

DEFENCE

CHAPTER SEVEN DEFENCE MATERIEL ORGANISATION

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MATERIEL REFORM

The Defence Materiel Organisation (DMO) supports the ADF by acquiring and sustaining leading edge military equipment. It is staffed by some 4,400 Australian Public Service personnel and approximately 1,700 ADF members.

Headquartered in Canberra, the DMO is a geographically dispersed organisation with staff in over 50 locations across Australia. This allows staff in DMO's core functions – acquisition and sustainment – to be collocated with their operational customers in the ADF and to promote closer partnerships with industry.

DMO's strategic direction has been shaped by its reform program, which commenced on 1 July 2000. In tabling its report in March 2003 into materiel acquisition and management in Defence, the Senate Foreign Affairs, Defence and Trade References Committee inquiry was generally positive about the DMO reform program and acknowledged the progress made and the need for ongoing reform. Further reforms have now flowed from the Defence Procurement Review, led by Mr Malcolm Kinnaird, which was presented to the Government in August 2003.

As discussed in Chapter Six, the Government broadly agreed to accept the recommendations of the Defence Procurement Review. A number of the recommendations are aimed at developing the DMO into a more 'business-like' entity, in particular establishing the DMO as a prescribed agency under the *Financial Management and Accountability Act 1997*.

As a prescribed agency, the DMO will be required to report its financial performance separately from that of Defence. As an interim measure for 2004-05, the DMO will separately forecast and report its performance in Defence's portfolio budget and additional estimates statements and annual report, although its funding is not yet separate. As in previous years, the DMO will forecast and report progress on its continuous improvement efforts.

PRIORITIES FOR 2004-05

Priorities for 2004-05 include:

- implementing the recommendations of the Defence Procurement Review to better place the DMO to deliver capability to the ADF on time, within budget, and in accordance with specifications and required safety and quality;
- undertaking the work necessary to enable the DMO as a prescribed agency by 1 July 2005;
- increasing the professionalism of the organisation;
- adopting a more commercially-focused business philosophy;
- standardising processes, based on business-like best practices;
- strengthening relationships between the DMO and industry; and

- benchmarking the DMO against commercial and other defence organisations.

INITIATIVES FOR 2004-05

Implement Defence Procurement Review recommendations

Reforms include:

- extending the role of project governance boards to consideration of in-service support of capability;
- strengthening the 'two pass' Government project approval process;
- establishing financial reporting and accountability arrangements for the DMO as a prescribed agency under the *Financial Management and Accountability Act 1997*;
- establishing new customer-supplier relationships between the DMO and Defence. This will include high-level agreements with various Defence Groups, and more specific service agreements for individual acquisition projects, sustainment activities and services provided by Defence to the DMO; and
- implementing strategies to address legacy data issues associated with asset accounting and improve internal controls and business processes to enhance the quality of management and financial information.

Increase the professionalism of the organisation

Reforms, which will take two years to complete, include:

- continuing to improve recruitment, development and retention to get the right people in the right positions at the right time;
- designing and implementing a professional certification framework for all DMO program managers based on the risk profile of acquisition projects. This framework will encompass qualifications, experience and training;
- re-balancing and re-skilling the workforce to ensure individuals possess the professional skills and experience required for a high performing project management and engineering organisation;
- continuing the definition of job roles and requirements to ensure that the DMO has access to appropriately qualified staff for key roles;
- increasing the numbers of DMO staff who are professionally recognised personnel (such as Chartered Professional Engineers and Certified Practising Accountants);
- establishing an employment framework that enables the DMO to recruit and retain high calibre professionals across the organisation consistent with Government direction; and

- ensuring that workforce planning processes, tools and outcomes achieve a total DMO workforce plan over a 10-year period that describes resources in terms of civilian, military and external service providers.

Adopt a more commercially-focused business philosophy

Reforms include:

- setting productivity objectives consistent with industry benchmarks, while noting overheads associated with being a government agency; and
- reviewing contracting methodologies.

Standardise processes, based on business-like best practices

Reforms include:

- implementing the Improve Project Scheduling and Status Reporting methodology;
- implementing the DMO Quality and Environmental Management System across the organisation;
- improving guidelines for the capability development process which will lead to better requirement specifications and quality of information for the Government;
- introducing improved techniques for better estimating costs of acquisitions;
- rationalising reporting by developing a single reporting tool for project performance and corporate reporting requirements;
- improving understanding of logistics cost drivers, with early emphasis on developing a framework to assess possible shortfalls;
- implementing guidelines for better managing risk in projects in the needs, requirements and acquisition phases of the capability life cycle, supported by a common risk management tool;
- continuing to implement the DMO system safety management policy, process and products to ensure safety management programs meet both organisational and regulatory requirements;
- implementing improvements to the Standard Defence Supply System to overcome audit qualifications and improve productivity; and
- implementing guidelines for using a risk-based approach to Earned Value Management on Defence contracts.

Strengthen relationships between the DMO and industry

Reforms include:

- strengthening contract incentives and remedies to improve contractors' ability to deliver on time;
- implementing agreed sector plans;
- improving communication with internal and external stakeholders; and
- clearly articulating the DMO's expectations of industry.

BUDGET

In anticipation of the DMO commencing operation as a prescribed agency in July 2005, Table 7.1 has been provided to give visibility to DMO elements currently contained within the overall Defence budget. The estimates in Table 7.1 contribute to the cost of Defence outcomes and outputs detailed in Chapter Four. The DMO will present a full set of budgeted financial statements separate from the rest of Defence in the Defence *Portfolio Budget Statements 2005-06*.

Table 7.1: Key Elements of the Defence Materiel Organisation Budget⁽¹⁾⁽²⁾

	Projected Result 2003-04 (Incl JLC) \$'000	Projected Result 2003-04 (Excl JLC) \$'000	Budget Estimate 2004-05 (Excl JLC) \$'000	Variation 2003-04 to 2004-05 (Excl JLC) \$'000
DMO OPERATING EXPENSES				
Employees – Military	160,833	121,283	99,319	-21,964
Employees – Civilian	406,100	335,324	336,556	1,232
Total employees	<u>566,933</u>	<u>456,607</u>	<u>435,875</u>	<u>-20,732</u>
Total suppliers	1,601,943	1,498,838	1,653,894	155,056
Total	<u>2,168,876</u>	<u>1,955,445</u>	<u>2,089,769</u>	<u>134,324</u>
DMO PURCHASES				
Approved Major Capital Equipment Purchases				
Capital	2,140,720	2,140,720	2,483,834	343,114
Operating	318,438	318,438	328,882	10,444
Total	<u>2,459,158</u>	<u>2,459,158</u>	<u>2,812,716</u>	<u>353,558</u>
Other Capital Purchases				
Minor Capital Equipment	134,700	134,700	110,886	-23,814
Repairable Items	191,450	191,450	145,729	-45,721
Other Plant and Equipment	105,500	104,200	114,869	10,669
Total	<u>431,650</u>	<u>430,350</u>	<u>371,484</u>	<u>-58,866</u>
Inventory Purchases				
General Inventory	509,208	503,717	570,476	66,759
Fuel	223,350	223,350	255,900	32,550
Explosive Ordnance	217,306	217,306	192,561	-24,745
Total	<u>949,864</u>	<u>944,373</u>	<u>1,018,937</u>	<u>74,564</u>

Notes

1. This table reflects current estimates of the impact of transferring the majority of Joint Logistics Command functions to the new Joint Operations Command, due to take place on 1 July 2004.
2. All budget estimates amounts are at a 2004-05 PBS price and exchange basis. Approved Major Capital Equipment reflects the program of acquisition projects for new equipment capabilities that have been approved by the Government and are in the course of being acquired by the DMO. Projects for the acquisition of new equipment capabilities that have not yet been approved by the Government are not included in this funding. They are managed as part of the Not Yet Approved Major Capital Program contained in Table 3.4.

APPROVED MAJOR CAPITAL EQUIPMENT PROJECTS

The DMO manages the part of the Defence investment program that focuses on approved major capital equipment projects. The following table and descriptions provide details of the top 30 projects ranked by forecast expenditure in 2004-05. Planned expenditure for the top 30 projects represents 77 per cent of the total planned expenditure on major capital equipment projects in 2004-05.

Table 7.2: Top 30 Projects by Forecast 2004-05 Expenditure⁽¹⁾

	Project Number	Approved Project Expenditure	Estimated Cumulative Expenditure to Estimate 30 June 2004	2004-05 Budget
		\$m	\$m	\$m
Aerospace				
Airborne Early Warning and Control	AIR 5077	3,426	1,556	462
Armed Reconnaissance Helicopter	AIR 87 Ph2	1,894	454	445
ADF Air Refuelling Capability	AIR 5402	1,771	1	214
F/A-18 Hornet Upgrade	AIR 5376 Ph2	1,516	605	134
Anzac Ship Helicopter	SEA 1411 Ph1	998	891	60
P-3C Update Implementation	AIR 5276	902	799	48
F/A-18 Hornet Structural Refurbishment Program – Stage 1	AIR 5376 Ph3.1	116	26	23
Maritime				
Anzac Ship Project ⁽²⁾	SEA 1348	5,352	4,878	220
Collins Combat System	SEA 1439 Ph4A	433	59	158
FFG Upgrade Implementation	SEA 1390	1,442	923	137
Armidale-class Patrol Boat	SEA 1444	455	24	81
Lightweight Torpedo Replacement	JP 2070 Ph2	307	91	75
Collins-class Reliability and Sustainability Improvements	SEA 1439 Ph3	359	114	55
Evolved SeaSparrow Missile	SEA 1428 Ph2B/3	270	175	43
Anti-Ship Missile Defence	SEA 1448 Ph2A	471	1	31
New Heavyweight Torpedo	SEA 1429	405	67	31
Land				
Australian Light Armoured Vehicles	LAND 112 Ph3	666	466	58
Direct Fire Guided Weapon	LAND 40	141	26	35
Upgrade of M113 Armoured Vehicles	LAND 106	566	133	34
Bushranger Infantry Mobility Vehicles	LAND 116	341	101	32
Ground Surveillance Radar	LAND 53	83	45	27
New Air Combat Capability				
Joint Strike Fighter	AIR 6000 JSFSD	205	39	53
Electronic Systems				
Milsatcom - Ground Infrastructure	JP 2008 Ph3E	144	32	52
2CRU/3CRU Control and Reporting Units	AIR 5333	239	45	38
Jindalee Operational Radar Network	JP 2025 Ph3/4	1,238	1,089	36
Air-to-Air Weapons Capability	AIR 5400 Ph1/2	311	244	31
High Frequency Modernisation	JP 2043	595	263	30
Air-to-Surface Stand-Off Weapon Capability	AIR 5398	438	326	28
Electronic Warfare Self Protection for Selected ADF Aircraft	AIR 5416	278	2	28

Air-to-Air Weapons Follow-on Buy	AIR 5400 Ph3	176	111	23
TOTAL TOP 30 PROJECTS		25,538	13,586	2,722

Notes

1. All approved expenditure and budget estimates amounts are at a 2004-05 PBS price and exchange basis.
2. Project approval, expenditure and estimate figures are the net cost of the ten-ship program after deducting New Zealand payment.

PROJECT DESCRIPTIONS

AIR 5077 Airborne Early Warning and Control

Prime contractor: Boeing (USA)

This project will provide Defence with an airborne early warning and control capability of six aircraft and associated supplies and support. The project remains on schedule and on budget, with a planned in-service date of 2007.

Modification of the first Boeing 737 airframe was completed in January 2004 and the aircraft will commence an extensive flight test program in May 2004.

Modification of the second aircraft is planned for completion in November 2004 at which point it will commence design test and evaluation of the mission systems. The critical design review process for the elements of the ground support segment is planned for completion in September 2004. Build 6 of the mission computing software is scheduled for delivery in September 2004, followed by Build 7 in February 2005 and Build 8 in June 2005. Construction of the Airborne Early Warning and Control Support Centre building is planned for completion in February 2005.

This project contributes to Air Force capability.

AIR 87 Ph2 Armed Reconnaissance Helicopter

Prime contractor: Australian Aerospace

This project will provide Defence with 22 armed reconnaissance helicopters, a training system including simulation devices for aircrew and maintenance personnel, a software support facility and a ground mission management system. The Commonwealth has also signed a 15-year support contract that commences when the first helicopters start flying in Australia. System test, certification and validation activities are progressing satisfactorily with the first production helicopter flying for the first time on 20 February 2004.

2004-05 will see the assembly of four aircraft (helicopters five to eight) in Brisbane, in association with the progressive acceptance into service of four aircraft from France. The delivery of helicopters one and two is planned for December 2004, while helicopters three and four have delivery planned for January and April 2005 respectively. Training of ground crew and maintenance technicians will commence in Australia with the training of flying instructors continuing in France. A squadron-strength initial operational capability is currently planned for mid-2007.

This project contributes to Army capability.

AIR 5402 ADF Air Refuelling Capability

Preferred tenderer: European Aeronautic Defence and Space Company and Qantas Defence Services

The Military Transport Division of the European Aeronautic Defence and Space Company, teamed with Qantas Defence Services, has been selected as the preferred tenderer for the supply of five new air-to-air refuelling aircraft, together with through-life support services including engineering, maintenance, spares management, upkeep of technical data, software management and training support.

The schedule for 2004-05 provides for the award of the acquisition and through-life support contracts later in 2004 and preliminary design activities occurring in the first half of 2005. Initial aircraft delivery is planned for 2007.

This project contributes to Air Force capability.

AIR 5376 Ph2 F/A-18 Hornet Upgrade

Prime contractor: Boeing (USA)

This project seeks to upgrade the F/A-18 fleet to incorporate enhancements that will improve situational awareness, radar and electronic warfare capabilities to allow the aircraft to perform its air defence tasks more effectively. The improved situational awareness aspects address cockpit displays, a moving map, a helmet-mounted cueing system for the advanced short range air-to-air missile, and improved datalinks. The radar upgrade production phase was completed in August 2003.

The project schedule for 2004-05 includes the assessment of electronic warfare options, including the planned source selection of the radar warning receiver, counter measures dispensing system and jammer. Work on the cockpit and display design and development is continuing with design acceptance certification planned for late 2005.

Early in 2005, the project will commence flight testing of the pilot situational awareness modifications.

This project contributes to Air Force capability.

SEA 1411 Ph1 Anzac Ship Helicopter

Prime contractor: Kaman Aerospace International Corporation

This project will acquire 11 maritime combat helicopters for the Anzac-class frigates, providing an enhanced capability for surface surveillance, anti-surface warfare, contact investigation and maritime utility tasks. The acquisition includes a full mission flight simulator and software support centre.

To mitigate the impact of late delivery of the integrated weapons and sensor systems by the contractor, Defence commenced provisional acceptance of the

helicopters with a basic suite of software in October 2003. The contracted schedule for delivery of the fully capable helicopter is December 2004.

This would allow Defence to commence the final acceptance processes for all 11 helicopters in 2005.

This project contributes to Navy capability.

AIR 5276 P-3C Update Implementation

Prime contractor: L-3 Communications

This project will update the P-3C Orion fleet to ensure continued operational effectiveness through to the planned withdrawal date of 2015. Under this project, the radar, acoustic system, data management system, and navigation and communications equipment are being replaced with integrated systems. The project also provides training simulators, mission planning/debriefing systems, and engineering and maintenance support tools.

The final upgraded AP-3C aircraft will be delivered during 2004-05 and most aspects of the project will be completed during this period. Delivery of some long lead time spares and payments for interim support contracts may extend into succeeding years.

As of May 2004, a total of 13 upgraded aircraft have been delivered, with delivery of the final aircraft due by December 2004.

This project contributes to Air Force capability.

AIR 5376 Ph3.1 F/A-18 Hornet Structural Refurbishment Program - Stage 1

Prime contractor: Boeing (USA)

This project seeks to refurbish the airframe structure of the F/A-18 aircraft and involves the development and installation of several discrete structural modifications. This is the first of two stages of structural refurbishment that are required to ensure continued operation of the fleet until the aircraft's planned withdrawal date.

In 2003, due to evidence of structural cracking, four of the discrete modifications were 'fast-tracked'. Approximately one third of the fleet had these modifications installed by March 2004. Prototyping of the remaining modifications was completed at the L-3 Communications facility in Mirabel, Canada, in the first quarter of 2004.

The project schedule for 2004-05 includes the completion of the full suite of modifications on seven aircraft. These production activities will be conducted at Williamstown in New South Wales.

This project contributes to Air Force capability.

SEA 1348 Anzac Ship Project

Prime contractor: Tenix

This project involves delivery of ten ships, associated shore facilities and logistic support. Two of the ten ships (02 and 04) were for the Royal New Zealand Navy. Eight ships have been delivered and are in service with the Royal Australian Navy and the Royal New Zealand Navy. Ship 08 (*Ballarat*) was delivered on 30 April 2004 and Ship 09 (*Toowoomba*) is planned for delivery in the third quarter of 2005. Ship 10 (*Perth*) was launched on 20 March 2004.

Delivery of Ship 08 (*Ballarat*) was brought forward from the third quarter of 2004 to the second quarter of 2004 at the request of Tenix and with the approval of the Government.

This project contributes to Navy capability.

SEA 1439 Ph4A Collins Combat System

Prime contractor: Raytheon, through Foreign Military Sales with the United States Government, and Raytheon Australia, Thales and Sonartech Atlas

This project will provide a replacement combat system for the Collins-class submarines. This will contribute to the development of the submarines' full capability, in conjunction with other phases of the project that implement a program of modifications and enhancements to the submarine platform.

A significant portion of the Foreign Military Sales will be transferred to the Armaments Cooperative Project; this is expected to take place by early 2004-05. The design studies contract with the Australian Submarine Corporation should be implemented in early 2004-05.

Establishment of the shore integration facility in Western Australia is planned for late 2005. Installation of the first replacement combat system in a submarine is planned for 2006, with all submarines to be upgraded by the end of the decade.

This project contributes to Navy capability.

SEA 1390 FFG Upgrade Implementation

Prime contractor: ADI

This project seeks to regain a comparative regional capability for Adelaide-class Guided Missile Frigates (FFGs) and ensure that they remain effective and supportable to the end of their life. An overall schedule delay of up to 24 months was mutually agreed between the Commonwealth and the prime contractor in June 2002 and the contract change was signed in April 2004. ADI commenced the installation/production phase of the upgrade at its Garden Island facility for the lead ship (HMAS *Sydney*) on 22 September 2003.

Contractor delivery of the lead ship is planned for late 2004. The second ship is planned to enter upgrade after provisional acceptance of the lead ship.

As a result of the decision to remove the two oldest FFGs from service from 2006 when the last of the new Anzac-class frigates is delivered, these two ships will no longer be considered for upgrade under this project. The cost impact of this decision and a formal contract change are still to be finalised. Some savings will be realised from annual operating costs for spares, fuel, maintenance and other running costs, while other cost savings will be made under the current prime contract. The reprogramming of expenditure is due mainly to a revised assessment of prime contract earned value, milestone cashflow and a reassessment of how prime contract incentive payments will be managed. In addition, expenditure for spares has been reprogrammed from 2003-04 to 2004-05.

This project contributes to Navy capability.

SEA 1444 Armidale-class Patrol Boat

Prime contractor: Defence Maritime Services

This project will replace the capability provided by the Fremantle-class patrol boats. The prime contractor will supply a fleet of twelve 56.8 metre aluminium vessels to provide 3,000 days operational availability in support of Defence Output 2.3 - Capability to Conduct Patrol Boat Operations.

The prime contract for acquisition and 15 years support for each vessel was signed on 17 December 2003. The project has a tight production schedule that is on track to deliver the first patrol boat in the second quarter of 2005, in accordance with the Defence White Paper.

In addition to delivery of the first patrol boat, other significant events planned for 2004-05 include the commencement of upgrades to facilities in Darwin to accommodate the larger vessels and the relocation of project staff from Canberra to Darwin to allow collocation with the Patrol Boat Force Element Group.

This project contributes to Navy capability.

JP 2070 Ph2 Lightweight Torpedo Replacement

Alliance agreement: EuroTorp and Thales

Phase 2 of this project will introduce the EuroTorp Mu90 lightweight torpedo into ADF service. It is proposed to fit this into the Anzac and Adelaide-class frigates, anti-submarine warfare helicopters and the AP-3C maritime patrol aircraft. This phase will acquire an initial stock of weapons, integrate the weapon to all platforms, establish a local weapon assembly facility and a local in-service support capability. The weapon is being acquired under an alliance agreement between the Commonwealth, EuroTorp and Thales. The agreement was signed in December 2002.

The method of procurement for additional weapons under phase 3 of the project is being assessed. It is expected that a contract will be signed in the third quarter of 2004.

While the in-service date for the Mu90 torpedo is December 2005, the first platform (HMAS *Parramatta*) has already received the necessary modifications to be able to fire the weapon.

Integration into the FFG frigates will be on an opportunity basis during depot-level maintenance periods following their current upgrade program. The integration contract for the AP-3C aircraft is currently being developed. The integration plan for the helicopters remains to be determined.

The project contributes to Navy and Air Force capabilities.

SEA 1439 Ph3 Collins-class Reliability and Sustainability Improvements

Prime contractor: Australian Submarine Corporation

This project will provide reliability and sustainability improvements to the Collins-class submarines through the ongoing implementation of the McIntosh/Prescott report recommendations and the work of the submarine capability team. It also addresses current shortcomings in the submarine support infrastructure.

A number of modifications have been incorporated into the last three submarines built, with further modifications being incorporated into all submarines during planned major maintenance.

This project contributes to Navy capability.

SEA 1428 Ph2B/3 Evolved SeaSparrow Missile

Prime contractor: Raytheon (USA)

This project will continue to incorporate the Evolved SeaSparrow missile capability into Navy service. Progressive missile deliveries occurred throughout 2003 and will continue in 2004-05 and subsequent years. Anzac-class ships *Warramunga*, *Stuart*, *Ballarat* and *Parramatta* have been fitted with the Evolved SeaSparrow missile system. The remaining two Anzac ships under construction are having the system fitted. The first two Australian Anzac ships, HMAS *Anzac* and HMAS *Arunta*, will be upgraded during maintenance periods in 2005-06.

The Evolved SeaSparrow missile has also been selected as an element of the anti-ship missile defence system for the FFGs under their upgrade program.

This project contributes to Navy capability.

SEA 1448 Ph2A Anti-Ship Missile Defence

Alliance agreement: Anzac Ship Alliance with Tenix and SAAB

This project will provide the Anzac-class frigates with a reasonable level of self-defence against modern anti-ship missiles. This phase of the project has been split into two sub-phases.

Phase 2A was approved in December 2003 and aims to deliver an initial operational capability by 2008 which will include the upgrade of the fire control radar and command and control system, and the installation of an infra-red search and tracking capability and a very short range air defence system. Phase 2A also includes a feasibility study and related trials, including an active phased array radar in the Anti-Ship Missile Defence solution for the Anzac-class. Such a radar would provide significant performance and operational advantages over a conventional radar-based solution. Initial risk reduction studies are planned for completion in mid-2004 followed by implementation under an alliance agreement between Defence and the principal companies involved.

Phase 2B (not yet approved, year of decision 2004-05) will complete the Anti-Ship Missile Defence capability by the introduction of a second channel of fire to enable more than one weapon to be controlled in flight. How this capability will be achieved is dependent on the outcome of the active phased array radar feasibility study and trials under Phase 2A. The capability is being acquired through the Anzac Ship Alliance.

This project contributes to Navy capability.

SEA 1429 New Heavyweight Torpedo

Memorandum of Understanding: United States Government, under the Armaments Cooperative Project, with work being performed by Raytheon and the Naval Undersea Warfare Centre of the United States Navy

This project will acquire a replacement anti-surface and anti-submarine heavyweight torpedo for the Collins-class submarines. The new heavyweight torpedo will replace the United States Navy Mk48 Mod 4 heavyweight torpedo currently in service with the Royal Australian Navy.

The Government approved the heavyweight torpedo project in March 2003. Defence has since signed a memorandum of understanding with the United States Navy to jointly develop, produce and support the torpedoes under an armaments cooperative project.

The project scope includes the acquisition of the weapons, associated logistic support, weapon system interface equipment, operational support and test equipment and transition into service. The upgrade to the torpedo maintenance facility is planned to be completed by late 2004 and the submarine integration design work by the first quarter of 2005. Initial operating capability is planned for late 2006, subject to submarine availability.

This project contributes to Navy capability.

LAND 112 Ph3 Australian Light Armoured Vehicles

Prime contractor: General Dynamics Land Systems (Canada)

This project is acquiring additional wheeled light armoured vehicles that provide the basis of the Army's armoured reconnaissance and surveillance capability. The additional vehicles will be used to complete the equipping of the 2nd Cavalry Regiment, in Darwin, and to equip the 2/14 Light Horse Regiment, which is located in Brisbane.

There have been delays in some elements of the project, such as the surveillance variant and the commander's weapon station. These are considered manageable, and the overall project remains on schedule. Vehicle deliveries to the Army Logistics Training Centre, the School of Armour and 1st Combat Service Support Battalion have been completed under this phase. Delivery of vehicles to the 2nd Cavalry Regiment has commenced.

Key outcomes for 2004-05 will be the completion of Phase 3 vehicle deliveries to the 2nd Cavalry Regiment and the commencement of deliveries to the 2/14 Light Horse Regiment.

This project contributes to Army capability.

LAND 40 Direct Fire Guided Weapon

Prime contractor: Raytheon-Lockheed Martin Javelin Joint Venture, through Foreign Military Sales with the United States Government

This project is for the acquisition of a man-portable direct fire guided weapon for use against armoured vehicles, bunkers and fortifications to a range of at least 2,000 metres. The Javelin weapon system has been selected as the materiel solution. The acquisition involves a quantity of command launch units, missiles, training equipment and logistics support.

The Javelin will be issued to selected infantry, cavalry and special forces units. An initial quantity of Javelin weapon systems was purchased for use by special forces units in Afghanistan and Iraq. The letter of offer and acceptance for the main acquisition was signed with the United States Government in August 2002.

Key outcomes expected in 2004-05 are the delivery of training equipment and commencement of introduction into service training. The project is on schedule to achieve introduction into service in 2005-07.

This project contributes to Army capability.

LAND 106 Upgrade of M113 Armoured Vehicles

Prime contractor: Tenix

This project is upgrading 350 of the Army's fleet of M113 armoured vehicles, which provide transport and fire support for the Army's mechanised infantry forces. Although used operationally in East Timor, the vehicle's capabilities are being overtaken by modern weapons and becoming obsolete.

The upgrade will restore the vehicle's capability with improved protection, firepower, mobility and habitability. It includes applique armour, a new armoured turret and machine gun, a new engine, drive train and suspension, and stretching of 259 vehicles.

A contract for the upgrade was signed in July 2002 and the project is proceeding on schedule, with full production due to commence in 2005 and the first company group in service in 2006.

Key outcomes for 2004-05 will be the selection of the armour solution for the M113 and commencement of initial production vehicle testing.

This project contributes to Army capability.

LAND 116 Bushranger Infantry Mobility Vehicles

Prime contractor: ADI

Project Bushranger is acquiring 299 infantry mobility vehicles from ADI Ltd. The infantry mobility family of vehicles will consist of six variants: troop, command, assault pioneer, mortar, direct fire weapon and ambulance. The vehicles will provide two motorised infantry battalion groups to the Army and 12 troop variants to the Air Force Airfield Defence Guards.

Two prototype infantry mobility vehicles underwent reliability qualification testing from October to December 2002. The vehicles passed the required reliability levels and the project has entered the next stage of the contract. The first production vehicle was delivered to Defence in August 2003. This vehicle is currently being tested to ensure it meets specified requirements. Results of this test will be known by June 2004.

A further three production vehicles commenced reliability and acceptance testing in October 2003. The final result of this testing will be known by June 2004 and, if successful, will result in the commencement of full-rate production in the second half of 2004.

The key performance outcome for the project for 2004-05 will be the move to full rate production and commencement of introduction into service.

This project contributes to Army capability.

LAND 53 Ground Surveillance Radar

Prime contractor: Thales

This project is for the acquisition of 58 ground surveillance radars. The Australian Manportable Surveillance and Target Acquisition Radar, designed by Thales Defence (UK) and produced by Tenix (Adelaide), is the selected materiel solution.

The procurement of ground surveillance radars will provide an all-weather target detection and classification capability and indirect fire adjustment at ranges up to 35km for selected infantry, artillery and cavalry units.

The project is behind schedule due to contractor delays in the completion of trials and rectification work arising from performance and quality deficiencies identified during the test and evaluation process with the radar. Defence has collected liquidated damages from the contractor as a result.

Key outcomes expected in 2004-05 are the delivery of production equipment and the commencement of the through-life support contract. The current timeframe for introduction into service is 2005-06.

This project contributes to Army capability.

AIR JSFSDD Joint Strike Fighter

Memorandum of Understanding: United States Government

The New Air Combat Capability project seeks to replace the air combat capability currently provided by the F/A-18 and F-111. While a formal decision has not yet been made, the Government stated its expectation in June 2002 that this capability would be provided by the Lockheed Martin F-35 Joint Strike Fighter. The Joint Strike Fighter is being developed by an international collaborative program, led by the United States, and is in the system development and demonstration stage.

Involvement in the system development and demonstration program is providing Australia with significant data access and preferential acquisition terms in addition to opportunities for Australian industry in the global Joint Strike Fighter project.

Phase 1 provides for collection and analysis of system development and demonstration information and the associated studies, risk mitigation and planning activities necessary to support the Government procurement decision scheduled for 2006. It also supports Australian industry participation in the Joint Strike Fighter program and initial exploratory discussions on the nature of the international agreement that will provide the means for acquisition, support and ongoing development of the aircraft.

The second phase of the project will be conducted in a number of stages and will acquire the aircraft and associated systems and transition the capability into service.

This project contributes to Air Force capability.

JP 2008 Ph3E Milsatcom Ground Infrastructure

Prime contractor: BAE Systems (UK)

Phase 3E will provide the high-priority satellite communications ground infrastructure required by Deputy Chief Joint Operations for use with the Optus C1 satellite Defence payload fielded under Phase 3D of the project.

Acquisition and through-life support contracts for the maritime element were signed with BAE Systems on 28 November 2003. The delivery of the first terminal is due in the third quarter of 2005 with final terminal installation to occur in the last quarter of 2006.

Defence is the systems integrator for the overall Phase 3E requirements, which includes (in addition to the maritime terminals) land terminals, broadcast software and a Primary Injection Facility. These elements will be progressively delivered from first quarter 2005 to the first quarter 2007.

The project contributes to the Command of Operations capability.

AIR 5333 2CRU/3CRU Control and Reporting Units

Prime contractor: Boeing Australia Ltd

This project will replace the ageing Air Defence command and control systems at Nos. 2 and 3 Control and Reporting Units located at Tindal and Williamtown and will design and implement an integrated, real-time, ADF Air Defence System communications network. Acquisition and logistic support contracts were signed with Boeing Australia Ltd on 1 March 2004. The first command and control system is expected to be installed and operational at Tindal by mid-2007.

Major outcomes expected in 2004-05 are completion of an integrated baseline review in late 2004 and completion of a preliminary design review in early 2005.

The project contributes to Air Force capability.

JP2025 Ph3/4 Jindalee Operational Radar Network

Prime contractor: RLM Systems

In April 2003, this project delivered into service two new over-the-horizon radars: one near Longreach, Queensland and the other near Laverton, Western Australia. The radar network coordination centre is located at RAAF Edinburgh, South Australia. With delivery of the Jindalee Operational Radar Network having been successfully achieved, resulting in a major enhancement of national surveillance capability, the project's acquisition component is essentially completed. The remaining project work focuses on initial maintenance and support activities.

The project contributes to Air Force capability.

AIR 5400 Ph1/2 and 3 Air-to-Air Weapons Capability and Air-to-Air Weapons Follow-on Buy

Prime contractor: Raytheon, through Foreign Military Sales with the United States Government, and MBDA UK

These two separate project phases are managed as one project due to their interrelated capability.

The project seeks to maintain a credible air-to-air weapons capability for F/A-18 aircraft. A new beyond-visual-range missile (the advanced medium range air-to-air missile) and a new within-visual-range missile (the advanced short range air-to-air missile) have been acquired.

Activities for 2004-05 include the transition of advanced medium range air-to-air missile system management and support responsibilities to in-service organisations. Also planned for 2004-05 are the establishment of support arrangements and the introduction into service of the advanced short range air-to-air missile.

This project contributes to Air Force capability.

JP 2043 High Frequency Modernisation

Prime contractor: Boeing Australia Ltd

This project will replace naval high-frequency radio stations at Canberra, Darwin, Exmouth, Sydney, Cairns and Perth and the Air Force high-frequency radio stations at Sydney, Townsville, Darwin and Perth. The new network will provide enhanced high-frequency radio communications capabilities and compatible high-frequency equipment in selected ADF mobile platforms. The project will deliver the new capability in two stages. The first stage will be to replace and rationalise existing facilities. The second stage will provide increased levels of automation, improved capability, enhanced security and survivability and reduced reliance on staff, and will incorporate the new equipment into the mobile platforms.

Due to delays in software development and integration, system acceptance of the first stage did not occur as originally scheduled in 2001-02. This is now scheduled to occur in mid-2004 with transition into service by the end of 2004. The second stage will be introduced progressively between 2005 and 2008, with installation into mobile platforms potentially extending to 2010. The preliminary design review for the second stage is scheduled for late 2004 to early 2005.

This project contributes to the Command of Operations capability.

AIR 5398 Air-to-Surface Stand-Off Weapon Capability

Prime contractor: Precision Guided Systems US, through Foreign Military Sales with the United States Government

This project will acquire and bring into service the AGM-142E missile for use on F-111C aircraft. It will provide the ADF with a capability to strike non-hardened and semi-hardened unitary targets while providing improved stand-off range, contributing to the survivability of the aircraft.

The project schedule for 2004-05 includes continued delivery of missiles and ground support equipment into Australia. Aircraft ground and flight testing, which has encountered some delay, will continue along with upgrades to the flight simulator and acquisition of a mission rehearsal system.

This project contributes to Air Force capability.

AIR 5416 Electronic Warfare Self Protection for Selected ADF Aircraft

Prime contractor: Contract not yet awarded

This project will acquire electronic warfare self protection and ballistic protection measures for selected ADF aircraft. The project is being implemented under three distinct sub-phases comprising a grouping of Black Hawk with Chinook helicopters, the C-130H fleet and the Sea King helicopters.

Phase 2A will acquire and integrate electronic warfare self protection onto Black Hawk and Chinook helicopters. Awarding of the prime contract is anticipated by the end of July 2004. Planned activity under the prime contract in 2004-05 is to mature the design that was developed under the initial design activity conducted in 2001-02. The anticipated in-service dates for this phase are early 2008 for the Black Hawk and mid-2008 for the Chinook aircraft.

Phase 2B will upgrade the electronic warfare self protection capability on all C-130H aircraft. Awarding of the prime contract is anticipated by the end of August 2004 and completion of the engineering design activity over 2004-05 will allow induction of the first aircraft in early 2005-06. The anticipated in-service date for the C-130H is mid-2007. Due to the proposed retirement of the Sea King in 2007, work on the ballistic protection for this aircraft has been suspended.

The project contributes to Army and Air Force capabilities.