Project Data Summary Sheet[1]

Project Number	**LAND19 Phase 7B**
Project Name	**SHORT RANGE GROUND BASED AIR DEFENCE**
First Year Reported in the MPR	2020-21
Capability Type	Replacement
Capability Manager	Chief of Army
Government 1st Pass Approval	Feb 17
Government 2nd Pass Approval	Feb 19
Budget at 2nd Pass Approval	$1,274.3m
Total Approved Budget (Current)	$1,232.8m
2022–23 Budget	$182.3m
Complexity	ACAT II

Section 1 – Project Summary

1.1 Project Description

LAND19 Phase 7B Short Range Ground-Based Air Defence (SRGBAD) Project will introduce into service the Army-operated component of the Integrated Air and Missile Defence capability to achieve an enhanced Ground-Based Force Protection system.

The primary objectives of the project are to deliver a scalable SRGBAD capability that can sense, warn, manage and counter weapons and sensor effects of fixed and rotary wing platforms, Unmanned Aerial Systems, stand-off weapons, Rocket Artillery Mortar and missiles within the required environments.

The capability being acquired is an enhanced version of the jointly developed Raytheon-Kongsberg National Advanced Surface to Air Missile System (NASAMS), which is currently in-service with a number of nations. The capability is being acquired through a contract with Raytheon Australia Pty Ltd.

Two NASAMS Batteries are being acquired, each consisting of three Fire Units, with additional sub-systems for training purposes. A single Fire Unit consists of missile launchers, sensors, and a command & control centre, and is capable of protecting a specified area from a range of airborne threats. A single battery is capable of meeting the operational requirements, with the second battery being used for training purposes.

1.2 Current Status

Cost Performance

In-year

As at 30 June 2023, Financial Year (FY) 2022-23 expenditure is $190.0m against FY 2022-23 budget of $182.3m. The variance of $7.7m is primarily due to Foreign Military Sales (FMS) disbursements related to Advanced Medium Range Air-to-Air Missile (AMRAAM) being more than originally anticipated, offset by, an underspend on CEA Technologies Pty Ltd payments.

Project Financial Assurance Statement

As at 30 June 2023, project LAND19 Phase 7B has reviewed the approved scope and budget for those elements required to be delivered by Defence. Having reviewed the current financial and contractual obligations of Defence, 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 expended contingency in the FY 2022-23 for Raytheon Australia Pty Ltd contract milestones as a result of COVID-19 delays. The expenditure was for previously approved contingency. No additional contingency funding was sought or approved in FY 2022-23.

Schedule Performance

COVID-19 had a significant impact on the project. The international travel restrictions in place between industry partners in Australia, Norway and the United States (US) prevented effective collaboration, integration and test activities throughout 2020 and into 2021. When combined with Government Furnished Material (GFM) delays, this transferred technical risk to later parts of the project, compressing planned activities and increasing the likelihood of rework. Workforce quarantine measures led to delays in manufacturing, particularly for Canberra-based industry in late 2021. Defence agreed to revise some contract milestones to provide schedule relief to industry.

In October 2021, the project assessed the original Initial Materiel Release (IMR) date in light of the cumulative impact of above delays, and determined a revised date. The Initial Operational Capability (IOC) was subsequently revised. These changes were advised to Government in 2022 biannual update, and captured in a revised Materiel Acquisition Agreement.

The Final Operational Capability (FOC) remains on schedule, despite the delay to IOC.

Notice to reader

1. Forecast dates and Sections: 1.2 (Materiel Capability/Scope Delivery Performance), 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability/Scope 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.

Integration and test activities were the primary focus for the project throughout FY 2022-23. Training development has been completed on schedule and training delivery to 16 Regiment has commenced. The project also completed a number of Factory Acceptance Tests (FAT) for various parts of the system, followed by successful completion of the Flight Trial in February 2023.

The project conducted Identify Friend or Foe (IFF) testing in April 2023. A number of issues were identified at this test event which required remediation causing delays. These delays are not expected to impact the revised IMR schedule but have created an increased schedule risk to IOC.

Materiel Capability/Scope Delivery Performance

The project is on track to deliver against all agreed capability outcomes for FOC.

Note

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

1.3 Project Context

Background

LAND19 Phase 7B was one of the first projects to be considered under the new Capability Life Cycle and under the developmental Smart Buyer framework. The project participated in a pilot Smart Buyer workshop with the financial, requirements, integration, and schedule risk elements were considered within the project's acquisition strategy and addressed as part of the Risk Mitigation Activity (RMA) conducted between Government First Pass and Government Second Pass Approval.

Government First Pass Approval was provided in February 2017 that enabled the release of a Single Supplier Limited Tender to Raytheon Australia Pty Ltd as Prime Systems Integrator (PSI) for the acquisition and sustainment of the SRGBAD capability. First Pass Approval also endorsed the conduct of a RMA between First Pass and Second Pass to reduce technical risks associated with system integration and assess the environmental durability of key sub-systems. Additionally, First Pass Approval enabled a review of the Canberra-based company CEA Technologies Pty Ltd sensors for use in a ground-based air defence environment between First Pass and Second Pass Approval.

Government in February 2019 provided second pass approval for the preferred capability option presented, which was based on the NASAMS baseline but provides an enhanced capability, addressed obsolescence risks and provided greater Australian industry content.

The significant procurement activities to date include:

- Contract signature was achieved with Raytheon Australia Pty Ltd as PSI in June 2019.
- Contract signature was achieved with CEA Technologies Pty Ltd for the provision of operational and tactical radars in November 2019.
- The FMS offer for the purchase of missiles was accepted by the Commonwealth in March 2020.
- Contract signature was achieved with Raytheon Australia Pty Ltd as the Support Contractor in December 2020.
- Contract signature was achieved with CEA Technologies Pty Ltd as the Support Contractor for the operational and tactical radars in May 2023.

Uniqueness

NASAMS is an established and mature ground-based air defence capability, however under LAND19 Phase 7B, Defence is undertaking a number of enhancements making it unique. The most significant of these is replacing the standard NASAMS radar with radars from Australian company CEA Technologies Pty Ltd. Other modifications, which are not common across the international user base include integration with Army in-service vehicles and radios and interfacing with existing Land and Joint information networks.

Major Risks and Issues

The project is currently managing the following major risks:

- Delays to IFF Certification, causing delays to IOC.
- Increased costs due to higher than expected contract escalation.

Other Current Related Projects/Phases

LAND121 Phase 4 – Protected Mobility Vehicle – Light (Hawkei). This project will acquire and deliver, Protected Mobility Vehicles – Light and companion trailers for command, liaison, reconnaissance and utility roles; and the associated training and support systems. Elements of LAND19 Phase 7B tactical radar and high mobility launcher system will be integrated onto the Hawkei mission system.

Note

Major risks and issues are excluded from the scope of the Auditor-General's Independent Assurance Report.

Section 2 – Financial Performance[2]

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	$m		Notes
	Project Budget			
May 17	Original Approved: Government First Approval	25.9		
Jun 19	Government Second Pass Approval	1,248.4		
	Total at Second Pass Approval		**1,274.3**	
Jun 23	Exchange Variation		(41.5)	
Jun 23	**Total Budget**		**1,232.8**	
	Project Expenditure			
Prior to Jul 22	Contract Expenditure – Raytheon Australia Pty Ltd	(476.2)		
	Contract Expenditure – CEA Technologies Pty Ltd	(135.2)		
	Contract Expenditure – US Government (AT-D-YAI)	-		1, 2
	Other Contract Payments / Internal Expenses	(20.5)		2
			(631.9)	
FY to Jun 23	Contract Expenditure – Raytheon Australia Pty Ltd	(146.1)		
	Contract Expenditure – CEA Technologies Pty Ltd	(17.8)		
	Contract Expenditure – US Government (AT-D-YAI)	-		1, 2
	Other Contract Payments / Internal Expenses	(26.1)		2
			(190.0)	
Jun 23	**Total Expenditure**		**(822.0)**	
Jun 23	**Remaining Budget**		**410.8**	

Notes	
1	Price and expenditure related to missile procurement is classified. This expenditure has been reported as part of Other Contract Payments/Internal Expenses.
2	Other Contracts Payments/Internal Expenses comprises: RMAs, operating expenditure, contractors, consultants, and other capital expenditure not attributable to the aforementioned contracts.

2.2A In-year Budget Estimate Variance

Estimate PBS $m	Estimate PAES $m	Estimate Final Plan $m	Explanation of Material Movements
212.3	157.6	182.3	Portfolio Budget Statement (PBS) to Portfolio Additional Estimates Statement (PAES): The variation is primarily due to early achievement of Raytheon Australia Pty Ltd milestones into FY 2021-22 from FY 2022-23 (approx. $40.0m) and reprogramming of spares and FMS payments from FY 2022-23 to FY 2023-24 ($12.0m), and Global Price Basis Update (approx. $3.0m). PAES to Final Plan: The variation is primarily due to increase in contract escalation estimate (approx. $12.0m), increase to FMS disbursements (approx. $8.0m), and other minor activities including Global Price Basis Update (approx. $4.7m).
Variance $m	(54.6)	24.7	Total Variance ($m): (30.0)
Variance %	(25.7)	15.6	Total Variance (%): (14.1)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan $m	Actual $m	Variance $m	Variance Factor	Explanation
		(2.7)	Australian Industry	As at 30 June 2023, FY 2022-23 expenditure is $190.0m against a budget of $182.3m. The variance of $7.7m is primarily due to FMS disbursements related to AMRAAM being more than originally anticipated, offset by an underspend on CEA Technologies Pty Ltd payments.
		-	Foreign Industry	
		-	Early Processes	
		-	Defence Processes	
		10.4	Foreign Government Negotiations/Payments	
		-	Cost Saving	
		-	Effort in Support of Operations	
		-	Additional Government Approvals	

Notice to reader

2. As per the JCPAA 2022-23 MPR Guidelines, financial figures in the PDSS have been rounded to one decimal point. Section 2 financial tables may include totals and percentages that are impacted due to the rounding of the original financial data.

182.3	190.0	**7.7**	**Total Variance**
		4.2	**% Variance**

2.3A Details of Project Major – Price

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature $m	30 Jun 23 $m			
Raytheon Australia Pty Ltd	Jun 19	680.1	786.5	Firm or Fixed	Standard Defence Contract	1
CEA Technologies Pty Ltd	Nov 19	137.1	161.2	Firm or Fixed	Standard Defence Contract	2
US Government (AT-D-YAI)	Mar 20	-	-	Reimbursement (for FMS)	FMS	3

Notes	
1	Raytheon Australia Pty Ltd contract value as at 30 June 2023 is based on actual expenditure and remaining commitment, and includes adjustments for indexation (where applicable). The price increase since contract signature is primarily due to indexation and foreign exchange rate variation ($84.4m), the inclusion of spares into the contract ($14.0m) and an $8.0m increase due to project delays, as noted in Section 1.2.
2	CEA Technologies Pty Ltd contract value as at 30 June 2023 is based on actual expenditure and remaining commitment, and includes adjustments for indexation (where applicable). The price increase since contract signature is primarily due to indexation and foreign exchange rate variation ($20.1m), plus the inclusion of spares into the contract ($4.0m).
3	Pricing related to missile procurement is classified.

2.3B Details of Project Major Contracts – Contracted Quantities and Scope

Contractor	Contracted Quantities as at		Scope	Notes
	Signature	30 Jun 23		
Raytheon Australia Pty Ltd	7	7	NASAMS Fire Units plus training equipment.	-
CEA Technologies Pty Ltd	Tactical Radars Operational Radars	Tactical Radars Operational Radars	Radars plus training and support equipment.	-
US Government (AT-D-YAI)	Classified	Classified	Missiles.	-

Major equipment accepted and quantities to 30 Jun 23
Nil

Notes	
1	N/A

2.4 Australian Industry Capability

Summary
The project has contracted Australian Industry Capability (AIC) targets based on opportunities to maximise internationally competitive Australian industry involvement which is captured in Raytheon Australia Pty Ltd and CEA Technologies Ltd's AIC Plans in support of their manufacturing, integration, assembling, test and certification of the capability and support services activities. The project has no contracted AIC targets or an AIC Plan for its US Government FMS acquisition as the US Foreign Government arrangement does not include the contractual provision or obligations for Australian Industry Content.
Note
AIC Plans for contracts worth more than $20 million are published on Defence's website. Australian Industry Capability is excluded from the scope of the Auditor-General's Independent Assurance Report.

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System/Platform Variant	Original Planned	Current Contracted	Achieved/ Forecast	Variance (Months)	Notes
System Requirements	NASAMS	Oct 19	N/A	Oct 19	0	-
	CEA Technologies Pty Ltd Radars	Apr 20	N/A	Apr 20	0	-
Preliminary Design	NASAMS	May 20	N/A	May 20	0	1
Detailed Design	NASAMS	Dec 20	N/A	Dec 20	0	-
	CEA Technologies Pty Ltd Radars	Jul 21	N/A	Aug 21	1	-

Notes	
1	Preliminary Design aspects for CEA Technologies Pty Ltd Radars were covered in the NASAMS Preliminary Design Review.

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System/Platform Variant	Original Planned	Current Contracted	Achieved/ Forecast	Variance (Months)	Notes
System Integration	First of Type (FoT) Canister Launcher FAT	Jan 22	Nov 21	Nov 21	(2)	1
	FoT Fire Distribution Centre FAT	Apr 22	Aug 22	Nov 22	7	2
	Flight Trial	Jun 22	Apr 23	Apr 23	10	2
Acceptance (NASAMS Fire Units)	Fire Unit 1 (First)	Mar 23	Delayed	Delayed	Not For Publication (NFP)	2, 3
	Fire Unit 7 (Final)	May 24	N/A	May 24	0	-
Acceptance (CEA Technologies Pty Ltd Radars)	Tactical Radar (First)	Mar 23	N/A	Delayed	NFP	-
	Tactical Radar (Final)	Jun 24	N/A	Jun 24	0	-
	Operational Radar (First)	Mar 23	N/A	Delayed	NFP	-
	Operational Radar (Final)	Apr 24	N/A	Apr 24	0	-

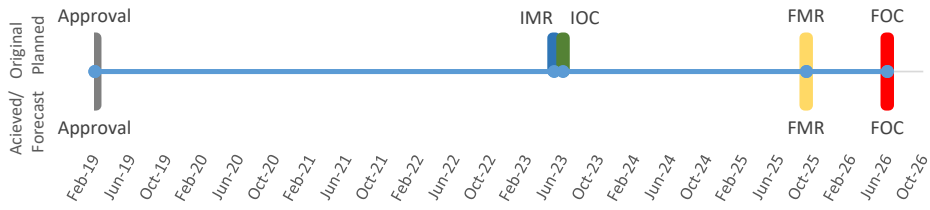
Notes	
1	This milestone was achieved early because the exit criteria was modified to allow completion in Norway, with subsequent shipment to Australia. This shipment commenced in April 2022.
2	This milestone was adjusted as a result of COVID-19 related delays, including workforce quarantine measures and travel restrictions.
3	Fire Unit composition varies per Fire Unit (i.e. number and type of launchers and other major systems).

3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved/Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	May 23	Delayed	NFP	1
Initial Operational Capability (IOC)	Jun 23	Delayed	NFP	1
Final Materiel Release (FMR)	Sep 25	Sep 25	0	-
Final Operational Capability (FOC)	Jun 26	Jun 26	0	-

Notes	
1	COVID-19 has had a significant impact on the project, including international travel restrictions, GFM delays, and workforce quarantine measures. In October 2021, the project assessed the original IMR date in light of the cumulative impact of the above delays, and determined a revised date. The IOC was subsequently revised.

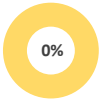
Schedule Status at 30 June 2023



Note
Forecast dates in Section 3 are excluded from the scope of the Auditor-General's Independent Assurance Report.

Section 4 – Materiel Capability/Scope Delivery Performance

4.1 Measures of Materiel Capability/Scope Delivery Performance

Traffic Light Diagram: Percentage Breakdown of Materiel Capability/Scope Delivery Performance	
	**Green:** The project expects to meet capability requirements as expressed in the Materiel Acquisition Agreement.
	**Amber:** N/A

	**Red:** N/A

Note
This Traffic Light Diagram represents Defence's expected capability delivery. Capability assessments and forecast dates are excluded from the scope of the Auditor-General's Independent Assurance Report.

4.2 Constitution of Materiel Release and Operational Capability Milestones

Item	Explanation	Achievement
Initial Materiel Release (IMR)	• Fire Unit with Tactical Radar. • Classroom Trainer installed. • Basic Support Equipment. • Initial Spares. • Systems accepted and certified. • Support Contract in operation.	Not yet Achieved
Initial Operational Capability (IOC)	• One operationally deployable Fire Unit. • Vehicles to support Fire Unit. • Operator and maintainer training. • Completion of Operational Test & Evaluation.	Not yet Achieved
Final Materiel Release (FMR)	• All Fire Units. • All Radars. • All spares and support equipment.	Not yet Achieved
Final Operational Capability (FOC)	• Complete mission system comprising all materiel elements defined in IMR and FMR. • Doctrine published. • All certification and accreditation complete. • Facilities complete.	Not yet Achieved

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)		
Ref#	Description	Remedial Action
1	There is a risk that delays to provision of Government-supplied systems will lead to integration and testing delays, with potential cost increases and delays to IOC.	The timely provision of these systems is required as early as possible in the testing phase, to ensure that technical risk is not transferred to later stages. A temporary loan of equipment has been requested for integration testing which, if approved, will mitigate this risk. Additional integration testing is occurring on legacy equipment, which will enable early testing of a significant amount of functionality. This risk has now been reduced to Medium.
2	There is a risk that the development and testing of the system interfaces will take longer than planned, impacting other system level tests, and leading to IOC delays.	System interface testing is prioritising critical functionality, which has the greatest potential to impact subsequent testing stages. Industry capacity is being managed through appropriate governance arrangements, to ensure that prioritisation is effectively implemented. This risk has been reduced to Medium.
Emergent Risks (risk not previously identified but has emerged during 2022–23)		
Ref#	Description	Remedial Action
1	There is a risk that IFF Certification will be delayed, with a corresponding delay to IOC.	Re-testing is expected to be completed by IMR, with certification to be achieved by IOC.
2	There is a risk that escalation costs will exceed the original budgeted amount by significant levels, leading to lack of funds available to pay adjusted contract milestone payments. This has been caused by higher than expected inflation levels.	The project will seek contingency funding to cover the shortfall.

5.2 Major Project Issues

Ref#	Description	Remedial Action
1	N/A	N/A

Note
Major risks and issues in Section 5 are excluded from the scope of the Auditor-General's Independent Assurance Report.

Section 6 – Lessons Learned

6.1 Key Lessons Learned

Description	Categories of Systemic Lessons
In line with Defence instruction and CASG Lessons policy, the project conducts scheduled reviews of its captured lessons information (including any observations, insights and/or lessons identified) as well as lessons information contained within the Defence Lessons Repository. The project has captured five lessons related to Contract Management, First of Type Equipment, Schedule Management, Governance, and Requirements Management. Two project lessons are provided below (note this does not include all project lessons):	The project has not categorised any of its lessons information as a whole-of-Defence Lesson Learned.
Lesson Type – Observation. Mandated System Reviews (MSRs) in large projects can cover many complex issues, over several days. They require review of large amounts of data in advance. Lead-in reviews are a great way to focus attention of relevant stakeholders on particular issues. They can be conducted months in advance of the MSR. A lead-in review is a separate meeting or workshop held to discuss a particular MSR agenda item. They can often be used to gain concurrence on a particular issue, thereby saving time in the MSR, and giving stakeholders a chance to consider. They also help focus reviewers on key issues prior to the MSR. Conduct lead-in reviews as a standard part of preparation for large MSRs.	Contract Management
Lesson Type – Observation. RMAs or Risk Reduction activities are often completed during First Pass to Second Pass, usually to investigate technical feasibility or capability definition. Extending these activities to include formal requirements development and system definition can place the project is a much more mature state at Contract Signature. Contracts can sometimes be established with immature requirements, and requirements definition completed post effective-date may result in cost, schedule or capability adjustments post-Second Pass. By focusing on system specification refinement between First Pass to Second Pass, this risk can be mitigated. Include formal and funded system definition activities between First Pass to Second Pass.	Risk Management

Section 7 – Project Structure

7.1 Project Structure as at 30 June 2023

Unit	Name
Division	Land Systems Division
Branch	Land Manoeuvre Systems Branch