

DEFENCE

CHAPTER SEVEN

DEFENCE MATERIEL

ORGANISATION

BUDGET

**APPROVED MAJOR CAPITAL EQUIPMENT
PROJECTS**

Project Descriptions

BUDGET

The estimates in Table 7.1 contribute to the cost of Defence outcomes and outputs detailed in Chapter Four (Planned Outcome Performance).

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

	Budget Estimate	Revised Estimate	Variation	Variation
	2004-05 \$'000	2004-05 \$'000	\$'000	%
DMO OPERATING EXPENSES				
Employees – Military	99,319	125,723	26,404	26.6
Employees – Civilian	336,556	340,302	3,746	1.1
Total employees	435,875	466,025	30,150	6.9
Total suppliers	1,653,894	1,634,671	-19,223	-1.2
Total	2,089,769	2,100,696	10,927	0.5
DMO PURCHASES				
Approved Major Capital Equipment Purchases				
Capital	2,483,834	2,684,243	200,409	8.1
Operating	328,882	412,232	83,350	25.2
Total	2,812,716	3,096,475	283,759	10.1
Other Capital Purchases				
Minor Capital Equipment	110,886	161,361	50,475	45.5
Repairable Items	145,729	236,319	90,590	62.2
Other Plant and Equipment	114,869	99,888	-14,981	-13.0
Total	371,484	497,568	126,084	33.9
Inventory Purchases				
General Inventory	570,476	465,720	-104,756	-18.4
Fuel	255,900	274,387	18,487	7.2
Explosive Ordnance	192,561	185,496	-7,065	-3.7
Total	1,018,937	925,603	-93,334	-9.2

Note

- All budget estimates amounts are at a *Portfolio Additional Estimates Statements 2004-05* 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 Defence Materiel Organisation. Projects for the acquisition of new equipment capabilities that have not yet been approved by the Government are not included in this funding.

Explanations of Significant Variations

The major variations to the Defence Materiel Organisation budget are due to:

- a net increase in military employee expenses (+\$26.4m) due to re-baselining of the military workforce and adjustments to the ADF Military Workforce Remuneration Arrangement;
- a net increase in civilian employee expenses (+\$3.7m) due to salary adjustments in accordance with the Defence Employees Certified Agreement;
- a net decrease in supplier expenses (-\$19.2m) due to:
 - revised amount of funding transferred with the separation of Joint Logistics Command (-\$6.9m) from the Defence Materiel Organisation,

Budget

- additional funding provided for indexation (+\$15.2m),
- reduction of the Defence Materiel Organisation suppliers funding associated with new travel contract arrangements with Qantas (-\$3.4m),
- reallocation of funds to purchase new repairable items rather than repair uneconomical stock (-\$25.9m),
- increased costs associated with the implementation of the Free Trade Agreement (+\$4.4m), and
- other adjustments (-\$2.6m);
- a net increase in approved major capital equipment purchases (+\$283.8m) mainly due to:
 - price increases (+\$20.5m),
 - foreign exchange adjustments (+\$59.7m),
 - transfers from the Defence Capability Plan of projects approved since the 2004-05 Budget (+\$291.3m). This includes \$70m redirected from the major capital facilities program to support the progression of the trooplift helicopter project,
 - reprogramming of funding from the main battle tank replacement project to the trooplift helicopter project with repayment to the tank project in later years (-\$84.9m), and
 - a net transfer out of the approved major capital investment program (-\$11.5m) to other Groups to fund their project-related output;
- a net increase in other capital purchases (+\$126.1m) due to:
 - additional funding provided for indexation (+\$5.6m),
 - a net increase in minor capital equipment purchases including increased requirements for the Defence Information Environment (+\$20m),
 - a net increase in repairable items required for support of the Air Force (+\$5.7m),
 - increase in funding to purchase additional repairable items rather than repair uneconomical stocks (+\$94.3m), and
 - other adjustments (+\$0.5m); and
- a net reduction in inventory purchases (-\$93.3m) due to:
 - additional funding provided for indexation (+\$8.7m),
 - a net reduction in general inventory purchases (-\$35.1m),
 - reallocation of funding for improved purchase of repairable items and other capital (-\$55.4m),
 - a net reduction in the purchase of explosive ordnance inventory (-\$9.8m), and
 - other adjustments (-\$1.7m).

APPROVED MAJOR CAPITAL EQUIPMENT PROJECTS

The Defence Materiel Organisation 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 revised forecast expenditure in 2004-05. Planned expenditure for the top 30 projects represents 80 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 ⁽²⁾	Cumulative Expenditure to 30 June 2004	2004-05 Budget Estimate ⁽³⁾	2004-05 Revised Estimate ⁽⁴⁾	Variation
		\$m	\$m	\$m	\$m	\$m
Aerospace						
Airborne Early Warning and Control	AIR 5077	3,459	1,554	462	497	35
Armed Reconnaissance Helicopter	AIR 87 Ph2	1,927	425	445	419	-26
ADF Air Refuelling Capability	AIR 5402	1,829	1	214	208	-6
F/A-18 Hornet Upgrade	AIR 5376 Ph2	1,533	614	134	155	21
P-3C Update Implementation	AIR 5276	904	793	48	45	-3
Anzac Ship Helicopter	SEA 1411 Ph1	1,000	889	60	29	-31
F/A-18 Hornet Structural Refurbishment Program – Stage 1	AIR 5376 Ph3.1	118	31	23	27	4
Maritime						
Anzac Ship Project ⁽⁵⁾	SEA 1348	5,356	4,882	220	190	-30
Collins Replacement Combat System	SEA 1439 Ph4A	437	81	158	138	-20
Armidade-class Patrol Boat	SEA 1444	462	23	81	78	-3
FFG Upgrade Implementation	SEA 1390	1,448	911	137	71	-66
Evolved SeaSparrow Missile	SEA 1428 Ph2B/3	272	174	43	48	5
New Heavyweight Torpedo	SEA 1429 Ph2	414	72	31	44	13
Collins-class Reliability and Sustainability Improvements	SEA 1439 Ph3	361	114	55	36	-19
Anti-Ship Missile Defence	SEA 1448 Ph2A	474	1	31	20	-11
Land						
Australian Light Armoured Vehicles	LAND 112 Ph3	669	472	58	57	-1
Upgrade of M113 Armoured Vehicles	LAND 106	575	137	34	46	12
Direct Fire Guided Weapon	LAND 40	145	24	35	33	-2
Bushranger Infantry Mobility Vehicles	LAND 116	344	100	32	26	-6
Ground Surveillance Radar	LAND 53 Ph1E	83	45	27	7	-20
Electronic & Weapon Systems						
Milsatcom - Ground Infrastructure	JP 2008 Ph3E	145	34	52	45	-7
Lightweight Torpedo Replacement ⁽⁶⁾	JP 2070 Ph2	311	84	75	44	-31
Jindalee Operational Radar Network	JP 2025 Ph3/4	1,239	1,095	36	36	0

Approved Major Capital Equipment Projects

High Frequency Modernisation	JP 2043	598	275	30	31	1
2CRU/3CRU Control and Reporting Units	AIR 5333	242	44	38	30	-8
Air-to-Surface Stand-Off Weapon Capability	AIR 5398	439	329	28	30	2
Air-to-Air Weapons Capability	AIR 5400 Ph1/2	312	235	31	30	-1
Electronic Warfare Self Protection for Selected ADF Aircraft	AIR 5416	281	3	28	20	-8
Air-to-Air Weapons Follow-on Buy	AIR 5400 Ph3	175	117	23	10	-13
New Air Combat Capability						
New Air Combat Capability ⁽⁷⁾	AIR 6000 SDD	206	66	53	27	-26
TOTAL TOP 30 PROJECTS		25,758	13,625	2,722	2,477	-245

Notes

1. The table includes only projects that ranked in the Top 30 by forecast 2004-05 expenditure at the time that the *Portfolio Budget Statements 2004-05* were finalised. Ranking projects approved subsequently (AIR 9000 Ph2 – Additional Trooplift Helicopter and LAND 907 – Main Battle Tank Replacement Project) will be tabulated in the *Portfolio Budget Statements 2005-06*.
2. January 2005 prices.
3. December 2004 prices.
4. January 2005 prices.
5. Project approval, expenditure and estimate figures are the net cost of the ten-ship program after deducting New Zealand payment.
6. This project was previously reported in the portfolio budget statements under maritime projects.
7. Reported as Joint Strike Fighter in the portfolio budget statements.

PROJECT DESCRIPTIONS

AIR 5077 Airborne Early Warning and Control

Prime Contractor: Boeing (United States)

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

The first aircraft flew in May 2004 and will complete its flight certification testing in March 2005. The second aircraft completed its modification program in December 2004 and will begin mission system testing in June 2005.

The critical design review for the last of the ground segments and the support facility was completed successfully in October 2004. Build 6 of the mission computing software entered test in December 2004 and Builds 7/8 will enter test in June 2005. Construction of the support centre building was completed ahead of schedule as part of the prime contract in November 2004, while construction of the maintenance hangar and aircraft parking areas commenced as part of Stage 1 of the RAAF Williamstown (New South Wales) Redevelopment in November 2004.

The revised estimate is due primarily to movements in economic price growth and foreign currency exchange rate and an increase in previously forecast foreign military sales payments to the United States Government.

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 Government signed a 15-year support contract that commences when the first helicopters start flying in Australia. The in-service date was achieved with two armed reconnaissance helicopters delivered on 15 December 2004. This event was a significant achievement for the Defence Materiel Organisation in providing the Army with an initial capability in the required time frames.

The final two armed reconnaissance helicopters constructed in France, and the first helicopters from the Australian production line at the Australian Aerospace facility in Brisbane, will be delivered in early 2005. Training of Australian military and contractor flying instructors is continuing in France and will commence in Australia from early 2005. Ground crew and maintenance technician training has commenced in Australia.

Final delivery of the armed reconnaissance helicopters and achievement of full operational capability will occur by December 2008.

The revised estimate reflects two main issues: rescheduling of planned spares procurement from 2004-05 into 2005-06 and rescheduling of other non-aircraft-related contract milestones.

This project contributes to Army capability.

AIR 5402 ADF Air Refuelling Capability

Prime contractor: EADS CASA (acquisition) and Qantas Airways Ltd (through-life support)

This project seeks to acquire five new generation Airbus A330 multi-role tanker transport aircraft, together with through-life support services including engineering, maintenance, spares management, upkeep of technical data, software management and training support.

The acquisition contract was signed with EADS CASA on 20 December 2004. Negotiation of the through-life support contract with Qantas will be finalised in 2005. The in-service date (comprising two aircraft, completion of qualification testing and issue of the military airworthiness certificate) is planned for late 2009.

The revised estimate is due to a revised payment schedule negotiated with the prime contractor.

This project contributes to Air Force capability.

AIR 5376 Ph2 F/A-18 Hornet Upgrade

Prime contractor: Boeing (United States)

This project seeks to upgrade the F/A-18 Hornet 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 colour cockpit displays, a digital moving map, a helmet-mounted cueing system for the advanced short range air-to-air missile and improved datalinks.

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.

In early 2005, the project will commence flight testing of the pilot situational awareness modifications.

The revised estimate is due to price and exchange rate fluctuations and the reprogramming of expenditure to align with United States Navy foreign military sales case disbursement forecasts. Further, the successful negotiation of the prime contract for the Hornet aircrew training system has resulted in the acceleration of the schedule, which therefore requires additional programming during 2004-05. A combination of cost savings in risk mitigation activities, delays in flight testing and issues with integration has resulted in \$12m being reprogrammed from 2004-05 to 2005-06 and beyond for the electronic warfare system.

This project contributes to Air Force capability.

AIR 5276 P-3C Update Implementation

Prime contractor: L-3 Communications

The P-3C Avionics Update project will ensure the continued operational effectiveness of the P-3C Orion fleet 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 was delivered in December 2004 and remaining aspects of the project (which include closure of the resident project office, return of Government-furnished equipment, contract acquittal and the completion of the project closure reports) will be completed during 2004-05. Delivery of some long lead-time spares and payments for interim support contracts will extend into succeeding years.

The revised estimate is due to reprogramming of additional spares.

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.

Eight helicopters have been delivered and provisionally accepted with an interim training suite of software and are being supported in-service by the new software support centre. Two more aircraft will be delivered in early to mid-2005 in the interim training helicopter configuration. The remaining helicopter is being used to test the full capability software in the United States and will be delivered in late 2005. Integration of the full capability software is progressing and is now scheduled to be completed by mid-2005. Kaman is expected to be able to offer the first full capability helicopter for acceptance in the second half of 2005.

The revised estimate reflects reprogramming due to slippage of the first full capability helicopter from late in 2004-05 to early in 2005-06. This milestone includes a significant single milestone payment negotiated in 2002 to act as an incentive to the contractor to maintain schedule. The potential risk of this payment slipping just outside 2004-05 was flagged when the Anzac Ship budget estimates figures were developed.

This project contributes to Navy capability.

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

Prime contractor: Boeing (Australia)

This project seeks to refurbish the airframe structure of the F/A-18 Hornet 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 of 2015.

The project schedule for 2004-05 includes the completion of the full suite of modifications on seven aircraft. These production activities are being conducted at RAAF Williamtown in New South Wales.

The revised estimate is due to price and exchange fluctuations, the reprogramming of facilities requirements to align with Corporate Services and Infrastructure Group building requirements, and reprogramming of funding for the installation of modification kits in line with contract schedule milestones.

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.

The reduction in expenditure in 2004-05 is largely due to the reprogramming of changes required to meet operational requirements for the Anzac-class ships.

This project contributes to Navy capability.

SEA 1439 Ph4A Collins Replacement Combat System

Prime contractors: United States Department of Defense under a foreign military sales case and a memorandum of understanding, as well as Raytheon Australia, Thales, Sonartech Atlas and ASC Pty Ltd

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

A significant portion of the foreign military sales case was transferred to an armaments cooperative project in November 2004. Under the armaments cooperative project, Raytheon US and General Dynamics will provide the system and the ongoing development of the combat system.

A preliminary design contract for platform modification was established with ASC Pty Ltd, and a contract for a follow-on system and detailed design will be established in early 2005. Contracts to install the combat system in the submarines will be established progressively.

Establishment of the shore integration facility in Western Australia commenced in mid-2004 and will be ready for system integration in 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.

The delay from March 2004 until November 2004 in establishing the Armaments Cooperative Project with the United States, and the rescheduling of contractors' activities contributed to a \$20m slippage in the revised 2004-05 budget estimate without affecting the overall project schedule.

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 contract for acquisition and 15-years support for each vessel was signed on 17 December 2003. The prime contractor will supply a fleet of twelve vessels to provide 3,000 days operational availability for Coastwatch and ADF support operations, plus a surge capacity of up to 600 additional available days per year.

Design work is complete and the production is on track to deliver the first patrol boat in the second quarter of 2005. Minor increase in the estimated expenditure reflects ancillary contracts signed since the *Portfolio Budget Statements 2004-05*.

Public Works Committee approval has been obtained to commence upgrades to facilities in Darwin to accommodate the larger vessels. The relocation of project staff from Canberra to Darwin to allow collocation with the Patrol Boat Force Element Group will commence in early 2005 as planned.

This project contributes to Navy capability.

SEA 1390 FFG Upgrade Implementation

Prime contractor: ADI Limited

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. The FFG Upgrade project will improve the anti-ship missile defence and air surveillance capabilities of the ships.

Contractor delivery of the lead ship (HMAS *Sydney*) is planned for the third quarter of 2005. The second ship is planned to enter upgrade after provisional acceptance of the lead ship. The upgrade is scheduled to conclude with the delivery of the upgraded HMAS *Newcastle* by 2008.

As a result of the Defence Capability Plan 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. 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.

Overall program schedule slippage has resulted in payment milestones not being achieved and earned value claims being less than estimated.

This project contributes to Navy capability.

SEA 1428 Ph2B/3 Evolved SeaSparrow Missile

Prime contractor: Raytheon (United States)

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 HMA 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 guided missile frigates under their upgrade program.

The variation in expenditure is due to early payment for missiles previously forecast in 2005-06 being reprogrammed to 2004-05 and exchange rate variations.

This project contributes to Navy capability.

SEA 1429 Ph2 New Heavyweight Torpedo

Prime contractor: United States Department of Defense under a memorandum of understanding

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 and Defence signed the memorandum of understanding with the United States Navy in March 2003.

The project scope includes the acquisition of the weapons, associated logistic support, weapon system interface equipment, operational support, analysis and test equipment, and transition into service. The upgrade of the Torpedo Maintenance Facility at Garden Island, Western Australia is to be completed by March 2005 and the submarine integration design work by the end of 2005. Initial operational release is planned for late 2006, subject to submarine availability.

Schedule gains with the armaments cooperative project, and the introduction in June 2004 of scheduled payments for submarine integration under the through-life support agreement with ASC Pty Ltd, have contributed to an increase of \$13m in the outturn forecast for 2004-05.

This project contributes to Navy capability.

SEA 1439 Ph3 Collins-class Reliability and Sustainability Improvements

Prime contractor: ASC Pty Ltd

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.

An outturn forecast of \$36m is expected to be achieved for 2004-05. The reduced estimate is necessary to compensate for higher priority submarine work undertaken by the principal contractor within the constraints of its existing workforce.

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 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. Initial risk reduction studies were completed in mid-2004. Implementation is planned under an alliance agreement between Defence and the principal companies involved.

Phase 2B 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. Options for this phase may include the introduction of phased array radar technologies, depending on the outcomes of the feasibility studies and trials completed during 2004. Defence recommendations regarding this phase will be submitted to the Government for consideration in early 2005.

The revised expenditure is due to delays in the completion of risk reduction studies and finalisation of contracts prior to the commencement of work under a Project Alliance Agreement.

This project contributes to Navy capability.

LAND 112 Ph3 Australian Light Armoured Vehicles

Prime contractor: General Dynamics Land Systems (Canada)

This project is for the acquisition of an additional 144 wheeled light armoured vehicles that provide the basis of the Army's armoured reconnaissance and surveillance capability and the standardisation of the Phase 2 fleet. The additional vehicles will be used to complete the equipping of the 2nd Cavalry Regiment (Darwin, Northern Territory) and to equip the 2/14 Light Horse Regiment, which is located in (Brisbane, Queensland).

Vehicle deliveries to the 2nd Cavalry Regiment, Army Logistics Training Centre, the School of Armour and the 1st Combat Service Support Battalion have been completed under this phase. Delivery of vehicles to the 2/14 Light Horse Regiment has commenced. As at January 2005, all 144 Phase 3 vehicles and 12 of the 113 standardised Phase 2 vehicles have been delivered to the Commonwealth.

Key outcomes for 2004-05 will be contract signature for the multi-spectral surveillance system required for the Australian light armoured vehicles surveillance variant, and deliveries of Australian light armoured vehicles to the 2/14 Light Horse Regiment.

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 to improve protection, firepower, mobility and habitability.

The upgrade includes applique armour, a new armoured turret and machine gun, a new engine, drive train and suspension, and the stretching of 259 vehicles.

The project is proceeding on schedule, with full production due to commence in 2005 and the first Company group of vehicles 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.

The increase in expenditure is the result of the reprogramming of contract deliverables, the earlier incorporation of the vehicle armour solution, and an adjustment for inflation and movements in budgeted foreign currency exchange rates.

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.

Key outcomes expected in 2004-05 are the delivery of training equipment and continuation of introduction into service associated training. The project is on schedule to achieve introduction into service from 2005 to 2007.

The variation in expenditure is due to a more conservative estimate of foreign military sales billings and the affect of price and global update.

This project contributes to Army capability.

LAND 116 Bushranger Infantry Mobility Vehicles

Prime contractor: ADI Limited

Project Bushranger will acquire 299 infantry mobility vehicles from ADI to enhance the mobility of the Army. The infantry mobility family of vehicles will consist of six variants: troop, command, assault pioneer, mortar, direct fire weapon and ambulance. The vehicles will equip two motorised Army Infantry Battalion Groups, with a further 12 troop variants to be employed by the Air Force Airfield Defence Guards.

The first production vehicle delivered has been the subject of a significant range of tests designed to verify that the vehicle meets specified requirements. ADI have commenced full rate production of the vehicles.

The key performance outcomes for the project in 2005 will be the maintenance of the full rate production schedule and commencement of the introduction into service phase mid-year.

This project moves into the full production phase in the latter half of 2004-05. Taking historical invoicing factors into account, the project office have revised initial phasings to reflect a more realistic timeframe for expenditure, and therefore \$4.4m was rephased to 2005-06. This rephasing, coupled with a global update, explain the variation to expenditure.

This project contributes to Army capability.

LAND 53 Ph1E Ground Surveillance Radar

Prime contractor: Thales

This project is for the acquisition of 58 ground surveillance radars to provide an all-weather target detection and classification capability and indirect fire adjustment for selected infantry, artillery and cavalry units. The Australian

Manportable Surveillance and Target Acquisition Radar, designed and produced by Thales Defence (United Kingdom) and integrated by Tenix (Adelaide), is the selected materiel solution.

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

Key outcomes expected in 2004-05 are the completion of a third trial and finalisation of the build standard. The current timeframe for introduction into service, delivery of production equipment and commencement of the through-life support contract is 2005-06.

The revised estimate is due to contractor rectification work, which has delayed the delivery of production equipment to 2005-06.

This project contributes to Army capability.

JP 2008 Ph3E Milsatcom Ground Infrastructure

Prime contractor: BAE Systems (Australia)

Phase 3E will provide the high-priority satellite communications ground infrastructure for use with the Optus C1 satellite Defence payload.

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 the final terminal installation to occur in the last quarter of 2006.

A contract for the land terminals was signed with BAE Systems on 30 November 2004, with delivery expected in late 2006. Defence is the systems integrator for the overall Phase 3E requirements, which includes (in addition to the maritime terminals and land terminals) broadcast software and a primary injection facility. These elements will be progressively delivered from first quarter of 2005.

The revised budgetary estimate is due to delays in finalising the contract for land terminals, a different contract milestone payment schedule to that previously anticipated, and a revised approach to the acquisition broadcast software.

The project contributes to the Command of Operations capability.

JP 2070 Ph2 Lightweight Torpedo Replacement

Alliance agreement: Commonwealth of Australia, EuroTorp and Thales

Phase 2 of this project will introduce the EuroTorp MU90 lightweight torpedo into ADF service to replace the United States Navy Mk 46 lightweight torpedo. The weapon is to be integrated into the Anzac and Adelaide-class frigates, the Super Seasprite and Seahawk helicopters and the P-3 Orion maritime patrol aircraft. This phase will acquire an initial stock of weapons, integrate the

weapon into all platforms, establish a local weapon assembly facility and a local in-service support and operator and maintainer training capabilities.

The weapon is being acquired under an alliance agreement between the Commonwealth, EuroTorp and Thales in December 2002. The initial batch of MU90 torpedoes for test and evaluation is scheduled for delivery in early 2006.

While the full capability in-service date for the MU90 torpedo is 2009, three Anzac-class frigates have already received the necessary modifications to be able to fire both the current weapon and the MU90. Installation into the other frigates will be completed by December 2007, depending on ship maintenance schedules and fleet activity schedules. The integration contract for the P-3 Orion aircraft is currently being developed. The integration plan for the helicopters remains to be determined.

Contract signature for the procurement of additional weapons under Phase 3 is planned for the first quarter of 2005.

The revised budgetary estimate is due to schedule delays associated with the platform systems integration activities in the P-3 Orion and Navy Headquarters, and a consequent delay in the required delivery date for the Seahawk helicopter torpedo weapon systems hardware.

The project contributes to Navy and Air Force capabilities.

JP2025 Ph3/4 Jindalee Operational Radar Network

Prime contractor: RLM Systems

The Jindalee Operational Radar Network consists of the radar network control centre at RAAF Edinburgh near Adelaide and two new over-the-horizon radars: one near Longreach, Queensland and the other near Laverton, Western Australia. The previously existing Jindalee radar system near Alice Springs, Northern Territory has also been incorporated to form a three-radar network that is centrally controlled from RAAF Edinburgh. With the successful delivery of the Jindalee Operational Radar Network 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.

JP 2043 High Frequency Modernisation

Prime contractor: Boeing Australia

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.

System acceptance of the first stage occurred in October 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 early 2005.

This 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 with an integrated, real-time, ADF air defence system and an associated communications network at Nos. 2 and 3 Control and Reporting Units located at RAAF Tindal (Northern Territory) and RAAF Williamtown (New South Wales). The first command and control system is expected to be installed and operational at RAAF Tindal by mid-2007.

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

The revised budgetary estimate is due to contractor delays in completing the engineering design processes, due mainly to the slow ramp-up of the contractor's project team.

The project contributes to Air Force capability.

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

Prime contractor: Precision Guided Systems United States, 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 improving the stand-off range for the aircraft, thereby contributing to the survivability of the aircraft.

The project schedule for 2004-05 includes continued delivery of missiles and ground support equipment into Australia. Flight testing has commenced and will continue in 2005. Upgrades to the flight simulator and acquisition of a mission rehearsal system will also be progressed in 2005.

The revised budgetary estimate is due to higher than anticipated costs associated with establishing the contract for the mission rehearsal system.

This 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 Matra BAe Dynamics Alenia UK

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

Phase 1 of the project seeks to acquire and maintain a credible air-to-air weapons capability for F/A-18 Hornet aircraft through the acquisition and integration of 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).

Service release of the beyond-visual-range missile was achieved in December 2001. Current effort is focused on securing the release to Australia of more capable missile variants from the United States Government.

Service release of the short-range air-to-air missile occurred on 5 July 2004 and was accepted into service in August 2004. Deeper level maintenance and software support capability and facilities are scheduled to commence in late 2005.

All short-range missiles and the majority of the medium-range missiles have been delivered.

The project schedule for 2005 includes continued delivery of medium-range missiles, implementation of performance upgrades to both missiles, provision of indigenous support capabilities and transition to in-service management agencies.

The revised budgetary estimate is due to the removal of a requirement to upgrade some older missiles, a reassessment of the foreign military sales funding and a reduction in the maintenance spares requirements.

This project contributes to Air Force capability.

AIR 5416 Electronic Warfare Self Protection for Selected ADF Aircraft

Prime contractor: Phase 2A - Contract not yet awarded
 Phase 2B - Tenix

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; Black Hawk and Chinook helicopters, the C-130H Hercules 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 January 2005. One of the main activities under the prime contract will be the development of the integration design from the initial design activity

stage. The anticipated in-service dates for the first modified aircraft for each type are early 2008 for the Black Hawk and mid-2008 for the Chinook aircraft. The full production contract is yet to be negotiated, but it is anticipated that the Black Hawk and Chinook fleets will be modified by late 2009.

Phase 2B will upgrade the electronic warfare self-protection capability on all C-130H Hercules aircraft. Awarding of the prime contract award for Phase 2B occurred in December 2004 and the completion of the engineering design activity is expected in 2005 to allow induction of the first aircraft in early 2006. The anticipated in-service date for the C-130H aircraft is mid-2007, with all 12 aircraft completed by April 2008.

Due to the proposed retirement of the Sea King in 2007, work on the ballistic protection for this aircraft has been suspended.

The revised budgetary estimate is due to delays in awarding contracts for the Black Hawk, Chinook and C-130H Hercules work.

The project contributes to Army and Air Force capabilities.

AIR 6000 SDD New Air Combat Capability

Memorandum of Understanding: United States Government

This project aims to introduce a new air combat capability with the air dominance and strike functions currently provided by the F/A-18 Hornet and F-111 aircraft fleets. While a formal decision on the replacement aircraft 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. The systems development and demonstration phase funds Australia's contribution to the program.

Under a separate phase, the project is undertaking collection and analysis of system development and demonstration information and the associated studies, risk mitigation and planning activities necessary to support the Government's first pass procurement decision scheduled for 2006. It also supports Australian industry participation in the Joint Strike Fighter program and development of the international agreement that will provide the means for acquisition, support and ongoing development of the aircraft. Formal negotiations for this agreement are scheduled to commence in May 2005.

The \$26m underspend against 2004-05 estimates was a result of bringing forward a July payment into 2003-04, as noted in *the Defence Annual Report 2003-04* (p. 223).

This project contributes to Air Force capability.