining Phase 2 and Phase 3.1 scope and funding with SEA 4000 Program Phase 3.

The Government announced the implementation of an AWD Reform Strategy on 4 June 2014 following an Independent Review of the AWD Program and heightened concern regarding program schedule and forecast cost increases. These concerns resulted in the Program being designated a Project of Concern in June 2014.

As part of the Reform strategy, the Commonwealth entered into agreements with both BAE Systems and Navantia to participate in the Reform Interim Phase from December 2014 until 31 July 2015.

On 22 May 2015, the Minister for Finance and the then Minister for Defence jointly released a media statement suggesting that the project will require an additional \$1.2 billion. This funding was approved in July 2015 at the expense of other Defence acquisitions.

A limited tender process was initiated on 29 May 2015 seeking proposals to either insert a managing contractor into ASC AWD Shipbuilder Pty Ltd for the remainder of the AWD build, or to further enhance ASC capability through a partnering agreement.

After completion of the Reform Interim Phase the Departments of Finance and Defence conducted a Limited Tender for Shipbuilding

Project Data Summary Sheets

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

<p>Management Services (SMS) and jointly agreed that Navantia was the preferred company to provide an experienced shipbuilding management team for insertion into ASC AWD Shipbuilder Pty Ltd.</p> <p>The Departments of Finance and Defence worked together to implement Long-Term Arrangements (LTAs) (in the form of Shipbuilding Management Services) aimed at ensuring the successful completion of the AWD Program with greater efficiency and effectiveness and consistent with international productivity levels.</p> <p>The SMS contract was signed on 5 December 2015 and is a subcontract under ASC AWD Shipbuilder Pty Ltd.</p> <p>Concurrently with the AWD build program, the AWD Transition Support Period (TSP) arrangements strategy is underway. Contract signature was achieved in December 2016 and the TSP Managing Contractor is working onsite with the Commonwealth sustainment office.</p> <p>Ship 1 was Provisionally Accepted by the Department of Defence on 16 June 2017 and Initial Materiel Release was achieved on 18 September 2017. HMAS Hobart was commissioned on 23 September 2017. After successful Combat System Ship Qualification Trials conducted in the US, Chief of Navy declared Initial Operation Capability for HMAS Hobart on 14 December 2018.</p> <p>Minister for Defence and Minister for Defence Industry announced the removal of SEA 4000 Phase 3 from the Projects of Concern list on 1 February 2018.</p> <p>Ship 2 was Provisionally Accepted by the Department of Defence on 27 July 2018. Initial Operational Release 2 was achieved on 11 October 2018. HMAS Brisbane was commissioned into the Royal Australian Navy on 27 October 2018.</p>
<p>Uniqueness</p> <p>The SEA 4000 Air Warfare Destroyer Program is currently one of Australia's largest and most technically complex Defence projects. The AWDs have been designated by the RAN as Hobart Class Guided Missile Destroyers (DDGs) and will be the RAN's first Aegis capable ships.</p> <p>The AWDs are being delivered through an Alliance based contract arrangement involving ASC AWD Shipbuilder, Raytheon Australia, and the Commonwealth, represented by Defence.</p>
<p>Contractual Framework</p> <p>The Alliance based contract arrangement was signed in October 2007. Key features of the AWD Alliance and the operations of the Alliance based contract arrangement include:</p> <ul style="list-style-type: none"> • The Alliance Industry Participants (Raytheon Australia and ASC AWD Shipbuilder) are jointly and severally responsible for the delivery of the three ships and their support system. Each party remains individually responsible for compliance with all statutory requirements. • The Alliance is neither a legal body, nor a joint venture. • The legal and commercial basis for the Alliance is established through the Alliance Based Target Incentive Agreement (ABTIA) contract signed by all three participants. This establishes a virtual organisation under the governance of the AWD Alliance Board. <p>The Commonwealth entered into a Platform System Design contract with Navantia, the ship designer, in October 2007. This contract is managed by the AWD Alliance under the Alliance based contract arrangement.</p> <p>The Aegis combat system is being procured by the Commonwealth under the FMS agreement with the US Navy. This agreement is also managed within the AWD Alliance project team.</p> <p>While Navantia and the US Navy (and its equipment supplier, Lockheed Martin) are not part of the Alliance, they work closely with the Alliance and are treated in an alliance like manner.</p>
<p>Major Risks and Issues</p> <p>The major challenges the project faces are:</p> <ul style="list-style-type: none"> • Completing the integration of the sonar system into the Hobart Class Combat System; • Managing non-conformances and regulatory compliance to ensure acceptance of the capability; • Providing support to DDG SPO and Maritime Services Division in maintaining the Hobart Class; • Potential costs of remediating issues discovered during Combat System Ship Qualification Trials for Ships 2 and 3; • Supporting the shipbuilding workforce as it transitions to ASC Shipbuilding; and • Ensuring knowledge and skills are retained as AWD Program Management Office transitions to Naval Construction Branch.
<p>Other Current Related Projects/Phases</p> <p>SEA 4000 Phase 3.2 – Standard Missile SM-2 Missile conversion and upgrade. The conversion of the missiles will allow them to be used in the AWDs and provide an enhanced anti-aircraft and anti-ship missile defence capability. This project is managed by Joint Systems Division within Defence.</p> <p>SEA 4000 Phase 3.3 – This project is to deliver a tailored 20 week United States Navy (USN) Combat System Sea Qualification Trials (CSSQT) activity for each of the three AWDs. The project is to deliver the services component of the Hobart Class CSSQT which requires use of USN range facilities, analysis and assets. The USN CSSQT is a component of the SEA 4000 Operational Test and Evaluation program being executed by the Royal Australian Navy.</p> <p>AIR 9000 Phase 8 – This project is to fund modifications of the Hobart Class for interoperability with the MH-60R Seahawk 'Romeo' helicopter. Ship modifications to HMA Ships Hobart and Brisbane will be completed in-service, while modifications to Ship 3 Sydney will be completed during the build program and before delivery to Navy.</p>
<p>Notes</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			
Jun 07	Original Approved (Second Pass Approval)	7,207.4	
Jan 14	Real Variation – Transfer	(109.9)	1
Sep 15	Real Variation – Real Cost Increase	1,199.5	2
		1,089.6	
Jul 10	Price Indexation	1,173.2	3
Jun 19	Exchange Variation	(366.5)	
Jun 19	Total Budget	9,103.7	
Project Expenditure			
Prior to Jul 18	Contract Expenditure – AWD Alliance	(5,603.5)	
	Contract Expenditure – US Government	(1,172.3)	
	Contract Expenditure – Navantia	(437.4)	
	Contract Expenditure – NATO Consortium	(72.4)	
	Other Contract Payments / Internal Expenses	(300.8)	4
		(7,586.4)	
FY to Jun 19	Contract Expenditure – AWD Alliance	(121.9)	
	Contract Expenditure – US Government	(24.5)	
	Contract Expenditure – Navantia	(6.7)	
	Other Contract Payments / Internal Expenses	(45.8)	4-5
		(198.9)	
Jun 19	Total Expenditure	(7,785.3)	
Jun 19	Remaining Budget	(1,318.4)	
Notes			
1	In January 2014, a real cost decrease was approved to transfer project funds to Defence Estate and Infrastructure Group which has responsibility for AWD facilities related deliverables.		
2	In September 2015, following advice and approval from Government in July 2015, a revised Budget Approval Notice was provided authorising the Real Cost Increase to the AWD Budget. Included in the RCI was an estimated \$167.0m to cover indexation costs.		
3	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was \$854.8m. In addition to this amount, the impact on the project budget as a result of out-turning was a further \$318.4m having been applied to the remaining life of the project.		
4	Other Contract Payments/Internal Expenses budget comprises: Operating, minor contract and other capital items not attributable to the listed contracts.		
5	Other Contract Payments/Internal Expenses expenditure comprises: Contractors (\$25.4m), Staff costs (\$5.7m) and other minor expenditure not attributable to the listed contracts (\$14.7m).		

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
375.9	226.2	226.6	PBS-PAES: The variation is due to reprogramming Project costs to align with anticipated expenditure as a result of outcomes achieved as part of the AWD Reform. The majority of the reductions have been rephrased in financial years 2021/22 and 2022/23. PAES-Final Plan: The variation relates to an update of budget exchange rates from 2018-19 MYEFO to 2019-20 PBS.
Variance \$m	(149.7)	0.4	Total Variance (\$m): (149.7)
Variance %	(39.8)	0.2	Total Variance (%): (39.8)

Project Data Summary Sheets

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

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
		(27.2)	Australian Industry	The AWD SEA 4000 Phase 3 Program was underspent by \$27.692 against the approved budget in FY 2018/19. The underspend variation is due to the Defence Finance Group deferring June 2019 payments of the AWD invoices and paying them in July 2019.
		(13.7)	Foreign Industry	
			Early Processes	
		(11.0)	Defence Processes	
		24.2	Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	
			Additional Government Approvals	
226.6	198.9	(27.7)	Total Variance	
		(12.2)	% Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature \$m	30 Jun 2019 \$m			
US Government	Oct 05	842.7	1,102.2	FMS	FMS	1, 2
AWD Alliance (ABTIA)	Oct 07	4,323.1	7,160.3	Variable with Pain/Gain Share	Alliance	3
Navantia (PSD)	Oct 07	373.6	603.2	Fixed with indices escalation	Alliance based	3
NATO Consortium	Dec 09	78.5	72.4	FMS (NATO)	FMS (NATO)	2
Notes						
1	The FMS Case established pre-Second Pass involved three contractual steps (initial version and two amendments); October 2005 for initial engineering services, April 2006 for long lead items and July 2006 for three ship sets of core Aegis Combat System Equipment. The resulting scope was in accordance with Government approval of SEA 4000 Phase 3.1. Post-Second Pass, there have been five further amendments to the FMS Case for additional equipment and services for both the AWD Program and the AWD Alliance. These amendments are in accordance with Government approval at Second Pass for the full scope of SEA 4000 Phase 3. The Price at Signature excludes \$167.5m spent in previous phases of the project. The Price at 30 June 2019 includes an increase of USD \$20m as per Amendment 10 of the LOA and excludes a current Alliance cost of \$208.2m for the purchase of FMS equipment to be supplied under the ABTIA contract.					
2	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).					
3	As a result of the AWD Reform Strategy, the AWD Alliance (ABTIA) and Navantia (Platform System Design) contracts were renegotiated and new contracts signed in December 2015. The price is the value as per the new contract in out turned dollars (as at June 2019) using the Commonwealth cumulative escalation indices and includes ABTIA Direct Project Costs, Target Fee, Procurement Fee and the Shipbuilding Management Services costs.					
Contractor	Quantities as at		Scope	Notes		
	Signature	30 Jun 19				
US Government	3	3	Aegis Combat System			
AWD Alliance	3	3	Air Warfare Destroyer			
Navantia	N/A	N/A	Platform System Design and Services			
NATO Consortium	Classified	Classified	Evolved Sea Sparrow Missiles (ESSM)	1		
Major equipment received and quantities to 30 Jun 19						
Ship 1, HMAS <i>Hobart</i> , was provisionally accepted by Defence in June 2017. Ship 2, HMAS <i>Brisbane</i>, was provisionally accepted in July 2018. The Aegis Combat System for all three ships has been delivered. All ESSM procurement have been receipted and finalised by Maritime Explosive Ordnance Branch within Joint System Division (CASG).						
Notes						
1	Quantity being acquired is classified.					

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	AWD Program	Mar 08	N/A	Apr 08	1	
Preliminary Design	AWD Program	Dec 08	N/A	Feb 09	0	1
Critical Design	AWD Program	Dec 09	N/A	Feb 10	0	2
Support System Detailed Design Review	AWD Program	Jun 10	N/A	Aug 10	0	3
Notes						
1	The Preliminary Design Review (PDR) was conducted as scheduled in December 2008 and resulting actions completed as scheduled by February 2009.					
2	The Critical Design Review (CDR) was conducted as scheduled in December 2009 and resulting actions completed as scheduled by February 2010.					
3	The Support System Detailed Design Review (SSDDR) was conducted as scheduled in June 2010 and resulting actions completed August 2010.					

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	Ship 1 – Complete Hull Integration	Dec 12	Mar 14	Mar 14	15	1, 3
	Ship 1 – Start Combat System Light Off	Dec 13	Nov 15	Nov 15	23	2, 3, 4
	Ship 2 – Complete Hull Integration	Mar 14	Dec 15	Dec 15	21	3, 4
	Ship 2 – Start Combat System Light Off	Mar 15	Apr 17	Apr 17	25	3, 4
	Ship 3 – Complete Hull Integration	Jun 15	Aug 17	Jul 17	25	3, 4
Acceptance	Ship 3 – Start Combat System Light Off	Jun 16	Sep 18	Sep 18	27	3, 4
	Ship 1 – Commencement of Category 5 Trials	Aug 14	Sep 16	Jan 17	29	3, 4
	Ship 1 – Provisional Acceptance	Dec 14	Jun 17	Jun 17	30	3, 4, 5
	Ship 2 – Commencement of Category 5 Trials	Nov 15	Dec 17	Mar 18	28	3, 4
	Ship 2 – Provisional Acceptance (Materiel Release 2)	Mar 16	Jul 18	Jul 18	28	3, 4, 6
	Ship 3 – Commencement of Category 5 Trials	Feb 17	Oct 19	Oct 19	32	3, 4, 7
	Ship 3 – Provisional Acceptance (Materiel Release 3)	Jun 17	Feb 20	Feb 20	32	3, 4, 8
Notes						
1	Complete Hull Integration was achieved when the last erection joint was completed and has been structurally inspected and accepted.					
2	Start Combat System Light Off verified the readiness of the first set of installed combat system equipment for CAT 4 testing.					
3	In 2010 difficulties were encountered in relation to the engineering and construction of some of the first AWD hull blocks. This resulted in the reallocation of block work between BAE, Forgacs and Navantia and a revision to the delivery schedule. On 6 September 2012, the then Minister for Defence announced, that the AWD schedule would be re-baselined and that the revised AWD delivery dates would be March 2016, September 2017, and March 2019.					
4	In May 2015, following a Comprehensive Cost Review conducted by the AWD Alliance held in February, the then Minister for Defence announced that the delivery schedule had been changed to June 2017, September 2018 and March 2020 respectively. With the introduction by Navantia of an expert shipbuilding management team into the shipyard as part of the AWD Reform Long Term Arrangements for the AWD Reform, the delivery schedule for Ships 2 and 3 was brought forward by up to three months from prior schedule extension.					
5	Ship 1 Provisional Acceptance was achieved on 16 June 2017, followed by Initial Materiel Release (IMR) in September 2017.					
6	Ship 2 Provisional Acceptance was achieved on 5 July 2018, followed by Initial Operational Release 2 (IOR2) in October 2018.					
7	Docking required to investigate and repair shaft vibration has delayed Ship 3 Category 5 sea trials by three months.					
8	Chief of Navy has approved the AWD Alliance to conduct the AIR 9000 upgrade program on Ship 3. Provisional Acceptance moves from December 2019 to February 2020.					

Project Data Summary Sheets

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

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Dec 14	Sept 17	33	1, and see also Note 3 and 4 above
Initial Operational Capability (IOC)	Dec 15	Dec 18	36	1, and see also Note 3 and 4 above
Final Materiel Release (FMR)	Dec 17	Mar 20	27	2
Final Operational Capability (FOC)	May 18	Jun 21	37	2, 3
Notes				
1	The IMR, FMR and FOC dates have been reviewed and have been approved with the release of a revised Materiel Acquisition Agreement 2.0 in March 2018. Variances are directly attributable to the revised AWD delivery dates that were agreed as a result of the AWD reform strategy.			
2	Incorporation of AIR 9000 Aviation Upgrade Program scope in Ship 3 causes Provisional Acceptance to move from December 2019 to February 2020, and FMR from January 2020 to March 2020.			
3	Declaration of FOC by Chief of Navy will occur after Combat System Ship Qualification Trials.			
Schedule Status at 30 June 2019				
<p>The Gantt chart displays three horizontal bars representing different schedule plans. The x-axis represents time from June 2006 to June 2021. The legend identifies key milestones: Approval (grey), IMR (blue), IOC (green), FMR (orange), and FOC (red). The top bar, 'Schedule Plan at Government Approval', shows a long grey bar for approval, followed by a blue bar for IMR, a green bar for IOC, and a red bar for FOC. The middle bar, 'IMR/FMR introduced in FY 2010-11', shows a shorter grey bar, followed by a blue bar for IMR, an orange bar for FMR, and a red bar for FOC. The bottom bar, 'Schedule Plan at 30 June 2019', shows a very short grey bar, followed by a blue bar for IMR, a green bar for IOC, an orange bar for FMR, and a red bar for FOC.</p>				
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>99%</p>	<p>Green: The Program is currently meeting materiel capability requirements, other than Radar – Electronic Attack, as expressed in the suite of Capability Definition Documentation and in accordance with the requirements of the relevant Technical Regulatory Authorities.</p> <p>Amber: N/A</p> <p>Red: This project will not deliver a Radar - Electronic Attack capability. Funding will be used to help develop an indigenous Electronic Attack system for use in the Hobart Class and other Navy vessels.</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)	One Hobart Class Ship System with up to Category 5 (sea acceptance) trials, testing and certification completed. Initial sustainment arrangements in place to support IOC. Training of the Hobart Class Systems for the commissioning crew to support IOC. IMR was achieved in September 2017.	Achieved.
Initial Operational Capability (IOC)	Ship 1 Hobart can be employed operationally, realised on attainment of all capability release milestones. Completion of Navy Operational Test and Evaluation. Compliance with the Operational Concept Document. Completion of Combat System Ship Qualification Trials, and the declaration that all Fundamental Inputs to Capability have been delivered. IOC was achieved in December 2018.	Achieved.
Final Materiel Release (FMR)	All three Hobart Class Ship Systems with up to Category 5 (sea acceptance) trials, testing and certification completed. Combat System Through Life Support Facility delivered and ready for support. Training on the Hobart Class systems for the commissioning of crew 3. All sustainment arrangements in place to provide materiel support to the Hobart Class. FMR is expected to be achieved in March 2020 .	Not yet achieved.
Final Operational Capability (FOC)	Ships 01, 02 and 03 are assessed as capable of sustainably performing all the requirements detailed in the Operational Concept Document. FOC is expected to be achieved in June 2021.	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
1. There is a chance that the Integrated Sonar System Sonar will be affected by design issues leading to an impact on capability.	Issues with the Integrated Sonar System during Ship 2 sea trials have led to equipment being returned to the supplier for redesign and upgrade. After testing, this should be ready for installation on Ships 1 and 2 in mid-2019. If successful, full power testing to be conducted during Ship 3 sea trials should support final verification of sonar system performance.
2. Capability Acceptance: Certification requirements are unclear for some equipment, and treatment of non-conformances could delay ship acceptance.	The Alliance has put in place a Quality Assurance process to manage non-conformances, and a Project Certification Plan has been agreed with the RAN. Risk has been reduced with the successful acceptance of Ship 1 and Ship 2, but there remains risk to the timely acceptance of Ship 3.
Emergent Risks (risk not previously identified but has emerged during 2018-19)	
Description	Remedial Action
3. Requirement to remediate non-conformances on Ships 2 and 3 post Combat System Ship Qualification Trials.	The Program will provide support if problems are discovered during upcoming Trials.
4. Increased costs of worker redundancies as period of obligation increased, with Government mandated sale of ASC Shipbuilding to BAE Systems.	With the closure of the AWD program and transfer of workforce to AWD Shipbuilding, the Program is providing support for compensation and redundancy programs.

5.2 Major Project Issues

Description	Remedial Action
1. The delivery of FMS elements of the AWD supplies may not be possible, or may be delayed or compromised in integrity, due to the budget for FMS Engineering and Technical Assistance (ETA) not being sufficient.	After successful completion of Combat System Sea Trials on HMAS Hobart this issue has been retired. Any future deliveries of FMS equipment is now managed by the Combat Management and Payload System in Ships Division, in CASG.

Project Data Summary Sheets

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

<p>2. Change Management: Change introduced to the existing platform design as a result of:</p> <ul style="list-style-type: none"> • Legislative or regulatory requirements, • Safety requirements, and • Equipment obsolescence, and • Interrelated projects (e.g. AIR9000) <p>Will impact cost and possibly schedule. Severity of the cost and schedule impacts to the Commonwealth will be dependent on the scope and timing of the change implementation relative to Ship completion.</p>	<p>This issue has now been retired. The AWD Safety Case has been approved, and two AWDs have been accepted, with the third ship due for Acceptance in February 2020, following the successful introduction of the AIR 9000 Aviation Upgrade program.</p>
<p>3. Maintenance of the Hobart Class ships is expected to be disrupted with the upcoming closure of the AWD program, with issues relating to sparing, data transfer, and the incorporation of engineering change post Acceptance.</p>	<p>The AWD project is providing support to mitigate issues not resolved during the set-up and management of the DDG SPO, to maintain operational readiness days.</p>
<p>4. Loss of skills and expertise as the AWD program closes.</p>	<p>Support is being provided to maintain shipbuilding knowledge base as the AWD Program Office transitions to Naval Construction Branch to manage naval construction programs.</p>
<p>Note</p>	
<p>Major risks and issues in Section 5 are excluded from the scope of the review.</p>	

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	9	9	9	8	9	8	9	61																																																			
	Explanation	<ul style="list-style-type: none"> • Schedule: Reflects that the project has achieved Initial Materiel Release and Materiel Release 2. Ship 3 Provisional Acceptance is on track for February 2020. The project is confident of achieving Final Materiel Release on schedule. • Cost: Reflects that the project is on track to deliver within the approved budget with remaining contingency. • Requirement: Reflects that Ships 1 and 2 have been commissioned into service by Navy, and Ship 3 is on track for Category 5 Sea Trials in October 2019 and Provisional Acceptance in February 2020. 																																																										
<p>The graph illustrates the Project Maturity Score over time. The x-axis represents project stages, and the y-axis represents the maturity score from 0 to 70. A red vertical line indicates the 2018-19 MPR Status at a score of 60. The score increases steadily from 13 in 2017-18 to 70 in 2018-19.</p> <table border="1"> <caption>Project Maturity Score Data</caption> <thead> <tr> <th>Project Stage</th> <th>2017-18 MPR Status</th> <th>2018-19 MPR Status</th> </tr> </thead> <tbody> <tr><td>Enter DCP</td><td>13</td><td></td></tr> <tr><td>Decide Viable Capability Options</td><td>16</td><td></td></tr> <tr><td>1st Pass Approval</td><td>21</td><td></td></tr> <tr><td>Industry Proposals / Offers</td><td>30</td><td></td></tr> <tr><td>2nd Pass Approval</td><td>35</td><td></td></tr> <tr><td>Contract Signature</td><td>42</td><td></td></tr> <tr><td>Preliminary Design Review(s)</td><td>45</td><td></td></tr> <tr><td>Detailed Design Review(s)</td><td>50</td><td></td></tr> <tr><td>Complete Sys. Integ. & Test</td><td>55</td><td></td></tr> <tr><td>Complete Acceptance Testing</td><td>57</td><td></td></tr> <tr><td>Initial Materiel Release (IMR)</td><td>60</td><td>60</td></tr> <tr><td>Final Materiel Release (FMR)</td><td>63</td><td>63</td></tr> <tr><td>Final Contract Acceptance</td><td>65</td><td>65</td></tr> <tr><td>MAA Closure</td><td>66</td><td>66</td></tr> <tr><td>Acceptance Into Service</td><td>67</td><td>67</td></tr> <tr><td>Project Completion</td><td>70</td><td>70</td></tr> </tbody> </table>										Project Stage	2017-18 MPR Status	2018-19 MPR Status	Enter DCP	13		Decide Viable Capability Options	16		1st Pass Approval	21		Industry Proposals / Offers	30		2nd Pass Approval	35		Contract Signature	42		Preliminary Design Review(s)	45		Detailed Design Review(s)	50		Complete Sys. Integ. & Test	55		Complete Acceptance Testing	57		Initial Materiel Release (IMR)	60	60	Final Materiel Release (FMR)	63	63	Final Contract Acceptance	65	65	MAA Closure	66	66	Acceptance Into Service	67	67	Project Completion	70	70
Project Stage	2017-18 MPR Status	2018-19 MPR Status																																																										
Enter DCP	13																																																											
Decide Viable Capability Options	16																																																											
1st Pass Approval	21																																																											
Industry Proposals / Offers	30																																																											
2nd Pass Approval	35																																																											
Contract Signature	42																																																											
Preliminary Design Review(s)	45																																																											
Detailed Design Review(s)	50																																																											
Complete Sys. Integ. & Test	55																																																											
Complete Acceptance Testing	57																																																											
Initial Materiel Release (IMR)	60	60																																																										
Final Materiel Release (FMR)	63	63																																																										
Final Contract Acceptance	65	65																																																										
MAA Closure	66	66																																																										
Acceptance Into Service	67	67																																																										
Project Completion	70	70																																																										

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Description	Categories of Systemic Lessons
The AWD Reform has been successful and the key reason is due to implementing an experienced Management Team into the Shipbuilding Program who have previously built and designed the ship. First of Class ship build programs should have this support when building the first ship, allowing the local Australian workforce to be better prepared and trained to build the remaining ships.	Governance
The Hobart Class Combat System operation and performance has been proven on HMAS <i>Hobart</i> and NUSHIP <i>Brisbane</i> through acceptance tests at sea. The first-time success of this complex integration is due to thorough design and architecture early in project, along with the extensive use of on-shore test facilities closely replicating the ship environment. Close cooperation and regular dialogue with United States Navy colleagues were also important to ensure integration with the AEGIS weapon system.	Contract Management

Project Data Summary Sheets

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

The interpretation of the requirements of fitness for purpose of drawings is different between contracting parties. A review of all product types prior to contract and interrogation of the delivery schedule to confirm sufficient time for reviews and incorporation of comments is necessary.	Contract Management
The shipbuilding capacity of shipyards involved in a project like AWD needs to be assessed in detail in terms of precise capacity to undertake production engineering as well as the workload constraints of facilities, production supervision and overall workforce numbers taking into consideration the total contracts conducted at the shipyard in parallel.	Resourcing First of Type Equipment
The schedule that plans the transition from design to production needs detailed evaluation by the designer(s) and the production shipyard(s) to ensure the balance between commencing production and completing very detailed design is appropriately balanced and agreed.	Schedule Management

Section 8 – Project Line Management

8.1 Project Line Management as at 30 June 2019

Position	Name
Division Head	Ms Sheryl Lutz
Program Manager	CDRE Steven Tiffen, RAN
Deputy Program Manager	Mr Greg McPherson

