

Project Data Summary Sheet¹⁶⁴

Project Number	SEA 1448 Phase 4B
Project Name	ANZAC AIR SEARCH RADAR REPLACEMENT
First Year Reported in the MPR	2018-19
Capability Type	Replacement
Acquisition Type	Developmental
Capability Manager	Chief of Navy
Government 1st Pass Approval	Mar 15
Government 2nd Pass Approval	Jun 17
Budget at 2nd Pass Approval	\$427.8m
Total Approved Budget (Current)	\$428.7m
2018-19 Budget	\$74.7m
Project Stage	Integration and Test
Complexity	ACAT II



Section 1 – Project Summary

1.1 Project Description

SEA1448 Phase 4B is replacing the SPS-49(V)8 Air Search Radar on the 8 Anzac class frigates with a modern digital Long Range Air Search Radar. The project will also replace the existing Identification Friend or Foe (IFF) system with a new system. By replacing the existing air search radar and IFF system, the project will deliver an integrated and supportable modern Long Range Air Search Capability (LRASC) into the Anzac Class Frigates

1.2 Current Status

<p>Cost Performance</p> <p><u>In-year</u></p> <p>As at 30 June 2019, the project has an underspend of \$11.1m due to a slower than expected recovery of the CEA milestones, primarily associated with the Qualification and Verification System (Q&V) and documentation delivery milestones. The schedule of the second Anzac Midlife Capability Assurance Program (AMCAP) ship, HMAS <i>Anzac</i>, has been delayed to accommodate the Navy's Reduced Activity Period and additional capability beyond original scope of AMCAP have resulted in the reprogramming of the production and delivery of subsequent CEA mission systems into FY 2019-2020.</p> <p><u>Project Financial Assurance Statement</u></p> <p>As at 30 June 2019, project SEA 1448 Phase 4B 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.</p> <p><u>Contingency Statement</u></p> <p>The Project has not applied contingency in the financial year.</p>
<p>Schedule Performance</p> <p>The project has progressed through the Design phases. The new mast was installed on the First of Class (HMAS <i>Arunta</i>) in December 2018. CEA's first mission system commenced installation on 15th March 2019 and was set to work with the support system in May 2019. Harbour Acceptance Trials (HAT's) expected to conclude in July 2019 with all reports delivered in Q3 2019.</p> <p>The SEA1448PH4B project will participate in the AMCAP Sea Acceptance Trials (SAT's) period, commencing in July 2019 and scheduled to conclude by October 2019.</p> <p>Delays in the AMCAP and rescheduling of trials has resulted in a delayed achievement of Initial Materiel Release (IMR) to December 2019.</p> <p>The Project is coordinating with CEA and the Mode 5 IFF Certification Authority to deliver Mode 5 IFF certifications for the Anzac Class. The certification timeframe will be clarified in quarter 3 2019, which may delay achievement of IMR scheduled for December 2019 and Initial Operational Capability (IOC) scheduled for June 2020.</p>

164 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.

Material Capability Delivery Performance

The first Anzac ship capability with associated support systems is scheduled for acceptance in December 2019. The second Anzac ship (HMAS *Anzac*) to be is scheduled for acceptance in Quarter 2 2020.

Note

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

1.3 Project Context

Background

SEA1448 Phase 4B was entered into the 2009 Defence Capability Plan (DCP) to replace the existing and aging ANZAC Class AN/SPS-49(V)8 Long Range Radar System with a Modern, digital Air Search Radar that complements the capabilities and functionality of the Phased Array Radar System delivered under the SEA1448 Phases 2A and 2B – Anti Ship Missile Defence (ASMD) Program. In addition, the current Identification Friend or Foe (IFF) does not support the next generation of encrypted military IFF (Mode 5) which is required to operate effectively with our Allies as deemed by Vice Chief of the Defence Force (VCDF).

In Mar 2015, at Gate 1 (previously first pass) multiple options were presented to Government, spanning Militarily-Off-The-Shelf (MOTS) and Developmental options. The MOTS solution; an upgraded variant of the AN/SPS-49(V)8 was not progressed further as it did not resolve the obsolescence issues facing the Radar.

Government did approve Defence's proposal to select CEA Technologies Pty Limited (CEA) as the sole Australian provider of Phased Array Radars (PAR) to supply a replacement long range air search radar using the developmental technology successfully installed under the SEA 1448 Phase 2A and 2B ASMD Program. This solution provided a three dimensional PAR with six fixed faces and an integrated IFF Capability. The Mission System Integrator would be undertaken by Industry Participants of the Anzac Warship Asset Management Agreement ((WAMA) (previously Anzac Ship Integration Materiel Support Program Alliance (ASIPA)).

The Project adopted the Smart Buyer Framework proceeding into Gate 2 Government Approval committees throughout the 2016-17 period. In November 2016, Government approved early access to Acquisition Phase funding, to enable the project to progress a number of time-critical activities, prior to Second Pass Approval. This allowed the project to maintain schedule and continue to effectively mitigate 2016/2017 key schedule risks (subsequently retired) that were identified during application of the Smart Buyer framework. Those activities included:

- Advanced material purchases for CEA; and
- BAE to commence Mast production.

In June 2017, at Gate 2, Government approved Defence's proposal to act as the Prime integrator for the Long Range Air Search Capability (LRASC), and that the project has overall responsibility for procuring and managing the key components that make up the final Mission System:

- A new Long Range Air Search Radar (LRASR) with integrated IFF, to be delivered by CEA;
- The integration of the LRASR and IFF system into the Anzac Platform and Combat Management System (CMS), to be delivered by the industry participants under the Anzac Warship Asset Management Agreement (WAMA); and
- Acquisition of supporting equipment (and services) under Foreign Military Sales (FMS).

Production timings and integration of the mission system(s) into the Anzac Class is driven by the AMCAP schedule, managed by the ANZAC System Program Office.

Uniqueness

The CEA technology on which SEA1448 Phase 4B is based is considered to be a Strategic Industry Capability (SIC). The acquisition of which of the PAR will ensure the RAN has regionally superior technology into the future. The IFF system will be integrated into the PAR faces. This is a world leading technological step to have IFF integrated into the PAR faces without a secondary system requirement.

Major Risks and Issues

The Major risks the project faces are:

- The achievement of introduction into service associated with integration activities;
- System certification may not be achieved by Navy's introduction into service date; and
- Navy's expectations as outlined in the Operational Concept Document and Functional Performance Specification that are unable to be confirmed until IOC.

The Major issues the project faces are:

- Contractual deliverables are impacting the forecast spend spread of the project; and
- Coordination of AIMS activities is impacting the planned certification schedule of the IFF equipment.

Other Current related Projects/Phases

SEA1448 Phase 2A/B – ANZAC Ships Anti-Ship Missile Defence upgrade provided the ANZAC Class frigates with an enhanced level of self-defence against modern anti-ship missiles and achieved Final Operating Capability before June 2019.

The deliverables being provided by SEA1448 Phase 4B have been incorporated into the overall ANZAC Midlife Capability Assurance Program (AMCAP) schedule. The ANZAC AMCAP involves a suite of upgrades to the ANZAC platform being delivered by multiple projects, of which SEA1448 Phase 4B is one. Delays or issues with other AMCAP projects can delay the schedule of SEA1448 Phase 4B.

The AMCAP projects consist of:

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SEA1448 Phase 4A – This Phase delivered a contemporary Electronic Support Measures (ESM) system under the ASMD upgrade program and is being re-installed under the SEA1448PH4B program. SEA1442 Phase 4 – This Phase will upgrade the communication capability in the eight Anzac Class Frigates and address communications system obsolescence in the Class. By modernising it with improved communication management, secure voice and tactical intercom, red/black switching, tactical radios and a high data line-of-sight capability. Anzac Platform System Remediation (PSR) program – The PSR will see the upgrade of on board systems that includes ventilation, the propulsion control system to improve power and efficiency, waste management and water production systems
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		
Oct 13	Original Approved	3.0	1
Jun 14	Real Variation – Scope	5.9	2
May 15	Government First Pass Approval	45.2	3
Jan 17	Real Variation –Scope	20.4	4
Aug 17	Government Second Pass Approval	353.3	
	Total at Second Pass Approval	<u>427.8</u>	
Jun 19	Exchange Variation	0.9	
Jun 19	Total Budget	<u>428.7</u>	
	Project Expenditure		
Prior to Jul 18	Contract Expenditure - CEA	(72.2)	5
	Contract Expenditure - WAMA	(57.1)	
	Other Contract Payments/Internal Expenses	(3.7)	
		<u>(133.0)</u>	
FY to Jun 19	Contract Expenditure - CEA	(31.3)	
	Contract Expenditure - WAMA	(29.7)	
	Other Contract Payments/Internal Expenses	(2.6)	
		<u>(63.6)</u>	
Jun 19	Total Expenditure	<u>(196.6)</u>	
Jun 19	Remaining Budget	<u>232.1</u>	

Notes

1	The project's original approved budget was the amount received for project initiation prior to Government Second Pass Approval.
2	To advance the L-Phased Array Radar Risk Reduction Program
3	Government First Pass approval to advance the progress of the risk reduction program to Gate 2.
4	Early release of funding to commence activities in advance of Gate 2 Approval.
5	Other expenses comprises FMS payments, operating expenditure and other capital expenditure not attributable to the listed contracts.

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Defence's Explanation of Material Movements
83.6	88.9	74.7	PBS - PAES: The budget variance is primarily due to payments being delayed from 2017-18 for the Air Search Radar Acquisition Contract. PAES - Final Plan: The revised cash forecast is primarily associated with reprogramming of the Air Search Radar Acquisition Contract deliverables into FY 2019-2020 to align with the AMCAP.
Variance \$m	5.3	(14.2)	Total Variance (\$m): (8.9)
Variance %	6.3	(16.0)	Total Variance (%): (10.6)%

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
		(11.1)	Australian Industry	
			Foreign Industry	
			Early Processes	
			Defence Processes	
			Foreign Government Negotiations/Payments	
			Cost Saving	
			Effort in Support of Operations	

74.7	63.6	(11.1)	Additional Government Approvals	Delivery and installation of the First of Class (FOC) Mission System into HMAS Arunta occurred as scheduled in early 2019. The revised delivery forecast for the second CEA Mission system was agreed through the Project Executive Board that resulted in the reprogramming of the production and delivery of subsequent CEA mission systems into FY 2019-2020 resulting in the variation.
			Total Variance	
		(14.9)	% 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			
CEA	Sept 17	166.6	164.6	Fixed with indices escalation	ASDEFCON Strategic	1,2
WAMA	Aug 17	136.1	137.9	Variable with Pain/Gain Share	Alliance	2,3
Notes						
1	SEA1448 Phase 4B contract execution date is official order under the Head Contract DMO/ESD/00297/2013 Standing Offer for Phased Array Radar Development Services, executed 30 Oct 2013. CCP01 reduced the contract price by removing the performance security as the technology had been demonstrated.					
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	WAMA consists of Commonwealth of Australia, BAE Systems Maritime Australia (BAE), Saab Australia Pty Ltd (Saab) and Naval Ship Management Pty Ltd (NSM). The primary Industry Partners for SEA 1448 Phase 4B tasking is BAE and Saab.					
Contractor	Quantities as at		Scope	Notes		
	Signature	30 Jun 19				
CEA	1	1	Qualification and Verification System			
	8	8	Mission System Ship Sets			
	2	2	Depot Spare Systems			
	1	8	Training Simulators	1		
WAMA	8	8	Mast, Ship Systems and integration			
	8	8	Combat Management System (CMS) upgrades and integration			
	0	8	Combat System simulator training integration	1		
Major equipment received and quantities to 30 Jun 19						
First of Class mast was installed on HMAS Arunta 30 November 2018. As of 30 June 2019, integration, set to work and harbour acceptance trials of CEA's Mission System Ship Set One (1) and the WAMA led support systems have concluded. Sea acceptance trials are forecast to complete by October 2019.						
Notes						
1	The WAMA scope was modified for the production of a Combat System Simulator Training solution, with a subsequent CEA contract change proposal to modify the number of training simulators from (1) to (8) to support the solution.					

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	CEA Radar System Performance Specification	N/A	N/A	25 Aug 2017	N/A	
Preliminary Design	Mast	N/A	N/A	Apr 17	N/A	1
	Platform	N/A	N/A	Sep 17	N/A	1
	Whole of Ship	N/A	N/A	Nov 17	N/A	1
Critical Design	Mast	N/A	N/A	Sep 17	N/A	1
	Platform	N/A	N/A	Jun 18	N/A	1
	Whole of Ship	N/A	N/A	Jun 18	N/A	1
Notes						
1	Original Planned dates for completion of Preliminary and Critical Design activities not disclosed within the Integrated Master Schedule as these dates were determined prior to Second Pass Approval.					

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 – CAT1 (Factory Acceptance Testing)	Nov 18	N/A	Apr 19	5	1
	Ship 1 – CAT2 (Environmental Qualifications) and CAT3 (Integration)	Jan 19	Aug 19	Aug 19	7	2,3

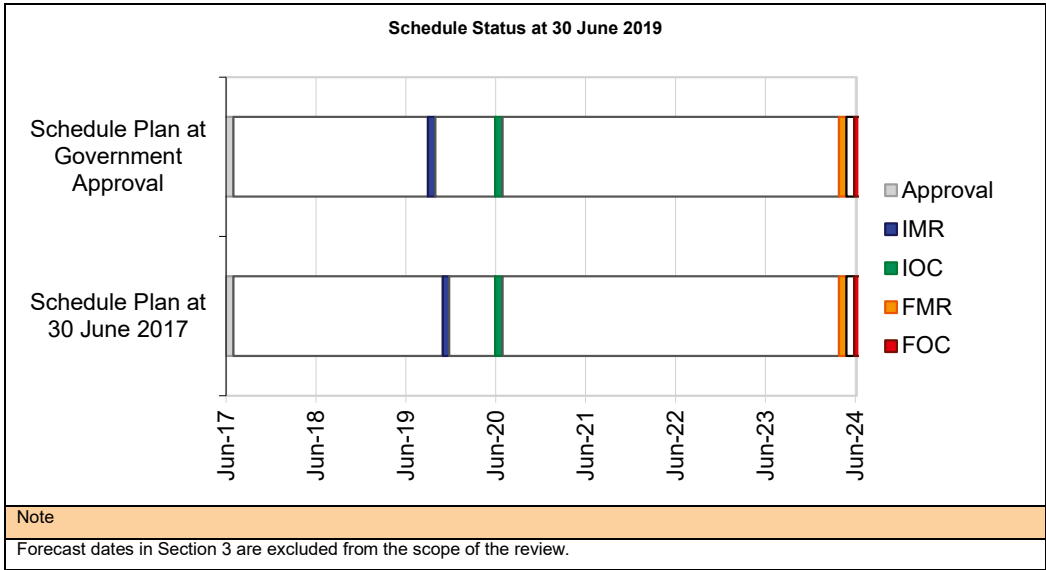
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	Ship 1 – CAT4 (Harbour Acceptance Trials)	Feb 19	N/A	Aug 19	6	4,5
	Ship 2 – CAT4 (Harbour Acceptance Trials)	Aug 19	N/A	TBC	N/A	6
	Ship 3 – CAT4 (Harbour Acceptance Trials)	Jul 20	N/A	TBC	N/A	6
	Ship 4 – CAT4 (Harbour Acceptance Trials)	Dec 20	N/A	TBC	N/A	6
	Ship 5 – CAT4 (Harbour Acceptance Trials)	Nov 21	N/A	TBC	N/A	6
	Ship 6 – CAT4 (Harbour Acceptance Trials)	May 22	N/A	TBC	N/A	6
	Ship 7 – CAT4 (Harbour Acceptance Trials)	Feb 23	N/A	TBC	N/A	6
	Ship 8 – CAT4 (Harbour Acceptance Trials)	Aug 23	N/A	TBC	N/A	6
Acceptance	Ship 1 – CAT5 (Sea Acceptance Trials)	Sep 19	N/A	Dec 19	3	4
	Ship 2 – CAT5 (Sea Acceptance Trials)	May 20	N/A	TBC	N/A	6
	Ship 3 – CAT5 (Sea Acceptance Trials)	Feb 21	N/A	TBC	N/A	6
	Ship 4 – CAT5 (Sea Acceptance Trials)	Sep 21	N/A	TBC	N/A	6
	Ship 5 – CAT5 (Sea Acceptance Trials)	Jun 22	N/A	TBC	N/A	6
	Ship 6 – CAT5 (Sea Acceptance Trials)	Dec 22	N/A	TBC	N/A	6
	Ship 7 – CAT5 (Sea Acceptance Trials)	Oct 23	N/A	TBC	N/A	6
	Ship 8 – CAT5 (Sea Acceptance Trials)	Apr 24	N/A	TBC	N/A	6
Notes						
1	A manufacturing delay with CEA resulted in the Factory Acceptance Testing from November to December 2018. Test Reports were accepted in April 2019.					
2	CEA Contract Change Proposal approved the delay in which CEA are to obtain Environmental Qualification for the LRASR. The WAMA have yet to achieve full Environmental Qualification for the Support Systems. The projects expects acceptance shall occur by August 2019.					
3	CAT 3 integration activities were completed in May 2019. Acceptance of CAT 3 reports will occur in quarter 3, 2019.					
4	Delays in the AMCAP Schedule for Ship 1 has resulted in delays to CAT 4 and CAT 5.					
5	CAT4 testing was undertaken in June 2019, with acceptance of the test reports expected to occur quarter 3, 2019.					
6	CAT 4 and CAT 5 dates, after Ship 1, are not disclosed in the AMCAP Schedule. These dates will be refined over the course of the project as the ships enters the availability period.					

3.3 Progress toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Oct 19	Dec 19	2	1
Initial Operational Capability (IOC)	Jun 20	Jun 20	0	
Final Materiel Release (FMR)	Apr 24	Apr 24	0	
Final Operational Capability (FOC)	Jun 24	Jun 24	0	
Notes				
1	Due to additional time needed during HMAS Arunta maintenance period and the need to re-program of Sea Trials Initial Materiel Release (IMR) is expected to occur in December 2019.			



Section 4 – Materiel Capability Delivery Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance	
	Green: The project expects to meet capability requirements as expressed in the Joint Project Directive and Materiel Acquisition Agreement.
	Amber: N/A
	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.</p>	

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	Integration of one (1) Air Search Radar and IFF System into the first Anzac Class Frigate, including installation of a new aft-mast and reinstallation of all extant systems. Delivery of on-board spares and training packages. Establishment of Initial Support Contracts for both Radar and Integration. Achievement of IMR is expected in December 2019.	Not Yet Achieved

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Initial Operational Capability (IOC)	Installation of equipment onto one Anzac ship, development of operator and maintainer training package and initial package completed, tactical doctrine updated, completion of acceptance trials on the first ship completed, and the logistics support arrangements in place. Achievement of IOCs expected in June 2020.	Not Yet Achieved
Final Materiel Release (FMR)	Integration of one (1) Air Search Radar and IFF System into the final Anzac Class Frigate. Delivery of all outstanding logistic documentation. Delivery of a Support system. Final delivery of on-board spares and depot spares. Achievement of FMR is expected in April 2024.	Not Yet Achieved
Final Operational Capability (FOC)	Installation of equipment onto all Anzac class is complete, training facilities have been set to work, operator and maintainer trainer is in a steady state, tactical doctrine is mature, full logistics support arrangements are in place, establishment and other Fundamental Inputs to Capability arrangements are complete. Achievement of FOC is expected in June 2024.	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 SEA1448 Phase 4B project may not meet Navy's forecast date for introduction into service for the first of class (HMAS Arunta) as a result of contracted deliverables, integration activities or external project dependencies.	Permission has been sought for major work and long lead time items to be brought forward for first of class. Regular engagement with Industry Partners including periodic status reports, quarterly progress reviews, and executive meetings to determine compliance with contractual obligations.
There is a chance that the first of class system certifications may not be achieved by Navy's introduction into service date requiring additional testing to achieve agreed level of seaworthiness.	Safety will need to be demonstrated and Certified prior to release for implementation onto the ship.
There is a chance that Navy's expectations as outlined in the OCD and FPS will not match the delivered capability.	Follow on activities may occur on the 2nd ship to rectify any identified shortfalls. This risk will remain until acceptance for FOC.
Emergent Risks (risk not previously identified but has emerged during 2018-19)	
Description	Remedial Action
There is a risk that Certification for the IFF interrogator may not be achieved in time to meet the IOC date (June 2020) due to the readiness of CEA and the availability of the Mode IFF Certification Authority (AIMS) to witness testing.	Regular liaison activities with the US Air Traffic Control Radar Beacon System Identification Friend or Foe Mark XIIA electronic identification System (AIMS) Program Office (PO)

5.2 Major Project Issues

Description	Remedial Action
Contractual deliverables are impacting the forecast spend spread of the project.	Array faces have been required to undertake minor hardware design changes that have impacted schedule. PO has agreed to the re-prioritisation of some deliverables to focus on ship integration activities.
Coordination of AIMS activities is impacting the planned certification schedule of the IFF equipment.	Coordination between ship integration activities and the AIMS test program is ongoing. Current schedule allows for certification to be achieved prior to IOC.
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	8	7	8	8	8	8	8	55																																		
Complete System Integration and Test	Project Status	6	7	8	8	8	7	8	52																																		
	Explanation	<ul style="list-style-type: none"> Schedule: The achievement of Mode 5 IFF Certification timeframe is expected to be clarified in quarter 3 2019. This may result in a revision to the Materiel Acquisition Agreement due to the impact on achievement of IMR and IOC. Commercial: The project has been experiencing a slower than expected recovery of CEA contract milestones. Delays in the AMCAP have also had a commensurate impact on CEA. 																																									
<p>2018-19 CASG MPR Status - - - -</p> <table border="1"> <caption>Project Maturity Score Data</caption> <thead> <tr> <th>Project Stage</th> <th>Maturity Score</th> </tr> </thead> <tbody> <tr><td>Enter DCP</td><td>13</td></tr> <tr><td>Decide Viable Capability Options</td><td>16</td></tr> <tr><td>1st Pass Approval</td><td>21</td></tr> <tr><td>Industry Proposals / Offers</td><td>30</td></tr> <tr><td>2nd Pass Approval</td><td>35</td></tr> <tr><td>Contract Signature</td><td>42</td></tr> <tr><td>Preliminary Design Review(s)</td><td>45</td></tr> <tr><td>Detailed Design Review(s)</td><td>50</td></tr> <tr><td>Complete Sys. Integ. & Test</td><td>56</td></tr> <tr><td>Complete Acceptance Testing</td><td>57</td></tr> <tr><td>Initial Materiel Release (IMR)</td><td>60</td></tr> <tr><td>Final Materiel Release (FMR)</td><td>63</td></tr> <tr><td>Final Contract Acceptance</td><td>65</td></tr> <tr><td>MMA Closure</td><td>66</td></tr> <tr><td>Acceptance Into Service</td><td>67</td></tr> <tr><td>Project Completion</td><td>70</td></tr> </tbody> </table>										Project Stage	Maturity Score	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	56	Complete Acceptance Testing	57	Initial Materiel Release (IMR)	60	Final Materiel Release (FMR)	63	Final Contract Acceptance	65	MMA Closure	66	Acceptance Into Service	67	Project Completion	70
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Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
N/A	N/A

Section 8 – Project Line Management

8.1 Project Line Management as at 30 June 2019

Position	Name
Division Head	Mrs Sheryl Lutz
Branch Head	CDRE Darron Kavanagh, RAN
Project Director	CAPT Mark Bailey, RAN
Project Manager	Ms Susan Egan

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