

CHAPTER 4

DEFENCE

This chapter outlines Australia's defence policy and its defence relationships with other countries; the higher defence organisation; the functions, organisations, manning and training of the three Services; the functions and activities of the Defence Science and Technology Organisation, the Natural Disasters Organisation and the Department of Defence Support.

Further information on current defence planning and activities is available in the Defence Report and other publications of the Department of Defence, and in statements to the House of Representatives by the Minister for Defence.

Current defence policy

Australian defence policy is primarily directed to the development of independent and, within resource constraints, increasingly self-reliant defence capabilities to deter and, if necessary, defeat military threats against Australia and its direct interests.

Planning for Australia's defence is not based on meeting particular threats. Rather it recognises that there are a number of possible contingencies which, were they to arise, would have consequences for our security. Particular attention is given to the capabilities of the Defence Force to deal with lesser threats or contingencies, such as limited harassments, raids, incursions, etc., that could arise at short notice and to ensuring that there are options for a future government to expand defence capability in response to changes in the strategic outlook.

The security and stability of our immediate neighbourhood is of major strategic importance to Australia and the continued development of an independent defence capability enhances our ability to contribute to the peaceful development of that region. Priority in defence activity is consequently given to areas close to Australia and high value is placed on fostering the defence relationship with the countries of South East Asia and the South West Pacific.

The ANZUS alliance remains an important element of our defence policy. Although the Treaty was concluded a generation ago and in a very different strategic environment, the commitments and obligations that were accepted then remain relevant and applicable to contemporary strategic circumstances. The partners acknowledge that the alliance is based on the fundamental precept that the Treaty does not absolve each government from the primary responsibility to provide for its own security to the extent that its resources allow.

Higher defence organisation

The higher organisation of the Defence Force is dealt with in the *Defence Act 1903*, which provides that responsibility for the general control and administration of the Defence Force rests with the Minister for Defence.

Chief of the Defence Force: Under section 9 (2) of the *Defence Act 1903* the Chief of the Defence Force is vested with the command of the Defence Force. The Chief of the Defence Force is the chief military adviser to the Minister and in addition the Chief of the Defence Force has, with the Secretary, the joint administration of the Defence Force as specified below.

Secretary, Department of Defence: The Secretary has the normal powers and responsibilities of a Departmental Secretary under the Public Service Act, the Audit Act and Finance Regulations. In addition to these powers, section 9A of the *Defence Act 1903* makes the Secretary and the Chief of the Defence Force jointly responsible for the administration of the Defence Force (except for the matters falling within the command of the Defence Force or any other matter specified by the Minister). The Secretary is the principal civilian adviser to the Minister for Defence and is responsible to the Minister for advice on general policy and on the management and utilisation of defence resources.

Higher Defence Machinery

An extensive committee system in the higher defence organisation formulates policy for the achievement of government defence objectives. It also facilitates decisions on matters of defence administration, including resource management, and on Joint Service planning and doctrine. The more important committees are described below.

The *Council of Defence* considers and discusses matters relating to the control and administration of the Defence Force referred to it by the Minister for Defence. The Council is chaired by the Minister for Defence and membership comprises the Minister Assisting the Minister for Defence, the Minister for Defence Support, the Secretary to the Department of Defence, the Chief of the Defence Force, the Secretary of the Department of Defence Support and the three Service Chiefs of Staff.

The *Defence Committee* is chaired by the Secretary to the Department of Defence, with the Chief of the Defence Force, the Chiefs of Staff, and the Secretaries to the Departments of the Prime Minister and Cabinet, Treasury and Foreign Affairs as members. The Committee advises the Minister for Defence on policy as a whole, the co-ordination of military, strategic, economic, financial and foreign affairs aspects of defence policy, and matters of policy or principle and important questions having a joint service or inter-departmental aspect.

The *Chiefs of Staff Committee* is responsible to the Minister for Defence through the Chief of the Defence Force, who is chairman of the committee. Its principal function is to provide advice to the Chief of the Defence Force, including professional single-service advice, to assist him in discharging his responsibility for command of the Defence Force.

The *Defence Force Development Committee* is chaired by the Secretary to the Department of Defence, with the Chief of the Defence Force, the Secretary to the Department of Defence Support and the three Chiefs of Staff as members. It advises the Minister for Defence on force development and the management of resources, including major equipment and facilities acquisitions and formulation of the Five Year Defence Program and annual budget estimates.

Defence Review

On 30 April 1981, the then Prime Minister announced in the House of Representatives a major review of the defence organisation as part of the Review of Commonwealth Functions. The final report of the Committee was presented to the then Minister for Defence in October 1982, and tabled in the Parliament in November 1982.

The recommendations of the Committee were generally accepted by the Government on 2 April 1984. The Government noted the Defence Review Committee's endorsement of the overall structure of the Defence Organisation established in the Defence Reorganisation of 1972-76.

A programme for the prompt and orderly implementation of the recommended organisation and machinery changes has been established. Significant recommendations which have been implemented include:

- the redesignation by legislation of the officer commanding the Defence Force as the Chief of the Defence Force and the provision of additional staff resources to strengthen the position;
- the centralisation of capital equipment procurement into a Capital Procurement Organisation in July 1984.
- the transfer of the responsibility for Defence Facilities Division to the Chief of Supply and Support, as it is a logistics function.

Equipment for the Defence Force

An amount of \$1,213.4 million (excluding special purpose B707 aircraft) was spent on equipment of a capital nature in 1983-84. An amount of \$1,405.3 million is expected to be spent in 1984-85.

Expenditure on major capital equipment in 1983-84 continued to be dominated by commitments arising from already approved projects. These include 75 McDonnell-Douglas F/A-18 tactical fighter aircraft; four US-built FFG guided missile frigates; ten additional P-3C Orion long range maritime patrol aircraft; PAVETACK target acquisition and tracking systems for the F111 aircraft; four and eight tonne trucks for the Army; and a modernisation program for the RAN's three guided missile destroyers.

On 12 October 1983 the Minister for Defence announced that the Government had decided in principle to proceed with the construction of two FFG-class frigates at Williamstown Naval Dockyard under what is now known as the Australian Frigate Project.

New major capital equipment items approved in the 1984-85 Budget context include the acquisition of helicopters for the FFG frigates, with an anti-submarine, surveillance and weapon targeting capability; the joint production at the Ordnance Factories at Bendigo and Maribyrnong of new 105mm field guns for the Army; the production in Australia of some 2000 HF radios for the Army; and the acquisition of new electronic warfare equipment to equip the ten P-3C aircraft presently being acquired.

EXPENDITURE ON DEFENCE FUNCTION

(\$'000)

Departmental category	Actual expenditure					Estimated expenditure
	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
Department of Defence—						
Capital Equipment	495,731	563,556	500,748	792,758	1,134,046	1,334,787
Capital Facilities	89,706	116,793	161,737	165,410	186,405	224,476
Defence Co-operation	30,045	37,914	39,676	44,209	45,644	48,201
Manpower	1,386,587	1,599,461	2,045,640	2,088,646	2,143,452	2,242,176
Other Running Costs	788,876	967,616	1,044,268	1,180,569	1,236,116	1,321,495
<i>Total</i>	<i>2,790,945</i>	<i>3,285,340</i>	<i>3,792,069</i>	<i>4,271,592</i>	<i>4,745,663</i>	<i>5,171,135</i>
Department of Defence Support—						
Capital Equipment	14,190	21,593	32,833	66,362	79,365	70,502
Capital Facilities	8,277	8,014	17,298	38,699	60,004	47,190
Manpower	12,453	15,961	19,196	97,729	108,806	101,961
Other Running Costs	82,277	91,963	112,653	137,945	169,085	177,939
<i>Total</i>	<i>117,197</i>	<i>137,531</i>	<i>181,980</i>	<i>340,735</i>	<i>417,260</i>	<i>397,592</i>
Other Departments—						
Capital Facilities	4,470	8,541	9,180	13,395	16,034	14,127
Manpower (including Remuneration Tribunal and Defence Forces Retirement and Death Benefits)	177,243	200,183	246,056	279,714	324,015	350,469
Other Running Costs	22,710	27,355	34,750	36,612	37,093	39,931
<i>Total</i>	<i>204,423</i>	<i>236,079</i>	<i>289,986</i>	<i>329,721</i>	<i>377,142</i>	<i>404,527</i>
Total expenditure on Defence function	3,112,565	3,658,947	4,264,035	4,942,048	5,540,065	5,973,254
Special provisions—						
Acquisition of Special Purpose Boeing 707 aircraft	3,395	196	289	103	30	82
Allowance for prospective wage and salary increases	60,000
Total Defence expenditure	3,115,960	3,659,143	4,264,324	4,942,151	5,540,095	6,033,336

Notes: 1. The 1982-83 expenditures and 1984-85 estimates of expenditure for the Department of Defence Support include expenditures previously attributable to the Departments of Defence, Industry and Commerce, Administrative Services and Science and Technology. It is not readily possible to express expenditures for 1979-80 to 1981-82 in a form comparable to that shown for 1982-83 and 1984-85. Expenditures shown for the Department of Defence Support prior to 1982-83 are primarily those for the former Department of Industry and Commerce and the Defence purchasing element of the Department of Administrative Services. 2. The 1983-84 expenditure and 1984-85 estimates of expenditure include classification changes reflected in the 1984-85 Budget Paper No. 1. 3. Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

Defence Industry

The Government announced principles on Defence Policy for Australian Industry in June 1984. It noted that Australian industry is extensively involved in programs for the support of the Defence Force which are consistent with strategic priorities and often involve cost premiums above those associated with the Government's general policies. The extent to which penalties for industry involvement in defence procurement are accepted has been determined by making case-by-case judgements of the value of the support and the penalties in cost, capability and availability.

The Government agreed that an effective defence policy for industry cannot be formulated except as an integral part of comprehensive defence policy. Defence funding of local industrial development or of local content in defence procurement should be made in the context of defence policies and priorities.

The Government accorded priority for the use of defence resources for the development of local industrial capability to firstly, repair, overhaul and adapt military equipment assessed as fundamental to Australia's defence in those circumstances which the Government accepts as the primary basis for defence planning.

In recent years over 90 per cent of defence spending on equipment repair and overhaul was incurred in Australia. In 1983-84 some 95 per cent of the \$188.8 million spent on maintenance and repair of Defence Force equipment was spent in Service maintenance depots, naval and other dockyards, Government factories and private industry throughout Australia. Australian industry was involved in, for example, refitting the Oberon submarines (costing \$30-40 million per vessel), modernising the RAN's DE and DDG vessels (project costs of \$139 million respectively) and refurbishing RAAF Macchi and Mirage aircraft (project costs of \$26 million and \$72 million respectively).

The Government also accorded priority to funding local supply of the munitions, spares and other consumable stores for which Australia could least rely on overseas supply (including stockpiling and other actions to give greater assurance of supply). Accordingly over 70 per cent of total defence spending on these items is routinely incurred in Australia. In 1983-84 Australian industry accounted for 72.5 per cent of the \$534.0 million spent on defence, for example, replacement gun barrels and tank tracks, commonly used ammunition, and spare parts like turbine blades.

The Government also accorded priority to developing within local industry the range of technologies and supply and support capabilities (including design, development, and manufacture) identified as meeting the longer-term needs of the Defence Force in accord with Government policy and defence guidance as to an acceptable balance of strategic benefits and costs. Defence capital equipment procurement is managed accordingly.

In recent years some 30 per cent of total defence spending of capital equipment is routinely incurred in Australia on selective local design and development and equipment; Australian adaptation of overseas technology to meet particular Australian requirements; local manufacture or construction under license of overseas designed capital items; and purchasing for military use, Australian manufactured commercial products. In 1983-84, total defence expenditure on capital equipment was \$1,213.4 million, of which \$364.5 million was incurred in Australia.

Complete design, development and manufacture of military equipment is undertaken on a selective basis to meet a unique Australian requirement or where there is a particular defence benefit. For example, the Mulloka sonar system was developed specifically for the Australian maritime environment by the Defence Science and Technology Organisation, and it is now being manufactured by Thorn EMI (Ltd) and progressively fitted in the RAN's destroyer escorts. Indigenous aircraft design and construction skills are maintained by projects like the Nomad utility aircraft and the subsequent RAAF basic pilot trainer now being developed by the Australian Aircraft Consortium.

Overseas technology is being adapted to particular Australian requirements in, for example, construction of tactical radios for the Army (Project Raven) and the Defence Integrated Secure Communications Network (DISCON) by Plessey (Australia) Pty Ltd.

Australian defence industry also manufactures overseas designed equipment under license. In November 1984 North Queensland Engineers and Agents Pty Ltd launched the last of 14 British designed Fremantle-Class patrol boats being built for the RAN. The French-designed underway replenishment ship being built by Vickers Cockatoo Dockyard was launched in 1984. Production development by the Australian Government Ordnance Factories of the UK-designed 105mm light gun is now well advanced.

Australian industry manufactures numerous commercial items suitable for military use. Mack trucks (Australia) Pty Ltd is to construct 940 eight tonne trucks for the Army; Mercedes Benz (Australia) Pty Ltd has contracted for the 1,295 four tonne trucks also required by the Army.

In 1983-84 payments for relatively few, but very complex and necessarily imported capital items (for example F/A-18 fighters and Orion long range maritime patrol aircraft) absorbed 70 per cent of defence capital equipment spending. At the same time these overseas purchases generated opportunities for Australian industry. The F/A-18 project, for example, designates a carefully chosen range of assembly and manufacturing tasks to be undertaken in Australia to establish the requisite indigenous support capacity. In addition, a broad range of Australian industry will compete for offset work negotiated in conjunction with the contract.

INDUSTRY RELATED DEFENCE EXPENDITURE IN AUSTRALIA

	1979-80		1980-81		1981-82		1982-83		1983-84	
	\$m	%	\$m	%	\$m	%	\$m	%	\$m	%
Capital Equipment—										
Total	509.9		585.1		533.6		859.1		1,213.4	
Local	160.3	31.4	204.2	34.9	307.7	57.7	334.2	38.9	364.5	30.0
Replacement Equipment and Stores—										
Total	359.4		442.7		461.6		517.8		534.0	
Local	252.4	70.2	314.3	71.0	328.8	71.2	356.6	68.9	385.9	72.5
Equipment Repair and Overhaul—										
Total	108.2		134.9		159.9		183.5		188.8	
Local	98.6	91.1	126.3	93.6	146.3	91.5	170.4	92.9	178.5	94.5
Total Equipment Related Expenditure—										
Total	977.6		1,162.7		1,155.1		1,560.4		1,936.2	
Local	511.3	52.3	644.7	55.4	782.7	67.8	861.2	55.2	928.9	48.0

Notes 1. Where figures have been rounded, discrepancies may occur between sums of the component items and totals..

2. The 1983-84 figures reflect classification changes included in the 1984-85 Budget Paper No. 1.

Supply and support

Supply and support is concerned with maintenance of the Defence Force rather than with the more visible activities concerned with the acquisition of new equipment. It nevertheless performs a vital role in contributing to the state of Defence Force effectiveness.

Despite continued efforts to foster maximum practical Australian industry production and involvement, we must accept a level of dependence on overseas source of supply for major items of defence equipment. It is therefore necessary that efforts continue to be devoted to improving the reliance which can be placed on these overseas sources for continued support, particularly in other than peacetime. Progress in this important area continues.

The additional support costs associated with a rapidly increasing technology in weapon systems continues to put pressure on supply and support resources particularly when combined with the present need to make a greater percentage of defence expenditure available for new major equipment purchases. Attention is therefore turning even more to more rigorous justification of needs, increased rationalisation and improved efficiency.

Progress was made during the year towards this goal of improved efficiency with completion of the conversion of the three Services central EDP based supply systems from Honeywell to UNIVAC computers and introduction of a computer based system to improve management of the freight coming from North America.

In the longer term, the Services' EDP based supply systems are to be extensively redeveloped. This centrally managed and co-ordinated redevelopment, planned to coincide with replacement of computer hardware, is necessary to ensure that systems are responsive to Defence Force needs beyond the year 2000. A project organisation is currently being set up and has already begun its task. Implementation of systems is planned in the period 1988-1992.

International arrangements are also an important aspect of supply and support activity. The 1980 Memorandum of Understanding (MOU) on Logistic Support with the United States expires in early 1985 and steps are being taken towards its renewal. Arrangements for co-operative military airlift support were agreed in January 1984 and now form an annex to the MOU. Progress towards development of closer co-operative defence arrangements with New Zealand continues with reciprocal arrangements agreed during the year for repair and maintenance of defence equipment. Arrangements are also under development designed to facilitate co-operation in selected major defence procurement projects.

Capital facilities

During 1983-84, total expenditure on capital facilities was \$186 million. Expenditure in 1984-85 is expected to be \$224 million.

Emphasis throughout 1983-84 continued to be placed on the provision of facilities for planned new equipment and the continued upgrading and modernisation of existing facilities. Proposals for works to develop RAAF Base Tindal, at an estimated cost of \$167 million, were supported by the Public Works Committee report of May 1984. Work commenced to provide operational and support infrastructure for the F/A-18 at Williamstown costing \$32 million. A new explosive storage facility for the Navy at Cairns and a replacement wharf for patrol boats at HMAS 'Encounter' in South Australia were commenced. Work also commenced on redevelopment of facilities for the Air Defence Regiment at Woodside, South Australia. The total is estimated to be \$15 million with completion planned for 1986-87. Works to improve two of the Army's brigade areas at Townsville and Holsworthy were completed. \$29 million was spent on the purchase or construction of houses during the year. 450 houses were built and the construction or purchase of a further 397 was authorised. \$8 million was spent in improving existing older houses.

Defence manpower

The following table indicates the range of activities and occupations in which defence military and civilian manpower are involved.

FUNCTIONAL DISTRIBUTION OF DEFENCE MANPOWER AS AT 30 JUNE 1984

Function	Service	Civilian	Total
Operational Forces and Logistic Support	32,123	784	32,907
Specialist Support (e.g. communications, medical services)	5,390	4,098	9,488
Stores and Supply: Storage and Control	2,764	4,399	7,163
Equipment production, repair and overhaul	3,098	1,201	4,299
Training	16,518	1,452	17,970
Support to Reserves and Cadets	1,635	128	1,763
Research and Development	291	4,486	4,777
Department of Defence Headquarters and Administration including overseas representation	4,164	3,040	7,204
Department of Defence Regional Commands and Administration	5,458	3,892	9,350
Defence Co-operation	201	5	206
<i>Sub-Total</i>	<i>71,642</i>	<i>23,485</i>	<i>95,127</i>
Department of Defence Support—			
Shipyards	—	5,342	5,342
Aerospace	—	2,387	2,387
Munitions	—	6,226	6,226
Industry Support and Corporate Services	—	1,311	1,311
<i>Sub-Total</i>	<i>—</i>	<i>15,266</i>	<i>15,266</i>
Total	71,642	38,751	110,393

Notes: Figures cannot be reconciled with those in Year Books published prior to 1983 owing to changes within classifications and transfer of civilian staff to the Department of Defence Support. Civilian figures include only full-time operatives and exclude locally engaged civilians employed in support of Air Force deployment, overseas persons on extended leave and part-time staff.

Permanent Defence Force

PERSONNEL STRENGTHS OF THE PERMANENT DEFENCE FORCE AS AT 30 JUNE 1984

	Navy	Army	Air Force	Total
1979	16,582	31,813	21,803	70,198
1980	16,961	32,321	22,249	71,531
1981	17,298	32,898	22,322	72,518
1982	17,598	32,876	22,711	73,185
1983	17,198	33,072	22,512	72,782
1984	16,692	32,278	22,672	71,642
1985 (approved targets)	16,246	32,677	22,797	71,720

COMPOSITION OF PERMANENT DEFENCE FORCE (a) AS AT 10 JUNE 1984

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
Male—				
Officers	2,117	4,197	3,384	9,698
Other Ranks	12,527	25,006	16,539	54,072
Cadets	328	509	469	1,306
Apprentices	645	603	569	1,817
Junior Recruits	76	—	—	76
<i>Sub-Total</i>	<i>15,693</i>	<i>30,315</i>	<i>20,961</i>	<i>66,969</i>
Females (b)—				
Officers	148	371	265	784
Other Ranks (c)	851	1,592	1,446	3,889
<i>Sub-Total</i>	<i>999</i>	<i>1,963</i>	<i>1,711</i>	<i>4,673</i>
Total Strength	16,692	32,278	22,672	71,642

(a) Includes Reserve personnel on full-time duty. (b) Excludes female personnel on maternity leave. (c) Includes female officer cadets and female apprentices.

Reserve Forces

Reserves comprise trained and partly trained volunteers who are available to participate in the defence of Australia and its interests in times of war or defence emergency. Royal Australian Navy and Royal Australian Air Force Reserves can be used to supplement and increase the rate of effort of the Permanent Forces. The Army Reserve consists mainly of formed units and sub units, which with the Regular Army, provide the basis for expansion of the Army.

RESERVE COMPONENTS WITH TRAINING OBLIGATIONS (a) AS AT 30 JUNE 1984

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1979	1,037	22,978	498	24,513
1980	1,039	23,986	502	25,527
1981	1,021	31,125	591	32,737
1982	1,094	31,706	873	33,673
1983	1,204	33,227	1,178	35,609
1984	1,220	29,021 (b)	1,277	31,518

(a) Reserves with training obligations (b) The reduction in strength from 33,227 as at 30 June 1983 results from:

1. A controlled recruiting programme instituted to bring Army Reserve strength down to a ceiling of 30,000; and
2. An unforeseen increase in the number of discharges in the latter half of the financial year.

Defence Co-operation

In support of Australia's defence and foreign policies the Government seeks to foster practical working relationships in the defence field with Papua New Guinea (PNG), South-East Asian and South-West Pacific countries. Within the framework of the Five Power Defence Arrangements (Australia, Malaysia, New Zealand, Singapore, United Kingdom) Australia maintains a Defence Force presence in Malaysia with periodic deployments to Singapore (see following section of 'Defence Force Activities Overseas'), participates in the Integrated Air Defence System and in multilateral exercises with Five Power partners in the region.

Bilateral activities include exchanges of senior level visits, strategic consultations, combined military exercises and naval visits. We have granted use of certain Australian training facilities to Singapore to meet its own military training requirements. A principal bilateral activity is the Defence Co-operation Programs (DCP). These programs are geared to the needs and priorities of co-operating countries, and emphasise the transfer of skills and technology. Activities include training in Australia, joint projects, loan of Australian personnel, and combined military exercises.

In 1983-84 some 1,137 Service personnel from countries participating in the Defence Co-operation Program were trained in Australia by the three Services or with civil organisations.

Co-operation with PNG included the provision of Australian Loan Servicemen to PNG, combined exercises, training for PNG Servicemen in Australia, the provision of a Nomad aircraft and other defence equipment to help develop the Papua New Guinea Defence Force and an engineering project. Expenditure in 1983-84 totalled \$16.5 million.

In Indonesia, major Defence Co-operation projects include maritime patrol assistance, survey and mapping of Irian Jaya and the islands east and west of Sumatra, and turbine conversion of Sioux helicopters. Together with the provision of training and technical assistance, total expenditure was \$8.9 million in 1983-84.

Assistance to Malaysia in 1983-84 amounted to \$5.7 million, mainly for training. Australian servicemen in Malaysia provided assistance in the areas of computer logistics, and the development of an armour/artillery training centre.

Defence Co-operation with Singapore, composed of training and study visits in Australia and flying instructors in Singapore, totalled \$1.6 million in 1983-84. A similar amount (\$1.7 million) was spent on the program with the Philippines in 1983-84 and included Army technicians to assist in establishing a Nomad maintenance system as well as training and study visits in Australia.

Assistance to Thailand amounted to \$5.6 million, mainly towards the provision of four Nomad aircraft, and the maintenance support of existing Nomad aircraft purchased by Thailand.

In 1983-84 expenditure on co-operation with South-West Pacific countries increased to \$4.4 million. Activities in the South-West Pacific are not confined to those states with defence forces. They include technical advisory assistance, survey and mapping, hydrography, joint communications projects, engineering assistance in civil engineering projects, training and equipment assistance.

Defence Representation Overseas

Australia has resident Defence representation in 17 countries: Britain, China, France, Federal Republic of Germany, India, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Pakistan, Papua New Guinea, Philippines, Singapore, Suva, Thailand and the United States of America. In addition there is non-resident accreditation in Canada (from the United States of America), Iran (from Pakistan), Nepal (from India), Burma (from Thailand), Switzerland (from France) and to the South Pacific States of Vanuatu, Solomon Islands, Western Samoa, Tuvalu, Kiribati and Tonga (from Suva).

Defence Force Activities Overseas

The main areas where Australian Defence Force elements have been deployed during the year were Malaysia/Singapore, Papua New Guinea, the Middle East and the Indian Ocean. Units also visited the United Kingdom and Federal Republic of Germany, Indonesia, the Philippines, Japan, the United States, Canada, New Zealand and the South-West Pacific.

Australian Defence Force elements in the Malaysia/Singapore area include:

Navy—A Destroyer or Destroyer Escort is maintained in South-East Asian waters for much of the year. In addition other ships of the RAN visits the area on goodwill visits.

Army—An Australian infantry company is maintained at Butterworth on the basis of three month detachments from Australia, in a training role.

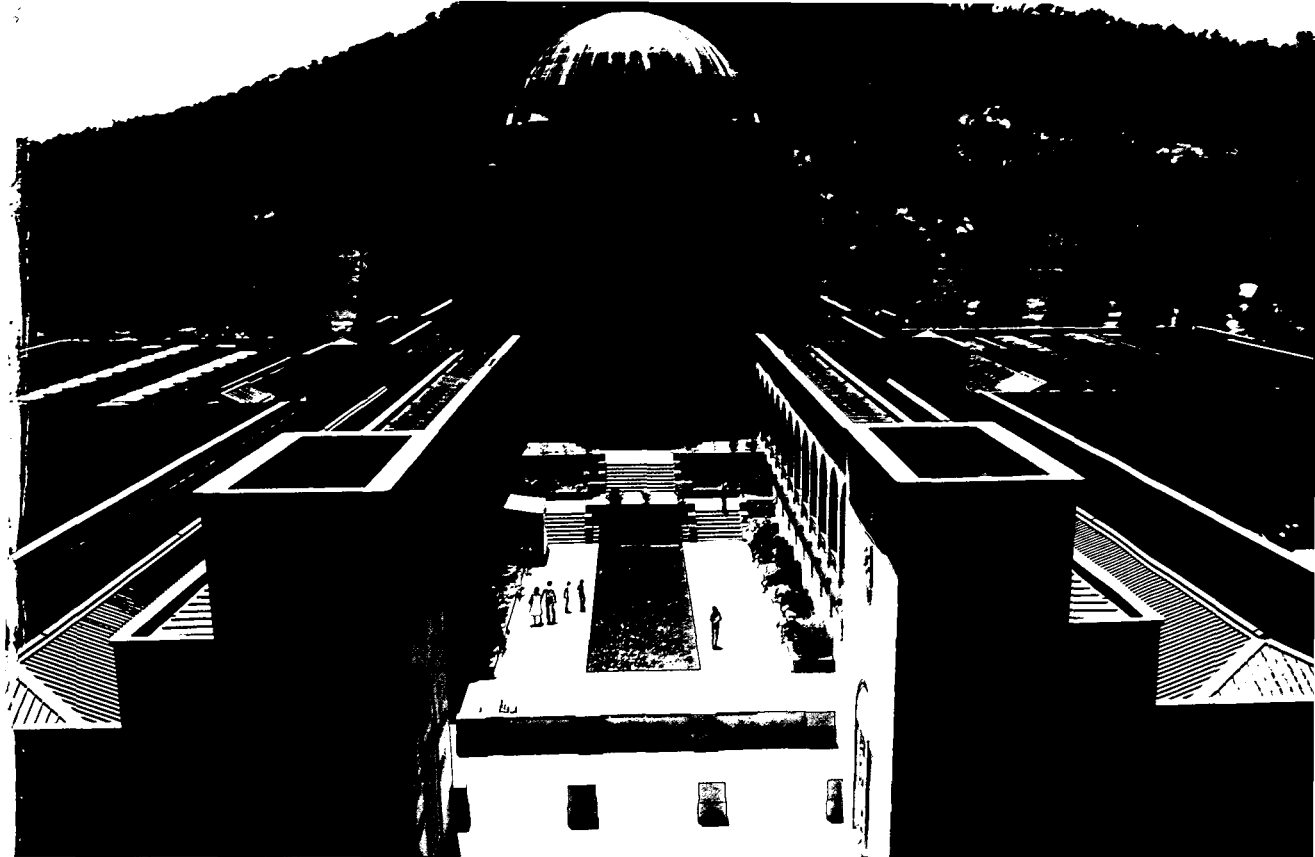
Air Force—The Government has decided that the Mirages will be replaced from mid 1988 by periodic deployments of F/A-18s as these aircraft are phased into service with the RAAF.

The Defence Force continued to contribute to United Nations peacekeeping operations with Australian Army observers in Kashmir, Egypt, Israel, Syria and Lebanon. In addition, since March 1982 Defence Force personnel have been deployed to Sinai for peacekeeping duties with the Multinational Force and Observers (MFO). An Australian Army Officer has been seconded to the UN HQ in New York for liaison duties.

Five Australian Army instructors have been in Uganda since March 1982, as part of a Commonwealth Military Training Team.

Since mid-January 1981 RAN ships have been deployed for patrol duties in the Indian Ocean littoral states.

Under the Defence Co-operation Program elements of the Defence Force have continued to conduct survey and civil engineering operations in the neighbouring countries. In 1983-84 major survey operations were undertaken in Indonesia and PNG and other survey tasks in Malaysia, Kiribati, and Tuvalu. A small group of Army Survey personnel are located in PNG assisting their National Mapping Bureau, an Army engineering unit is permanently located in the Southern Highlands Province of PNG and engineer units have been deployed to Fiji and Solomon Islands.



Aerial view of the Australian War Memorial, Canberra.

Australian War Memorial

The Memorial's new GALLIPOLI GALLERY opened in August 1984 by the Governor-General Sir Ninian Stephen, contains many models, documents and personal memorabilia of the Gallipoli campaign. — 1985 is the 70th anniversary of Gallipoli. For further information on the Memorial see page 616.



'Simpson' The Man with the Donkey—
W. Leslie Bowles' bronze sculpture
captures the spirit of Anzac.

Australian War Memorial

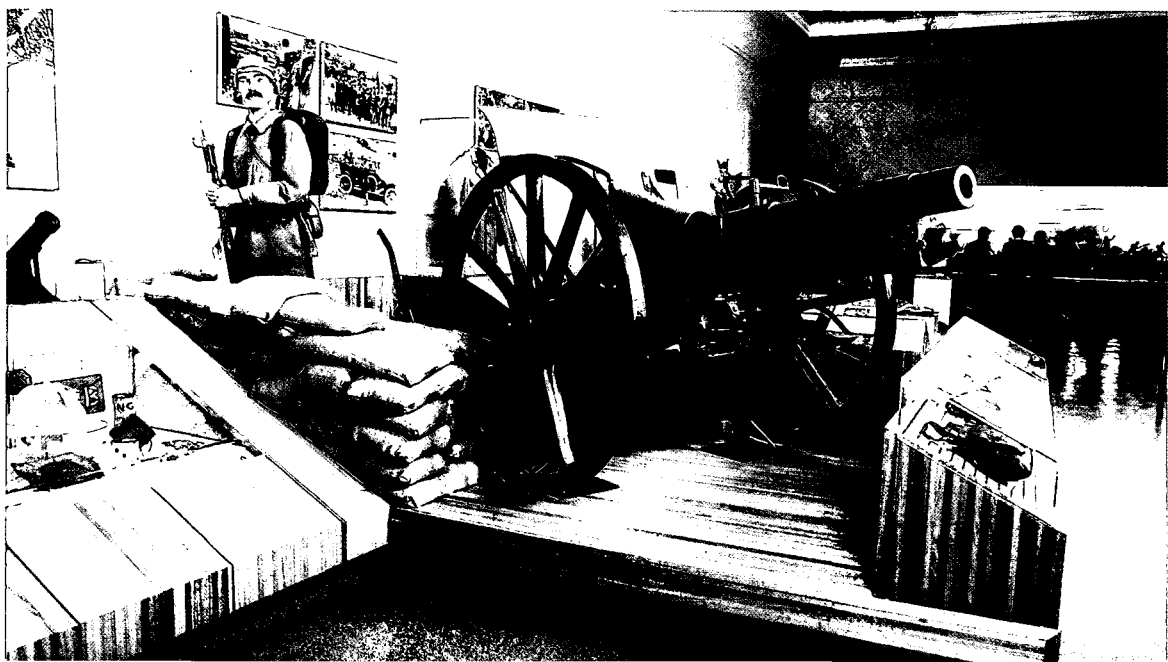
(Right) A large topographical map of the Gallipoli Peninsula showing the positions where the Anzacs landed and where they fought the Turks.

Australian War Memorial



(Below) View of the 'Life on Anzac' section of the Gallipoli Gallery featuring field gun in the foreground.

Australian War Memorial





'The Beach at Anzac' a painting by F. R. Crozier, on display at the Gallery.

Australian War Memorial



The restored Diorama 'Lone Pine'. Fierce fighting in the trenches resulted in 2000 Anzac casualties in one four-day-long period.

Australian War Memorial

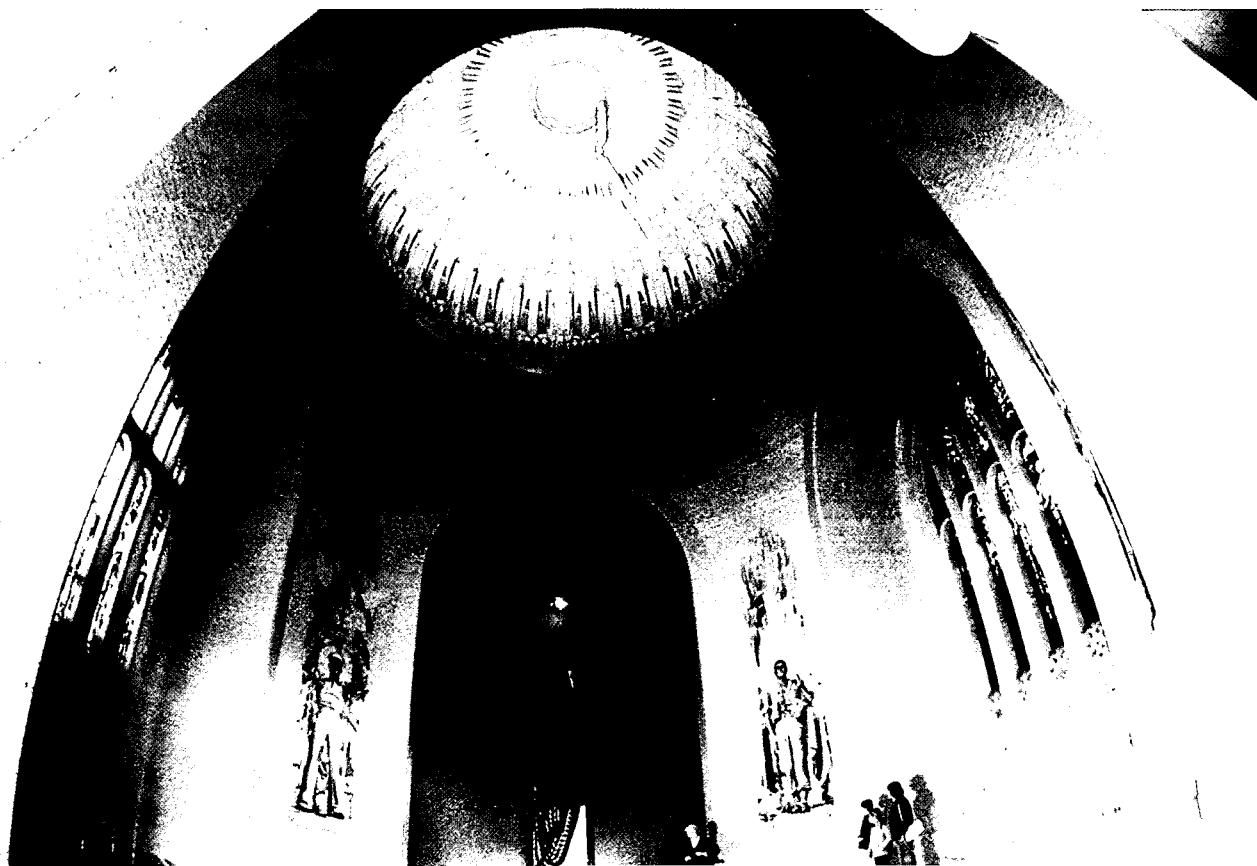
'Every Object Tells A Story' the travelling trunk shown in the foreground of this display belonged to a Nursing Sister and contains many of the original items.

Australian War Memorial

Australian casualties on Gallipoli
8,700 dead 19,000 wounded

Hall of Memory—Australian National War Memorial, featuring the spectacular dome shaped ceiling mosaic. The 5 metre statue on a marble plinth is in memory of The Unknown Soldier.

Australian War Memorial



THE DEFENCE FORCE

Royal Australian Navy

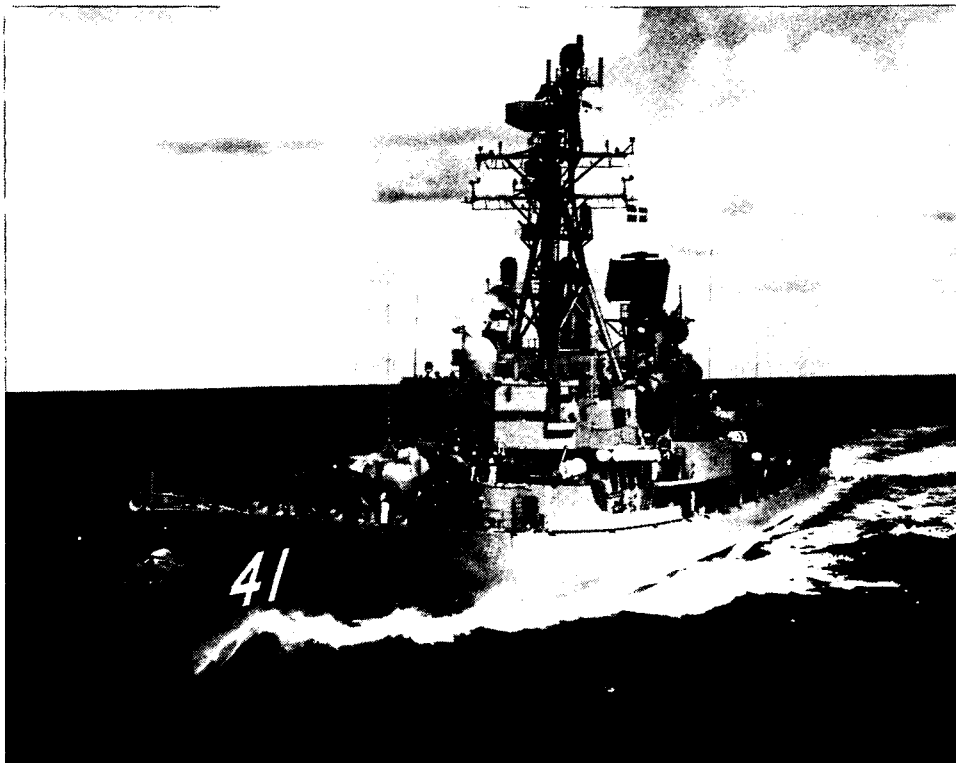
The RAN maintains and exercises a modern, well-equipped and highly-trained maritime force. The structure of this force is based primarily on the provision at sea of a balanced force group, consisting of surface warships, naval aviation and submarines.

Higher organisation

The Chief of Naval Staff has command of the RAN, subject to the command of the Defence Force by the Chief of the Defence Force. Principal staff officers to the Chief of Naval Staff are the Deputy Chief of Naval Staff, the Chief of Naval Operational Requirements and Plans, the Chief of Naval Personnel, the Chief of Naval Technical Services, the Chief of Naval Materiel and the Director General of Supply Navy. Other senior officers of the RAN include the Flag Officer Naval Support Command and the Flag Officer Commanding HM Australian Fleet.

Ships of the Royal Australian Navy

The Fleet, September 1984: *Stalwart*—destroyer tender; *Supply*—oiler; *Tobruk*—amphibious heavy lift ship; *Adelaide*, *Canberra*, *Sydney*—guided missile destroyers; *Perth*, *Hobart*, *Brisbane*, *Darwin*—guided missile frigates; *Yarra*, *Parramatta*, *Stuart*, *Swan*, *Torrens*, (*Derwent* decommissioned—undergoing modernisation at Williamstown)—destroyer escorts; *Vampire*—destroyer training ship; *Jervis Bay*—training ship; *Curlew*—coastal minehunter; *Moresby*, *Flinders*—surveying ships; *Cook*, *Kimbla*—oceanographic research ships; *Otway*, *Onslow*, *Ovens*, *Otama*, *Oxley*, *Orion*—submarines; *Assail*, *Fremantle*, *Launceston*, *Townsville*, *Warrnambool*, *Ipswich*, *Cessnock*, *Whyalla*, *Wollongong*, *Bendigo*, *Gawler*, *Geraldton*, *Dubbo*, *Geelong*, *Gladstone*—patrol boats; *Brunei*, *Tarakan*, *Wewak*, *Betano*, *Balikpapan*—heavy landing craft. Patrol boats *Adroit*, *Ardent*, *Aware*, *Bayonet*, and heavy landing craft *Labuan* are manned by RAN Reserve personnel.



Guided missile frigate, HMAS Brisbane.

Fleet Air Arm

On 30 June 1984 the A4 Skyhawks and S2 Trackers ceased operations in accordance with Government decisions. The Skyhawks were purchased by New Zealand while the Trackers are awaiting disposal action. The two squadrons that operated these aircraft, VC724 and VC851, were disbanded on 31 August 1984.

The RAN currently operates five different types of helicopters and HS748 electronic warfare training aircraft from HMAS *Albatross*, the Naval Air Station at Nowra in N.S.W.

HS817 operates the Sea King MK50 helicopters in the anti-submarine role. HU816 operates Wessex helicopters in the utility role. HC723 operates UH1B in the utility and SAR roles, Bell 206 from HMAS *Moresby* survey support and the recently acquired AS305B Squirrels for interim FFG training tasks. The squadron also operates the HS748 aircraft.

The RAN operates Jindivik pilotless target aircraft from the Jervis Bay Range Facility in N.S.W. and in August 1984 the new and improved 700 series Kindivik aircraft were introduced into service.

Equipment for the Royal Australian Navy

The significant new equipment items received by the Navy in 1983-84 include:

- Three Fremantle Class Patrol Craft (HMAS *Geraldton*, *Dubbo*, and *Geelong*).
- One Oberon Class Submarine (HMAS *Orion*) from Modernisation.
- Two Tugs for HMAS *Stirling* (*Quokka* and *Tammar*).
- Recompression Chamber at HMAS *Penguin*.
- Five Squirrel helicopters.

Revised tenders were evaluated for Destroyer/Utility helicopters.

Tenders have been received from seven European submarine designers for a Project Definition Study relating to the future acquisition of submarines for the RAN.

Deliveries expected during 1984-85 include:

- Fourth Guided Missile Frigate (HMAS *Darwin*).
- Two Fremantle Class Patrol Craft (HMAS *Gladstone* and *Bunbury*).
- One River Class Destroyer Escort (HMAS *Derwent*) from Modernisation.
- Final Squirrel Helicopter.

Training and entry

RAN Staff College. The RAN Staff College located at HMAS *Penguin*, Balmoral, N.S.W., prepares RAN officers of Lieutenant Commander and Lieutenant rank for command and staff appointments. Two courses of 22 weeks duration are run annually, each course comprising 28 students, typically 20 Naval Officers, one officer each from the Army, RAAF, USN and RNZN, two Public Service Board officers and two Defence Co-operation Program students.

Officer Entry. The Royal Australian Naval College at Jervis Bay is the training centre for officers in the RAN. Applicants for permanent commissions (presently male only) must be under 20 years of age on 1 January of the year of entry and must matriculate to a university in an Australian capital city. Officer appointees specialise in Seamen, Engineering, Supply and Secretariat, or Instructor Branch. Appointees either complete a full-time degree course in Engineering, Science, Surveying or Arts at the University of New South Wales, or complete a Diploma of Applied Science at the Royal Australian Naval College. Applicants for degree studies must meet the entry requirements of the appropriate faculty of the University of New South Wales. Male and female applicants for short service commissions must be under 24 years of age on 1 January of the year of entry and have either matriculated to a degree course at an Australian university, College of Advanced Education, or Institute of Technical and Further Education, or achieve four passes at Year 12. Entry is also available to professionally qualified persons such as doctors, teachers, engineers and lawyers.

Sailor Entry. There are several available entry schemes, all of which are open to both males and females, depending upon an individual's age, educational standard, final employment and interests. New entry training is carried out at the following establishments:

- HMAS *Nirimba* at Quaker's Hill New South Wales is the primary establishment for all RAN trade training which includes courses for apprentices aged between fifteen and eighteen and direct entry tradesmen.
- HMAS *Cerberus* at Westernport, Victoria is the primary training establishment for all general entry, non-apprentice recruits aged between seventeen and twenty six. Recruits receive common basic training before progressing to category training courses.
- Advanced category training is additionally undertaken at various schools at HMAS *Penguin* and HMAS *Watson* in Sydney and the Naval Air Station *Nowra*, N.S.W. A number of specialist courses are conducted in the United States and United Kingdom.

Ship construction and repairs

There are two naval dockyards, one at Garden Island, Sydney and one at Williamstown, near Melbourne. A third yard at Cockatoo Island in Sydney Harbour is operated by Vickers Cockatoo Dockyard Pty Ltd (VCD) under agreement with the Australian Government. This company carries out considerable naval refitting work, particularly of submarines. In August 1979 the company was awarded a contract to construct a new replenishment ship for the RAN the keel of which was laid in August 1980.

Current construction projects include the last 2 Patrol Boats being built in Cairns NQEA and modernisation of the last Destroyer Escort being undertaken by Williamstown Naval Dockyard. An order was placed on Williamstown Naval Dockyard for construction of 2 FFG7 class Guided Missile Frigates. Construction of two prototype minehunter catamarans has begun at a new facility established by Carrington Slipways Pty Ltd, Newcastle.

HMAS *Success* (AOR-01) was launched in March 1984 and work continues on the fitting out of the vessel at Vickers Cockatoo Dockyard.

Australian Army

The Australian Army maintains a potential ability and readiness to conduct operations on land for the defence of Australia and, in co-operation with the other arms of the Australian Defence Force, shares a responsibility to deter aggression, to ensure the nation's security and to preserve its national interests.

Higher Organisation

Command of the Army is the responsibility of the Chief of the General Staff, subject to the overall command of the Defence Force by the Chief of the Defence Force. He has for his principal staff officers the Deputy Chief of the General Staff, the Chief of Operations, the Chief of Personnel, the Chief of Logistics, the Chief of Materiel and the Chief of the Army Reserve.

The Army is organised into three commands as follows:

- *Field Force Command* which commands all field force units of the Australian Army, both Regular and Army Reserve.
- *Logistic Command* which commands the principal logistic elements of the Army.
- *Training Command* which is responsible for all individual training and commands all Army training establishments and schools with the exception of the Royal Military College, Duntroon (which is under the command of the Chief of the General Staff).

Military Districts as listed below provide administrative support for the three commands, and, in certain cases act as intermediate headquarters for them:

- *1st Military District*—the State of Queensland.
- *2nd Military District*—the State of New South Wales, less those parts included in 3rd and 4th Military Districts.
- *3rd Military District*—the State of Victoria and part of southern New South Wales.
- *4th Military District*—the State of South Australia plus a portion of south-western New South Wales.
- *5th Military District*—the State of Western Australia, less the Kimberley Local Government area.
- *6th Military District*—the State of Tasmania.
- *7th Military District*—the Northern Territory plus the Kimberley Local Government area of Western Australia.

The military district headquarters also handle those matters in which both Commonwealth and State Governments are involved.

Training

Officer Training. The Army currently utilises a number of training sources to meet the requirements for commissioned officers. These are:

- *Royal Military College.* Located at Duntroon in the Australian Capital Territory, this college provides military and tertiary training for officers for the Regular Army.
- *Officer Cadet School.* Located at Portsea in Victoria, the school is a source of commissioned officers for the Regular Army. In 1985 females will also be trained at the Officer Cadet School as officers for the Regular Army.
- *Women's Royal Australian Army Corps School.* This school will close in December 1984 when all females will commence training for commissioned rank in the Regular Army at the Officer Cadet School, Portsea.

Note: With the commencement of the Australian Defence Academy courses in 1986 all of the above courses will be amalgamated and conducted at the Royal Military College with the exception of tertiary studies and some military training.

- *Officer Cadet Training Units.* These units are located in each Military District and are the major source of commissioned officers for the Army Reserve.
- *University Regiments.* University Regiments provide officer training for members of the Army Reserve. These courses are designed to meet the requirements of undergraduate enlistees.

Command and Staff College. Located at Queenscliff in Victoria, the college provides advanced training for selected Australian and overseas officers, to prepare them for command and staff appointments in the rank to lieutenant colonel.

Other Rank Training. Initial training for other ranks is conducted as follows:

- *1st Recruit Training Battalion.* Located at Kapooka N.S.W. this unit is the major training establishment for male recruits enlisted into the Regular Army.
- *Women's Royal Australian Army Corps School.* This school will close in December 1984 when all female recruits will commence training at the 1st Recruit Training Battalion, Kapooka.
- *Army Apprentices School.* Located at Bonegilla in Victoria, this school provides initial trade and military training for apprentice enlistees.
- *Army Reserve.* Army Reserve recruits attend initial training at courses conducted by either Training Groups located in most Military Districts or units.

Land Warfare Centre. The Land Warfare Centre at Canungra, Qld, conducts courses for both officers and other ranks as follows:

- promotion subjects;
- tactics and administration;
- individual battle skills; and
- sub-unit operations.

Other Schools. Army schools have been established to train officers and other ranks in up to date techniques of their own arm or service. Courses conducted include training, promotion courses and instructor development courses for members of both the Regular Army and the Army Reserve.

Equipment for the Army

Significant new equipment items received by the Army in 1983-84 included 543 eight tonne and 442 four tonne trucks, twenty one 155 mm M198 Howitzers, 10 MILAN missile systems, 150 sustained fire machine guns, nine earth augers, and 200 outboard motors. Deliveries expected in 1984-85 include a further fifteen M198 Howitzers, commencement of delivery of 676 general support machine guns (for completion in 1985-86), 175 eight tonne and 259 four tonne trucks, eight light wheeled tractors, forty-six 120 LPS compressors, 18 sets of 20 000 LPH water purification equipment and 400 mine detectors.

Royal Australian Air Force

The function of the Royal Australian Air Force is the conduct of operations in the air for the defence of Australia and Australian interests.

Higher Organization

The Chief of the Air Staff (CAS) is responsible to the Minister for Defence through the Chief of Defence Force Staff (CDFS) for command of the RAAF. Staff to assist the CAS in discharging his responsibilities and to provide higher command, policy and broad planning direction of RAAF activities is provided by Department of Defence (Air Force Office) (DEFAIR). The CAS is directly assisted in his decisions by the Chief of the Air Staff Advisory Committee (CASAC). The CASAC includes the Deputy Chief of the Air Staff, Chief of Air Force Operations and Plans, Chief of Air Force Materiel, Chief of Air Force Personnel, Chief of Air Force Technical Services, the Air Officers Commanding Operational and Support Commands, and the Director General Supply—Air Force. However, as this Committee has no executive authority, the CAS is not bound to accept its advice in reaching decisions.

RAAF Commands

The RAAF is organized into two functional commands, Operational Command and Support Command. The Command headquarters provides the intermediate level command and staff structure through which the directives and policies of the CAS are placed in effect. (Other RAAF elements not assigned to these Commands are responsible direct to DEFAIR.) The general function of Operational Command is the provision of combat-ready forces for employment in assigned roles and the conduct of air operations within Australia and overseas from within the resources allocated. Support Command is responsible for the provision of support, including basic training of personnel, logistics and the supply and maintenance of RAAF equipment.

Units of either Command, but primarily Operational Command, may be assigned by the CAS to make up part of other formally established forces, such as a joint force, a tactical air support force (TASF), a peacekeeping force or any other grouping necessary to meet a particular operational task or contingency.

The operational component is made up of the strike/reconnaissance, tactical fighter, maritime and air transport forces and is supported operationally by the ground defence force and an operational support unit. The support component comprises a training element, an administrative element, a logistics element and units with other miscellaneous support responsibilities.

Aircraft

The RAAF's strike/reconnaissance force is equipped with F-111A/C and RF-111C aircraft. The tactical fighter force, currently equipped with Mirage 1110/D, will begin re-equipping with F/A-18 aircraft in April 1985. RAAF maritime squadrons presently operate Orion P-3B and P-3C aircraft, however, replacement of all P-3B aircraft by P-3C aircraft is expected to be completed by late 1985. Transport aircraft currently in use by the RAAF are Hercules C-130E and C-130H, CC08 Caribou, Mystere 20, HS-748, Boeing 707, and BAC-111 aircraft. In addition, the air transport force operates the UH-1H Iroquois and AS-350 Squirrel helicopters and the CH-47C Chinook medium lift helicopter. Aircraft used by the support component for basic aircrew training are the CT-4A Airtrainer, Macchi MB-326H and HS-748.

Training

RAAF Academy. The RAAF Academy at Point Cook, Victoria is an affiliated college of the University of Melbourne. Cadets are selected principally for the General Duties Branch, and, after three years tertiary training, graduate with a Bachelor of Science degree. Graduates then complete a basic aircrew training course. Cadets selected for the Engineer Branch study the first year at the Academy and then attend the University of Sydney to graduate with a Bachelor of Aeronautical Engineering degree.

Engineer Cadet Squadron. The Engineer Cadet Squadron provides training for degree status in aeronautical, mechanical, electronic and communication engineering at the Royal Melbourne Institute of Technology. Electronic and communication engineering can also be taken at the Western Australian Institute of Technology.

Supply Cadets. Cadets selected for Supply Branch duties undertake a three year course at the Darling Downs Institute of Advanced Education in Queensland. They graduate with a Bachelor of Business degree.

Australian Defence Force Academy (ADFA). From 1986, ADFA will replace the RAAF Academy, Engineer Cadet Squadron, and Supply Cadet Scheme as the primary source of tertiary-qualified entrants to the General Duties, Engineer and Supply Branches of the RAAF Officer Corps. ADFA will be located in Canberra and will contain a College of the University of New South Wales.

Basic Aircrew Training. Flying training for RAAF pilots is conducted at Point Cook, Victoria and Pearce, Western Australia. RAAF navigators are trained at East Sale, Victoria and airman aircrew (flight engineers, loadmasters and air electronics analysts) undergo basic training at Edinburgh, South Australia. The RAAF also provides pilot and observer training for the RAN and pilot training for the Army and Papua New Guinea Defence Force.

Aircrew Operational Conversion. Conversion training to Mirage fighter aircraft and Orion Maritime aircraft is conducted by the respective conversion training squadrons. Conversions to other operational aircraft are conducted within the operational squadrons.

Officer Training. With the exception of those officers commissioned from the RAAF Academy, all officers entering directly (with or without tertiary qualifications), commissioned airmen and airwomen, aircrew (pilot and navigator), engineering and equipment cadets and undergraduate students undergo the Junior Officer Initial Course (JOIC) at the Officers' Training School, Point Cook, Victoria. Following graduation from the JOIC all graduates, with the exception of aircrew (pilot and navigator), immediately undergo the Joint Officer Executive Course at Officers' Training School, Point Cook.

Staff College. The RAAF Staff College located at Fairbairn, Australian Capital Territory, provides two residential staff courses. The Basic Staff Course of six weeks duration provides Command and staff training to officers of the rank of Flight Lieutenant. The Advanced Staff College Course of forty-three weeks duration provides staff training and higher service education to selected officers normally of the rank of Squadron Leader. This course is designed to broaden the students' professional background and to prepare them for Command and staff appointments of greater responsibility. A one year correspondence course covering military studies, international affairs and management is a compulsory prerequisite for entry to the advanced course.

Ground Training. The major ground training schools are the School of Radio at Laverton, Victoria and the School of Technical Training at Wagga, New South Wales. Both schools provide trade and technologist apprentice and adult trade training for technical personnel. They also provide post-graduate type training and specialist familiarisation courses on aircraft and telecommunications systems. Non-technical courses conducted at Wagga include catering, clerical, supervision and management and instructional technique.

Equipment for the Royal Australian Air Force

Forecasts regarding major capital equipment acquisitions are as follows:

- Deliveries of ten additional P3C aircraft to replace existing P3B aircraft commenced in October 1984. Five aircraft are scheduled for delivery in 1984-85. Eight of the ten RAAF P3B aircraft will have been transferred to Lockheed as trade-in for the new P3C's by the end of 1984-85.
- The first two F/A-18 aircraft for the RAAF are scheduled for delivery in the United States in October 1984. The first Australian assembled aircraft is scheduled for delivery in April 1985.
- New major capital equipment decisions approved by the Government during 1983-84 included, two additional B707 aircraft and initial air-to-air missiles for the F/A-18.

Deliveries expected during 1984-85 include:

- P3C Operational Flight Trainer (September 1984)
- Six Aerospatiale AS350B Light SAR Helicopters
- First of two F/A-18 Operational Flight Trainers
- Initial kits to modify F111C aircraft with Pavetack

Defence Science and Technology Organisation

The Department's defence science and technology establishments, collectively known as the Defence Science and Technology Organisation (DSTO), form the second largest research organisation in Australia with some 1,000 professional scientists and engineers in its total staff of about 4,400.

DSTO was established as a unified organisation in 1975 when the laboratories formerly in the Department of Supply were brought into the Department of Defence and under the direct control of the Chief Defence Scientist.

DSTO has a central office and one establishment in Canberra, representatives in London and Washington, and five major and three small establishments in five States. The Chief Defence Scientist, is supported in the Central Office by a Deputy, and policy and management staff. Scientific advisers are attached to Service headquarters in Canberra and some field headquarters.

The objective of DSTO is to help the Australian Defence Force take best advantage of modern technology. Major activities are: scientific input to Defence policy formulation; solution of Defence Force problems particularly where high technology or special features of Australian physical or military environment are involved; modification and extension of life of military equipment; development of indigenous equipment; evaluation of military equipment and procedures by trials, exercise analysis or operational research; support to defence industry; and international co-operation in defence research and Development (R & D). The DSTO also conducts mission-oriented research and enhances or maintains a technology base in key areas such as surveillance, aeronautics, weapons guidance and other electronic systems and countermeasures, explosives and propulsion.

There is considerable interaction between DSTO and its principal customers, the Defence Force and defence industry. Many companies benefit from close association with this R & D effort, some having facilities adjoining or co-located with the Defence Research Centre, Salisbury (DRCS).

Despite the laboratories' strong alignment with defence, their unique skills and facilities are available for non-defence tasks when priorities permit. Functions of the laboratories are briefly described below.

Aeronautical Research Laboratories, Fishermans Bend, Vic.—Provides research support primarily to the defence force and defence industry in fields including aerodynamics, aircraft materials, structural integrity and efficiency of aircraft, analysis and integration of systems, and on air-breathing propulsion systems and engine airframe integration and performance. It also assists civil aviation in some of these fields.

Advanced Engineering Laboratory, DRCS, S.A.—Engages in engineering feasibility studies and the development, design and manufacture of prototype systems and equipment in the mechanical and electronic engineering fields. It also provides engineering support to the Services and assistance to defence-related industry and maintains an advanced engineering technology base.

Armed Forces Food Science Establishment, Scottsdale, Tas.—Determines the energy and nutrient requirements of servicemen under all conditions in which they may be expected to operate and translates these needs into ration scales for static mess feeding and ration packs for combat purposes. AFFSE is part of the Materials Research Laboratories (MRL).

Central Studies Establishment, Canberra, A.C.T.—Carries out analytical studies on force structure, defence planning, equipment proposals, weapons systems, logistics and manpower.

Electronics Research Laboratory, DRCS, S.A.—Is concerned primarily with R & D in radar, radio, electronics, infra-red physics, optics, electro-optics, electronic warfare and surveillance.

Joint Tropical Trials and Research Establishment, Innisfail, Qld—Performs investigations and research on the effects of tropical environments on materials, equipment and electromagnetic wave propagation; and on mechanisms of degradation, ways of measuring degradation and the classification of tropical environments. Sponsored jointly by Australia and United Kingdom, JTTRE is part of MRL.

Materials Research Laboratories, Maribyrnong, Vic.—Provides research and development support to the Defence Force and defence industry in fields including organic and inorganic materials, metallurgy, explosives and ordnance, electromagnetic propulsion and terminal ballistics, high energy lasers and camouflage.

RAN Research Laboratory, Edgecliff, N.S.W.—Conducts operations research studies on maritime warfare, analyses maritime exercises, and undertakes research on underwater acoustics, oceanography, sonar and mine warfare. RANRL is part of Weapons Systems Research Laboratory.

Weapons Systems Research Laboratory, DRCS, S.A.—Responsible for R & D related to aeroballistic aspects of weapons and weapon systems, rocket and gun propulsion systems, combat data and display systems, guidance and control systems for weapons, underwater detection systems and the integration of systems.

Defence Research Centre, Salisbury, S.A.—Comprises the Advanced Engineering, Electronics Research and Weapons Systems Research Laboratories and provides for their administrative support. DRCS Administration Branch also provides general support services for the Defence Support Centre, Woomera.

Defence Support Centre, Woomera, S.A.—Provides an outdoor laboratory essential for weapon systems trials in support of R & D programs.

The DSTO Central Office in Canberra has two Divisions:

Science Programs and Administration Division provides policy advice on defence science and technology, advises on the formulation and management of the DSTO program of research and development, co-ordinates and analyses bids for resource programs for DSTO, monitors the allocation of resources to the DSTO activities and reviews performance against program objectives, advises on and develops administrative and financial policies for the DSTO, and advises on policy and procedures for professional staff recruitment, assessment and promotion.

External Relations, Projects and Analytical Studies Division fosters and co-ordinates DSTO contact with national and international science and technology agencies and the wider community, provides management and advice on major development projects, co-ordinates analytical studies throughout the DSTO and operates the Department's information services (Defence Libraries).

Natural Disasters Organisation (NDO)

NDO's primary peacetime function is to mitigate the effects of disasters. It does this, at the request of State and Territory counter disaster organisations, by co-ordination of physical assistance from the Defence Force and other Commonwealth Government Departments. Non-Government organisations also co-operate with NDO. States and Territories have complete responsibility for their own Counter Disaster Organisations. The NDO and State and Territory Emergency Services together constitute a core civil defence structure.

At the national level NDO develops and implements contingency plans to cope with requests by State/Territory counter disaster authorities for Commonwealth resources during disasters or for civil defence needs. A National Emergency Operations Centre located at NDO headquarters in Canberra provides a focal point for the co-ordination of national efforts when required and maintains communication with State and Territory authorities and Commonwealth Departments during disasters or potential disasters such as impact on Australian territory of space debris.

On behalf of the Australian Development Assistance Bureau, NDO acts in an advisory, planning and operational capacity for that Australian overseas disaster preparedness and relief which involves the use of Commonwealth Government resources.

A number of Commonwealth funded support programs for State/Territory Emergency Services are administered by NDO. These include—the supply of emergency type equipment such as radios, rescue vehicles, generators, flood rescue boats, etc.,—reimbursement of salaries of State/Territory full time organisers at regional level—subsidies on a limited dollar for dollar basis to provide accommodation for State/Territory Emergency Service Units at local government level—the provision of public information material and training handbooks.

Other programs which benefit all organisations having a counter disaster involvement and the community generally are—training at the Australian Counter Disaster College, Mt Macedon, Victoria, or by College mobile teams in State/Territories—maintenance of emergency broadcasting facilities.

DEPARTMENT OF DEFENCE SUPPORT

The Department of Defence Support was formally established (by the Governor-General in Council) on 7 May 1982, and draws together elements previously located in the Departments of Administrative Services, Defence, and Industry and Commerce as recommended by the Interim Report of the Defence Review Committee (the Utz Committee).

The Department of Defence Support has, within the overall defence, industry and employment policies, the goal of provision of optimum support for the nation's defence effort in peace and war and the development of an appropriate technological and industrial infrastructure. The Department is responsive to the requirements of the Australian Defence Force and the need to revitalise and further develop the infrastructure which supports that Force.

The Department in close co-operation with the Department of Defence:

- provides technical expertise and other forms of assistance to encourage and facilitate the development of modern and viable defence-related industries in Australia;
- ensures that Australian industry participates in the production of defence equipment to the maximum extent practicable;
- administers the Australian Offsets Program so as to stimulate technological advancement and broaden the capabilities of Australian industries of significance to this country's strategic and overall manufacturing needs;
- undertakes the purchase of goods and services for defence purposes;
- provides advice on the capacity, efficiency and capability of the Australian defence industry;
- manages the Government's defence facilities including munitions and aircraft factories, and dockyards; and
- consistent with the Government's defence and foreign affairs policies, markets defence and allied products and services to help maintain industrial capabilities of strategic significance.

The Department, at 30 June 1983, employed 15,644 people under the Public Service Act, the Supply and Development Act and the Naval Defence Act.

Budget allocations

Net outlay in 1984–85 is estimated to be \$356.4 million, or \$47.2 million below the 1983–84 total of \$403.6 million.

- The decrease is due to a number of factors including a tapering off of investment in plant and infrastructure associated with the manufacture of components and assembly of the F/A-18 Hornet tactical fighter aircraft, the end of the Nomad Aircraft production program, efficiency improvements in Government establishments; and introduction of commercial accounting practices at Williamstown Dockyard, Melbourne. The new procedures means that all indirect wages and other overheads previously funded by the Department's Budget allocation are charged to and recovered through receipts from customers' orders.

Taking the above factors into account, the 1984–85 Budget allocation of \$356.4 million represents about the same level of funding in real terms as in 1983–84.

The Department is heavily committed to work associated with important defence projects including the F/A-18 fighter project, the A10 Wamira basic trainer aircraft and construction of two frigates for the Royal Australian Navy. Work will also begin on production of an Australian-made 105 mm field gun for the Army in 1984–85.

These and other projects already involve considerable work in Australian industry and contribute further to the nation's expanding technological capability.

DEPARTMENT OF DEFENCE SUPPORT 1984-85 OUTLAYS BY FUNCTION

	\$m	\$m
Defence aerospace		71
F/A-18 Tactical fighter aircraft	25	
Wamira basic trainer aircraft	5	
Nomad aircraft	7	
RAAF/RAN aircraft overhauls and spare manufacture	10	
Lightweight box-launched IKARA	3	
Jindivik pilotless aircraft	1	
Other	20	
Defence shipbuilding		104
Garden Island Dockyard modernisation	21	
Repair and refit of ships	52	
Naval construction	11	
Maintenance of navy shore establishments	5	
Manufacture and repair of navy stores	12	
Williamstown Dockyard facilities for the Australian Frigate project	3	
Munitions		115
High explosives, propellant and rocket motor manufacture	30	
Ordnance small arms, ammunition and specialised engineering	64	
Filling and assembly of military explosives and pyrotechnic stores	20	
Manufacture of uniforms and protective clothing	1	
Industry and corporate services		66
Defence purchasing	8	
Marketing	1	
Industry assistance and manufacturing support	28	
Administration and other corporate services	29	
Total Defence Support 1984-85 outlay		356

The net outlay of \$356.4 million includes investment of \$98.3 million for plant and infrastructure in both the private sector and Government defence establishments.

Some major project investments include \$14.5 million for the F/A-18 Fighter, \$21.5 million for upgrading the Garden Island Dockyard, \$3.6 million for facilities and plant at Williamstown Dockyard as part of the Frigates build, \$5.6 million for upgrading of the small arms ammunition manufacturing facility at Ammunition Factory, Footscray, \$1.3 million for the new nitroglycerine and paste manufacturing facilities at Mulwala Explosives Factory, and \$1.9 million for occupational safety and health facilities at Munitions Filling Factory, St Marys.

Work will also start on the development of a new pyrotechnic manufacturing facility at Munitions Filling Factory, St Marys. The facility, which is estimated to cost \$18.1 million, will dramatically improve the occupational environment at the factory. Expenditure in 1984-85 is estimated at \$0.5 million.

Munitions Production

The Department of Defence Support maintains and operates nine factories for the manufacture of munitions and other defence material, including military clothing. The munitions factories undertake work in the fields of light, heavy and chemical engineering.

As well as achieving progress in the development and production of munitions for Australia the factories have helped to broaden the country's industrial base. They develop and adopt new manufacturing technology and a diverse range of production equipment is used to develop new production processes and apply new techniques.

Through the Department, the munitions factories have links with munitions manufacturers in the UK, Europe, and North America. The Department also maintains contact with ASEAN countries on defence production matters and provides some training for their engineers. Functions of the facilities are briefly described below.

Small Arms Factory, Lithgow, N.S.W.—manufactures small arms, weapons and kindred defence equipment.

Mulwala Explosives Factory, N.S.W.—manufactures acids, nitrocellulose and granular propellants.

Munitions Filling Factory, St Marys, N.S.W.—assembles and fills artillery ammunition, bombs, depth charges, warheads, rockets, mines and pyrotechnic items.

Albion Explosives Factory, Vic.—manufactures high explosives and some gun propellants, and recovery of concentrated acids.

Australian Government Clothing Factory, Coburg, Vic.—manufactures uniforms and other clothing for the defence services and other government departments.

Explosives Factory, Maribyrnong, Vic.—produces rocket motors, gun propellants, explosive devices, special paint products and undertakes chemical process design and installation.

Ordnance Factory, Maribyrnong, Vic.—manufactures ordnance, projectiles, heavy forgings, bomb and rocket motor components, electrical generators, fabrications and test equipment.

Ordnance Factory, Bendigo, Vic.—manufactures ordnance and gun mounting systems, heavy engineering products for both defence and the private sector, ships shafting and propulsion systems.

Ammunition Factory, Footscray, Vic.—specialises in the production of small arms ammunition, cartridge cases, small calibre projectiles and fusing mechanisms for gun ammunition.

Defence Aerospace

In aerospace matters the Department's objectives, within Government policies, are to:

- develop and maintain an industrial capability in the fields of aircraft, guided weapons and electronics-communications;
- co-ordinate and direct the operation of Government aerospace facilities and programs; and
- implement related policies.

In the case of the aircraft, guided weapons and electronics-communications industries, the Department has responsibilities of a wide nature, involving provision of advice and oversight of the development of capacity and capability in the private sector as well as the government establishments involved. Major aerospace activities include:

- analysis of defence requirements for manufactured aerospace goods and associated services and the assessment of the capability of the Australian aerospace industry to meet these requirements;
- development of the industrial capability and capacity to meet current and future government requirements for manufactured aerospace goods; and
- development and introduction of improved production practices and techniques in government-owned aerospace establishments and their promotion in the Australian manufacturing industry.

Government aerospace facilities are:

Government Aircraft Factories (GAF), Fishermens Bend and Avalon, Vic.—GAF is involved in the design, development, manufacture, assembly, modification and test of military and civil aircraft and guided weapons. Current activities include F/A-18 Fighter Aircraft, Basic Pilot Training Aircraft, Ikara anti-submarine weapon system, Jindivik target aircraft, Mirage support and manufacture of airframe components for export against offset orders.

Aircraft Engineering Workshop (AEW), Pooraka, S.A.—AEW provides a quick response engineering jobbing workshop capacity for the Services and has capability in the areas of fine machining, electroplating, heat-treatment, welding and sheet-metal fabrication to aircraft manufacturing specifications.

Guided Weapons and Electronics Support Facility (GWESF), St Marys, N.S.W.—GWESF provides technical support to the Services in testing and calibration of a wide range of electronic items and also provides independent facilities and technical expertise to assist Defence industry.

Defence Shipbuilding

The prime objective of the Department's Defence Shipbuilding function is to develop and maintain an effective and efficient capability for construction, repair, refit and modernisation of naval ships, small craft and submarines in government dockyards and in the private sector.

To achieve this objective the Department undertakes the following major activities in co-operation with the respective functional areas in Department of Defence:

- manages and monitors dockyard operations, including quality assurance;
- assesses and fosters industry capability and capacity in the area of Defence Shipbuilding; assists in the development of Shipbuilding and associated technology in Australian industry;
- participates in the planning for major new projects for naval shipbuilding and repair;
- plans the equipment, services and physical resources to be installed in the dockyards; monitors dockyard modernisation activities and undertakes asset control and maintenance scheduling at Cockatoo Island Dockyard.

The Department of Defence Support manages the Dockyards at Garden Island and Williamstown, and is responsible for the Cockatoo Island Dockyard which is leased from the Commonwealth and operated by Cockatoo Dockyard Pty Ltd.

Garden Island is principally concerned with refitting, repair and modification and is undergoing major modernisation to improve its ability in these areas and to create a fleetbase which is able to cope with the demands of modern naval vessels and systems.

Williamstown Dockyard, planned as the construction yard for destroyer size ships, is also being modernised for the building of FFG type frigates for the Royal Australian Navy.

All updates and modifications of submarines are carried out at Cockatoo Island Dockyard and the new underway replenishment ship, HMAS *Success* is in the final stages of construction.

Defence Purchasing

The Department of Defence Support is the Purchasing Authority for all defence supplies of goods and services (except those common use items falling within the responsibility of the Department of Administrative Services), purchased in or from Australia from commercial suppliers above the prescribed public tender threshold (currently \$10,000).

The Department undertakes defence purchasing through:

- Major Contracts Branch (located in Central Office) for major defence equipment procurements (usually those over \$5 million, but also other requirements of smaller value but with great complexity of other special features), and
- Defence Purchasing Regional Offices located in each capital city for all other defence purchasing.

Activities undertaken include many significant contractual arrangements conducted recently for the Department of Defence, among them: the production of Barra sonobuoys, Raven Phase 3A (radio system); Waler Phase 1 (light armoured vehicle); prototype Minehunter catamarans; Basic Pilot Trainer Aircraft; and provision of production infrastructure items and overseas training of industry personnel in support of the F/A-18 Tactical Fighter Project.

Australian Offsets Program

The Department of Defence Support has overall responsibility for the administration and future development of the Australian Offsets Program.

Where Australian industry is not able to meet the Government's requirements for equipment and services and overseas purchases are required, overseas suppliers must provide local industry with viable offsets opportunities.

The objectives of the Program are to secure workload which will broaden the capabilities of industry which is of technological or defence significance to Australia, to stimulate technological advancement and to provide new employment opportunities within Australian industry.

To date the Program has been instrumental in obtaining more than \$600 million worth of offsets work for Australian industry. Opportunities currently exist for more than \$1,000 million worth of offsets work over the next 10 years.