

CHAPTER FOUR

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 Office of Defence Production.

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.

Two special articles are included at the end of the chapter—one covering the history of Australians at war, and the other outlining the background and activities of the Australian Defence Force Academy.

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 ensure 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 geographic region is of major strategic importance to Australia, and the continued development of an independent defence capability enhances our ability to contribute to peaceful development within the region. Priority in defence activity is consequently given to areas close to Australia and high value is placed on fostering defence relationships with countries of South East Asia and the South West Pacific.

Australia's security arrangements with the United States and New Zealand remain an important element of our defence policy. Although trilateral defence co-operation activities under the ANZUS alliance have been in abeyance due to the New Zealand government's policy on visits by nuclear-powered and nuclear-weapon capable warships, the ANZUS Treaty itself remains in force and continues to provide a background for a wide range of mutually beneficial bilateral defence co-operative activities with the United States. At the same time co-operative activities undertaken with New Zealand continue to sustain Australia's close defence relationship with that country.

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. Under arrangements introduced in 1987, the Minister for Defence Science and Personnel has particular responsibilities within the Defence portfolio for the oversight of the Defence Science and Technology Organisation and of Defence Force personnel matters.

Chief of the Defence Force

Under section 9 (2) of the *Defence Act 1903*, the Chief of the Defence Force (CDF) is vested with the command of the Defence Force subject to general control by the Minister.

The CDF is the chief military adviser to the Minister and is responsible for the planning and conduct of military operations and advice on military strategy and military aspects of defence capabilities necessary to meet government policy. In addition the CDF has, with the Secretary, joint responsibility for administration of the Defence Force as specified below.

Secretary, Department of Defence

Under the Minister, 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, subject to control by the Minister, 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 policy, resources and organisation and the correct and proper use of public funds.

Higher Defence machinery

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

The Council of Defence

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 for Defence Science and Personnel, the Secretary to the Department of Defence, the Chief of the Defence Force, the three Service Chiefs of Staff, and the Vice Chief of the Defence Force.

The Defence Committee

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

The Defence Force Development Committee

The Committee is chaired by the Secretary to the Department of Defence, with the Chief of the Defence Force 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.

The Chiefs of Staff Committee

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.

Equipment for the Defence Force

An amount of \$2,055 million was spent on equipment of a capital nature in 1986-87. An amount of \$1,862 million is expected to be spent in 1987-88.

Expenditure on major capital equipment in 1986-87 continued to be dominated by commitments arising from already approved projects. These included:

- the F/A-18 tactical fighter aircraft and associated equipment (26 now delivered);
- 39 S-70A-9 Black Hawk utility helicopters to be assembled at Hawker de Havilland, Bankstown;

- 16 Sikorsky S70B-2 Seahawk helicopters, the first two being built in the U.S. and the remaining 14 will be assembled by Hawker de Havilland, Bankstown;
 - 6 new submarines to be built in Australia and assembled at Port Adelaide;
 - 2 FFG07 Class guided missile frigates under construction at Williamstown Dockyard;
 - 67 Pilatus PC9 trainer aircraft being produced by Hawker de Havilland, Bankstown;
 - the modernisation of the DDG destroyers at Garden Island.
- New major capital equipment items approved in the 1987-88 Budget context include:
- development and testing of initial production Towed Acoustic Arrays, and the establishment of a design and manufacturing capability within Australian industry for the Australian developed Laser Airborne Depth Sounder;
 - further development of the ANZAC ship project involving project definition work.

EXPENDITURE ON DEFENCE FUNCTION
(S'000)

Category	Actual expenditure					
	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87
<i>Department of Defence</i>						
Capital Equipment	533,581	859,120	1,213,411	1,613,943	1,841,826	2,055,252
Capital Facilities	179,035	204,109	246,409	256,793	293,930	398,530
Defence Co-operation	39,676	44,209	45,644	45,331	50,099	54,609
Personnel	2,064,836	2,186,375	2,252,259	2,354,092	2,592,224	2,607,449
Other Running Costs	1,156,921	1,318,514	1,405,200	1,536,168	1,702,966	1,925,016
Total	3,974,049	4,612,327	5,162,923	5,806,327	6,481,045	7,040,856
<i>Other Departments—</i>						
Capital Facilities	9,180	13,395	16,034	13,229	19,121	(a)334
Personnel (includes Remuneration Tribunal and Defence Force Retirement and Death Benefits)	246,056	279,714	324,015	366,587	432,518	483,199
Other Running Costs	32,749	34,186	34,600	43,032	49,408	53,780
Total	287,985	327,295	374,649	422,848	501,047	537,313
Total Expenditure on Defence Function	4,262,034	4,939,622	5,537,572	6,229,175	6,982,092	7,578,169
Acquisition of Special Purpose Boeing 707 aircraft	289	103	30	69
Total Defence Expenditure	4,262,323	4,939,725	5,537,602	6,229,244	6,982,092	7,578,169

(a) In 1986-87 consultants engaged by Department of Housing and Construction for Defence was accounted for in Defence Capital Facilities for the first time (Division 247); residual is expenditure managed by the National Capital Development Commission for Defence.

Defence industry

In March 1987, the Government White Paper on the Defence of Australia provided definition of its policy of defence self-reliance, and laid down priorities including industrial support measures. Following a Review of Australian Defence Exports and Defence Industry which was completed in 1986, the Government had previously announced in October 1986 a package of measures designed to facilitate the export of defence materiel from Australia.

The Government has reaffirmed that an effective defence policy for industry cannot be formulated except as an integral part of defence policy. In recognition of the important role industry has to play in meeting requirements for defence self-reliance, the Government has set out a comprehensive program to assist industry in fostering defence capabilities and involving itself more intensively in the support, maintenance and development of the Australian Defence Force. The basic principles guiding this initiative are followed in defence capital equipment procurement under a program of Australian Industry Involvement (AII).

The capacity of industry to maintain, repair, modify and adapt defence equipment independently of overseas sources is fundamental to the self-reliant defence of Australia and the development of this capacity is a prime defence policy objective. Over 90 per cent of defence expenditure on repair and maintenance is incurred in Australia.

The adequate supply of replacement equipment and stores (that is, munitions, spares and other consumable items) is also fundamental to Australian ability to sustain military opera-

tions. In meeting the Defence Force's requirements for these items, priority is given to local manufacture when defence requirements are sufficient to justify establishment of the requisite capacity and where proprietary manufacturing rights and warranty requirements permit. Over 70 per cent of defence expenditure on replacement equipment and stores is incurred in Australia.

The Defence program of Australian Industry Involvement (AII) in defence equipment acquisitions provides significant benefits to Australian industry. Since January 1986, when revised AII program procedures became effective, contracts placed for capital equipment have totalled \$4,032 million within which the AII element has been worth \$2,629 million or 65 per cent of the total of contract prices. Offsets included in this AII level were worth \$612 million, representing 30 per cent of the imported value of the contracts.

Australian industry participation in the defence equipment acquisition program, and in response to the government's increased incentives to promote the export of defence materiel, has resulted in significant achievements. For example, production under licence of Australian developed equipment has generated export orders for muzzle velocity indicators, which are used to enhance the accuracy of naval and field artillery, and the video movement detector, for video security systems. Other prospects for export orders are an improved multiple stores bomb rack for the F/A-18 aircraft and a laser target designator/range finder for use with airborne precision munitions.

Other defence equipment acquisition projects to which industry is expected to contribute significantly include:

- The new submarines, six of which are to be built in Australia by the Australian Submarine Corporation at a cost of some \$3,900 million (over 70 per cent of the total project value will be spent in Australia).
- A second, Australian designed, inshore minehunter has been launched from Carringtons Shipyard in Newcastle (this complex project introduces new concepts of design and production into Australia).
- Contracts were signed with Jaguar Rover Australia Ltd (JRA) in October 1986 for the provision of 2,500 one-tonne and 400 two-tonne Ford Rover 110 vehicles (these are being manufactured in Australia with a high level of Australian content and at a contract price of \$145.09 million).
- A contract was signed in May 1987 with Plessey Pacific Defence Systems Pty Ltd for the initial production of 5,937 radios and ancillaries as well as maintenance and frequency management sub-systems (local production of these radios and ancillaries will provide a significant improvement to the Australian high technology manufacturing base).
- Hawker de Havilland is assembling 38 Black Hawk helicopters, at Bankstown.
- A contract for 67 Pilatus PC9 trainer aircraft was signed in July 1986 with 65 of these being built in Australia.

The government continues to accord 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.

Defence Logistics Organisation

The Defence Logistics Organisation (DLO), created in December 1984, has since been expanded. In addition to the Supply, Technical Services and Logistic Development and Facilities Divisions and the engineering chiefs of the Services, the Logistics Computing Centre was created and placed in the DLO in July 1986 as a result of a Departmental policy to decentralise information systems. In July 1987, the DLO was further expanded and now encompasses the Information Systems Policy Division and the Defence Contracting Branch.

Briefly, the Divisions and their functions are:

- *Supply Division*—supply policy, movement, transport, disposals and cataloguing;
- *Technical Services and Logistic Development Division*—resource management, technical services, quality assurance, standardisation and international logistic policy;
- *Facilities Division*—the infrastructure of military bases and establishments, including consideration of environmental, social and economic factors;

- *Logistics Computing Centre*—operates in direct support of the Department and Defence Force logistic activities by providing automated information systems;
- *Information Systems Policy Division*—management of the Department's corporate information architecture and information systems planning;
- *Defence Contracting Branch*—arranges contracts for equipment, supplies and services above the public tenders threshold for the Defence Force and the Department.

Defence logistic activities perform a vital and complex role in maintaining the readiness and sustainability of the Defence Force and include:

- management of all items of supply including the determination of requirements and procurement (other than capital items), cataloguing, warehousing, accounting, distribution and disposal, and the management of the systems (including computer systems) upon which the Defence Force is dependent;
- replacement, repair and maintenance of equipment in service;
- provision of quality assurance for new equipment and for repair and overhaul;
- provision of transport services;
- contribution of supply and engineering expertise to the determination and selection of capital equipment requirements;
- development of policy and guidelines promoting an integrated logistic approach to Defence Force supply and technical services matters;
- development of facilities infrastructure to support the operation of the Defence Force;
- development, implementation operation and maintenance of effective and efficient computing support;
- development of tri-Service policies to achieve efficiency improvements;
- provision of a high quality and timely contracting service in accordance with Commonwealth and Departmental policies;
- management of policy and standards for the decentralised information systems.

To support the Defence Force, logistic development takes into consideration Australia's unique geographical and population distribution characteristics which also influence strategic outlook and industrial development. Australian industry is actively encouraged to become involved in the development of major defence equipment and to establish support capabilities within Australian industry.

Despite this, there is a continuing need to seek overseas sources of supply for major items of defence equipment. International agreements for the support of equipment are arranged by the DLO and include the following assurances:

- Under the auspices of the ANZUS Treaty, a bilateral arrangement for reciprocal logistic support is formalised in the Memorandum of Understanding (MOU) on Logistic Support between Australia and the United States. The MOU, originally signed in 1980, was renewed in 1985 for a further 5-year period and now incorporates an annex on procedures to raise the level of priority for Australian logistic needs in the U.S. system.
- Government-to-government agreements with countries from which we are planning to procure equipment for support through the life of the equipment. Agreements have been obtained from Sweden, France, the Federal Republic of Germany and Norway. Similar assurances are being sought from several other nations.
- Formal government arrangements for reciprocal Quality Assurance have been signed with the United States, the United Kingdom, France, Belgium, the Netherlands, Sweden and the Federal Republic of Germany. Negotiations are continuing with Italy and Canada.
- Bilateral arrangements covering the support for material provided under the Defence Co-operation Program and other common inventory items have been completed with Papua New Guinea and Fiji and are being developed with Vanuatu and Tonga.
- Ongoing arrangements for the reciprocal provision of spare parts and repair services for the forces of New Zealand and Australia are a routine feature of logistics co-operation between the two countries. These are expressed in the MOU concerning Closer Defence Logistic Co-operation which was agreed in July 1983.

The additional costs associated with the more complex technology in weapons systems continues to put pressure on logistic resources, particularly when combined with the need to make a greater percentage of Defence expenditure available for new major equipment purchases. Attention is therefore turning to more rigorous justification of needs, increased rationalisation and improved efficiency without detriment to the effectiveness of the logistic support available to the Defence Force.

Movement and transport are vital ingredients to logistic support, providing scope for rationalisation amongst the Services of the Defence Force and amongst government departments. The commercial transport industry is included in current transport operating and contingency planning.

A review of Defence Movement Functions was completed and the recommendations are being examined. Some of the matters now being addressed separately include the development of integrated EDP systems, enhancement of the removals system, centralisation of some non-specific movement training and revision of publications.

In recognition of the importance of management systems to support logistic arrangements as well as operational systems, a major redevelopment of computer-based supply systems supporting Navy, Army and Air Force commenced in 1984. The aim of redevelopment is to provide systems which will support management and operational needs beyond the year 2000.

As far as possible, common systems will be developed and introduced concurrently with a computer replacement program. Redevelopment in conjunction with computer replacement is expected to provide systems able to provide the fast response, growth capacity, compatibility and interoperability necessary for a modern defence force. Implementation is planned to commence in 1990.

Progress on the project to date includes an On-line Inquiry System which provides the Services with significantly improved capability and other enhancements are planned. The Depot/Base element will be the first new system implemented because of the pressing need to replace ageing equipment.

Land

Defence is by far the largest Commonwealth user of land in Australia. The extent, visibility and significance of Defence activities generate a substantial level of public interest in the acquisition or use of land for defence purposes.

The management of programs to provide for Defence's land needs, therefore, must be conducted with rigour and sensitivity to ensure that the wider social value of land is balanced against its value to Australia's national security.

Facilities

During 1986-87, total expenditure on Defence facilities was \$648 million. Major activities in support of the facilities function were centred on:

- Planning of facilities for the self-reliant defence of Australia especially for operations in the north and north-west. This included preliminary planning for development of a bare base airfield on Cape York Peninsula and the relocation of 2nd Cavalry Regiment to Darwin. Studies were also initiated on relocation of the Fleet from Sydney to HMAS Stirling, Western Australia and Jervis Bay, New South Wales, and consequential relocation and rationalisation of Navy's support infrastructure.
- Provision of facilities for planned new equipment and continued upgrading and modernisation of existing facilities. Major projects included: continued construction of facilities at RAAF Base Tindal, Northern Territory for No. 75 Squadron when re-equipped with F/A-18 aircraft (\$209 million); completion of a bare base airfield for the RAAF at Derby, Western Australia (\$62 million); completion of a home base for the F/A-18 Tactical Fighter Force at RAAF Base Williamtown (\$83 million); and the construction of facilities at RAAF Base Townsville to support Army's first 14 new Black Hawk helicopters (\$19.3 million)

Management of significant environmental issues including the development of an Environmental Impact Statement (EIS) for a proposal to extend the Port Wakefield Proof and Experimental Range, South Australia. The Government decided that a limited extension of the range would proceed. In November 1986, the Government also agreed that the proposed Army manoeuvre area near Cobar, New South Wales would not proceed. Environmental studies were commenced on the proposed relocation to Jervis Bay of the eastern half of the Fleet from Sydney Harbour and of a naval armament depot from Sydney. An environmental management plan for Tindal and land management plans for the Beecroft Peninsula naval gunnery range and the Army's Puckapunyal armoured training area were completed.

Defence manpower

PERSONNEL STRENGTHS OF THE PERMANENT DEFENCE FORCE AS AT 30 JUNE

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1983	17,198	33,072	22,512	72,782
1984	16,692	32,278	22,672	71,642
1985	16,059	32,460	22,863	71,382
1986	15,538	31,834	22,677	70,049
1987	15,803	32,311	22,647	70,761
1988 (authorised average strengths)	15,657	31,746	22,612	70,015

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 1987 (a)

<i>Function</i>	<i>Service</i>	<i>Civilian</i>	<i>Total</i>
Under the Secretary, Department of Defence—			
Office of the Secretary	—	6	6
Manpower and Financial Services	297	1,933	2,230
Strategic Policy and Force Development (b)	264	200	464
Capital Procurement	73	321	394
Defence Logistics	134	677	811
Defence Science and Technology	49	4,304	4,353
Policy Co-ordination/Computing Services/Defence Contracting	73	509	582
Regional Offices	4	1,421	1,425
Office of Defence Production—			
Shipbuilding	3	4,409	4,412
Aerospace	—	1,954	1,954
Munitions	—	5,493	5,493
Guided Weapons and Electronic Support Facility	—	50	50
Administration	—	285	285
Under the Chief of the Defence Force—			
Office of the Chief of the Defence Force	13	—	13
Joint Service units	524	—	524
Navy	15,328	4,944	20,272
Army	31,658	6,210	37,868
Air Force	22,066	2,624	24,690
Headquarters ADF Units	124	208	332
Outsider Organisations of the Department of Defence	151	809	960
Total	70,761	36,357	107,118

(a) Figures cannot be reconciled with those in Year Books published prior to 1984 owing to changes within classifications. 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. (b) Includes: (1) service and civilian overseas representation and, (2) 120 service and 6 civilian personnel attached to the Defence Co-operation Programs.

COMPOSITION OF PERMANENT DEFENCE FORCE(a) AS AT 30 JUNE 1987

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
Male				
Officers	2,120	4,056	3,325	9,501
Other Ranks	11,410	25,008	16,035	52,453
Cadets	390	517	413	1,320
Apprentices	425	435	388	1,248
<i>Total</i>	<i>14,345</i>	<i>30,016</i>	<i>20,161</i>	<i>64,522</i>
Females (b)				
Officers	147	365	306	818
Other Ranks (c)	1,311	1,930	2,180	5,421
<i>Total</i>	<i>1,458</i>	<i>2,295</i>	<i>2,486</i>	<i>6,239</i>
Total Strength	15,803	32,311	22,647	70,761

(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 interest 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

<i>30 June</i>	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1982	1,094	31,706	873	33,673
1983	1,204	33,227	1,178	35,609
1984	1,220	29,021	1,608	31,849
1985	1,135	23,846	1,353	26,334
1986	1,118	23,145	1,318	25,581
1987	1,219	24,632	1,361	27,212

International defence relations

Australia's international defence policy seeks to support the security afforded by national defence arrangements in areas beyond the scope of our own decision-making. The primary objective is to work together with countries showing similar strategic concerns in order both to reinforce global stability and to promote the security of Australia's more immediate region.

Regional defence relations

Australia's regional defence policies are aimed at fostering the strategic stability and defence self-reliance of the region. To meet these objectives, Australia engages in a range of co-operative defence activities with the nations of South East Asia and the South Pacific. Such activities include:

- Ministerial and other high-level visits and defence consultations.
- Combined exercises.
- Port visits by HMA Ships.
- Other service to service contacts.
- Defence representation abroad. Defence Advisers or Attaches are stationed permanently at Australian diplomatic missions in Britain, China, Fiji, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, Papua New Guinea, the Philippines, Singapore, Thailand and the United States of America, and are accredited to Brunei, Burma, Canada, and to the South Pacific nations of Kiribati, the Solomon Islands, Tonga, Tuvalu, and Western Samoa.

South East Asia

Defence relations with Malaysia and Singapore

Australia continues to support the security of Malaysia and Singapore under the Five Power Defence Arrangements by taking part in Five Power air, ground and naval exercises. Numerous bilateral co-operative activities also continue to be developed, including combined exercises, ship visits, training, advisory assistance, staff college and other personnel exchanges, defence science and technology co-operation, study visits and senior level visits.

The RAAF Mirage squadron at Butterworth will be replaced after mid-1988 by rotational deployments of F/A-18 aircraft to Butterworth and Singapore for a minimum of sixteen weeks per year. A detachment of P3C Orion aircraft at Butterworth undertakes surveillance patrols over the South China Sea and the north-east Indian Ocean. An Australian infantry company is maintained in a training role at Butterworth on the basis of three monthly attachments.

Defence relations with Indonesia, Thailand, the Philippines and Brunei

Co-operative defence activities with the other ASEAN countries have been developed in support of regional security and stability.

Australia sees a stable Indonesia as an important factor in its own security. In the long term, the government aims to promote a broad range of co-operative defence activities. The focus is currently on personnel exchanges, technical training in Australia, and projects involving the transfer of technology in aircraft maintenance and survey mapping.

Reflecting the importance the government attaches to the security of Thailand, a wide range of co-operative defence activities are conducted. These include high-level visits, ship visits, exercises, and training.

Defence contacts with the Philippines centre on senior level visits, RAN ship visits, and RAAF participation in the U.S./Philippines air defence exercise COPE THUNDER.

Bilateral defence relations with Brunei continue to expand and include senior level visits, training in Australia, and ground and naval exercises.

Papua New Guinea—PNG

The importance of Australia's defence relationship with its closest neighbour, Papua New Guinea, reflects shared strategic interests and continuing close associations between the two countries in many fields.

Defence co-operation activities with PNG emphasise the provision of specialist advice, specialist training, high level exchanges, military exercises and projects in which both Defence organisations co-operate to develop Papua New Guinea's defence capabilities. Funds to support defence activities with PNG in 1986-87 amounted to \$22.88 million.

The South Pacific

Over the past year there have been some unwelcome developments in the South Pacific, including an increase in external involvement, particularly by Libya, and the military coups in Fiji. These have underlined the need for Australia to co-operate actively in the defence area with regional countries, as part of a broader Australian approach to safeguard our national interests. The government has announced its intention to give the South Pacific countries the same priority for defence co-operation as is given to the much older and more substantial defence relations with South East Asia.

The capacity of island nations to protect their maritime resources will be reinforced through the Pacific Patrol Boat Project. The Prime Minister handed over the first boat under the project, HMPNGS Tarangau, to the Papua New Guinea Minister for Defence on 16 May 1987. The Australian Minister for Defence handed over the second boat, RVS Tukoro, to Vanuatu on 13 June 1987. A further 12 boats are being built. Other participating countries are Western Samoa, Fiji, the Solomon Islands and the Cook Islands.

Australian defence co-operation activities in the South Pacific in general concentrate on the strengthening of defence infrastructures. These activities include equipment-based projects, training, the provision of specialist Australian Defence Force personnel, high-level exchanges and ship and aircraft visits. Funds to support defence activities with the South Pacific in 1986-87 amounted to \$13.82 million.

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, Indonesia, the Philippines, the United States, Canada, New Zealand and the South-West Pacific.

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

Navy—Ships of the RAN on exercises and 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

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 Development, the Chief of Naval Personnel, the Chief of Naval Engineering, 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

Guided missile destroyers: *Perth, Hobart, Brisbane*; guided missile frigates: *Adelaide, Canberra, Sydney, Darwin*; destroyer escorts: *Parramatta, Stuart, Torrens, Derwent, Swan*; submarines: *Oxley, Otway, Ovens, Onslow, Orion, Otama*; coastal minehunter: *Curlew*; inshore minehunters: *Rushcutter, Shoalwater*; amphibious heavy lift ship: *Tobruk*; patrol boats: *Fremantle, Wollongong, Dubbo, Whyalla, Geelong, Geraldton, Bunbury, Ipswich, Townsville, Bendigo, Gladstone, Warrnambool, Cessnock, Launceston, Gawler*; training ship: *Jervis Bay*; destroyer tender: *Stalwart*; oiler: *Success*; hydrographic survey: *Moresby, Flinders*; oceanographic research: *Cook*.

The heavy landing craft *Balikpapan, Wewak* and *Tarakan* have been paid off into Reserve but can be brought to operational readiness in 21 days. The heavy landing craft *Betano* and *Brunei* have been converted to interim hydrographic survey ships. The patrol boats *Advance, Aware, Adroit, Bayonet* and *Ardent*, and the heavy landing craft *Labuan* are crewed by Reserves.

Fleet Air Arm

The RAN currently operates four different types of helicopters (anti-submarine Sea King Mk50 and Mk50A, and Wessex, Kiowa and Squirrel) and HS748 electronic warfare training aircraft from HMAS *Albatross*, the Naval Air Station at Nowra in New South Wales.

The RAN operates Jindivik pilotless target aircraft from the Jervis Bay Range facility in New South Wales.

Equipment for the Royal Australian Navy

Significant new equipment received by the RAN in 1986-87 included:

- inshore minehunter—*Rushcutter*.

Deliveries expected during 1987-88 include:

- inshore minehunter—*Shoalwater*.

Contracts and tenders negotiated during 1986-87 include:

- contract for supply of 6 submarines
- funded study for the provision of new surface combatant ships.

Training and entry

RAN Staff College

The RAN Staff College located at HMAS *Penguin*, Balmoral, New South Wales, 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

There are a number of different avenues of officer entry to the RAN, open to both males and females. Applicants for a permanent commission must be aged between 17 and 20 and meet Service selection criteria and the matriculation requirements of the University of New South Wales in their specialisation. Those selected study for a degree at the Australian Defence Force Academy, while undergoing appropriate Service military and professional studies. Officer appointees specialise in Seaman, Supply and Secretariat, Engineering or Instruction Branches. Applicants for a short service commission of nine years (inclusive of two years training) must be aged between 17 and 24 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 level. Training is conducted initially at the Royal Australian Naval College at Jervis Bay and subsequently in RAN ships and establishments. Entry is also available to professionally qualified personnel such as doctors, nurses, teachers, engineers and lawyers, who must be less than age 31 and appropriately qualified. Initial training of Direct Entry Officers is conducted at Jervis Bay.

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 15 and 18 and direct entry tradesmen. HMAS *Nirimba* is also responsible for the training of general duties sailors.
- HMAS *Cerberus* at Westernport, Victoria, is the primary training establishment for all general entry, non-apprentice recruits aged between 16 or 17 and 28, depending on category specialisation. 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 at Nowra, New South Wales. 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, which has been offered for sale. 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.

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 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:

- *Land Command* which commands all field army 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 conducts pre-commissioning training of its officers at:

- *Royal Military College*. Located at Duntroon in the Australian Capital Territory, this college provides military pre-commissioning training for all officers of the Regular Army except Specialist Service Officers, but including those attending the Australian Defence Force Academy.
- *Officer Cadet Training Units*. These units are located in each Military District and provide pre-commissioning training for the majority of officers for the Army Reserve.
- *University Regiments*. These units identify and train tertiary students as officers for service in the Army Reserve.
- *Specialist Service Officer Course*. This course is conducted at Land Warfare Centre, Canungra, Queensland, and provides an introduction to the Army for newly commissioned Specialist Service Officers in professions such as Law, Medicine and Dentistry.

Command and Staff College

Located at Queenscliff in Victoria, the college provides training for selected Australian and overseas officers, to prepare them for command and staff appointments in the rank of Lieutenant Colonel.

Other rank training

Initial training for other ranks is provided as follows:

- *1st Recruiting Training Battalion, Kapooka, New South Wales*. This unit is the major training unit for all general enlistees into the Regular Army.
- *Army Apprentice School, Bonegilla, Victoria*. This school provides initial trade and military training for apprentice enlistees.
- *Army Reserve*. Recruits attend initial training at courses conducted by Training Groups located in most Military Districts.

Land Warfare Centre

The Land Warfare Centre at Canungra in Queensland conducts courses for both officers and other ranks as follows:

- promotion subjects;
- tactics and administration;
- individual battle skills;
- 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 of service. Courses conducted include training, promotion and instructor development for members of both the Regular Army and the Army Reserve.

Equipment for the Army

Significant equipment introduced into service by the Army in 1986-87 included: 676 general purpose machine guns; 6 mortar locating radars; 22 medium power radio terminals; 299 four tonne trucks; 9 water purification plants; 9 satellite and 1 ground based survey positioning systems; 585 personnel parachutes; and a wide range of commercial vehicles. In addition, 19 anti aircraft missile systems, which have been delivered, will come into service in the next 12 months. Deliveries expected in 1987-88 include 373 light field vehicles, 32 Line of Communications bridging sets, 43 rough terrain cranes, 259 four tonne trucks, an anti-tank mine system, a ram air parachute system, 14 thermal imagers, 13 ground surveillance radars, new camouflage combat clothing, an electronic warfare support measures sub-system and 5 high power radio terminals.

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 organisation

The Chief of the Air Staff (CAS) is responsible to the Minister for Defence through the Chief of Defence Force (CDF) 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 organised 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 began re-equipping with F/A-18 aircraft in April 1985. RAAF maritime squadrons presently operate Orion P-3C aircraft. 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

Australian Defence Force Academy—ADFA

Since 1986, ADFA has replaced 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 is located in Canberra and contains the 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 Hornet 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 ADFA, 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

Significant new equipment received by the RAAF in 1986-87 included:

- 26 F/A-18 Hornet multi-mission aircraft (24 made in Australia);
- the first of two F/A-18 flight simulators;
- radar simulator at RAAF East Sale.

Deliveries expected in 1987-88 include:

- up to 18 F/A-18 Hornet aircraft;
- the second F/A-18 flight simulator;
- the first Pilatus PC9 trainer aircraft;
- the first of the Black Hawk helicopters.

Current contracts and tenders include:

- production of 67 Pilatus PC9 trainer aircraft;
- production of 39 S-70A-9 Black Hawk helicopters;
- supply and installation of airfield surveillance radars for RAAF Tindal and East Sale.

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 4,300.

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, 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 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 including strategic and tactical analytical studies;
- 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;
- 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, underwater acoustics, materials research including into advanced composites, 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 DSTO's Salisbury site.

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.

The DSTO central office in Canberra has two Divisions. Science Programs and Resources Division formulates and develops defence science management policies and long-range science plans. It develops, manages and reviews the DSTO program of tasks including major development projects. It also develops plans for the use of DSTO personnel, their recruitment and professional development, and for DSTO personnel administration policies and procedures; plans, manages and reviews the acquisition and deployment of DSTO resources, including finance, facilities, equipment and stores; and forms, develops and reviews financial and administrative policies and procedures for the DSTO.

Science Policy Division is responsible for the DSTO Scientific Advisers attached to the Navy, Army and Air Force. It provides advice to DSTO on major Defence projects and co-ordinates DSTO involvement in senior Departmental committees; fosters DSTO contacts with other science and technology bodies, including State and Commonwealth science research bodies, tertiary education institutions and industrial research and development cells; and provides information services to the Australian Defence Force and the Department of Defence. It is also responsible for trials and evaluation of equipment for the Australian Defence Force, and Defence information services and libraries. Together with the Chief of the Defence Force, it is responsible for the Australian Ordnance Council.

Aeronautical Research Laboratory, Fishermens Bend, Victoria

The laboratory provides research in fields such as 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.

DSTO Electronics Research Laboratory, Salisbury, South Australia

The laboratory is concerned primarily with R&D in radio and communications, electronics, infra-red physics, electronic warfare, command and control, and information technology.

Materials Research Laboratory, Maribyrnong, Victoria

The laboratory provides research and development support in fields including organic and inorganic materials, metallurgy, explosives and ordnance, electromagnetic propulsion and terminal ballistics, high energy lasers and camouflage.

Armed Forces Food Science Establishment, Scottsdale, Tasmania

AFFSE 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. It also researches the storage and packaging of food. AFFSE is part of the Materials Research Laboratory (MRL).

Joint Tropical Trials and Research Establishment, Innisfail, Queensland

JTTRE 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.

DSTO Surveillance Research Laboratory, Salisbury, South Australia

The laboratory provides R&D in electromagnetic surveillance, concentrating on high frequency and microwave radars, optoelectronics and physics.

DSTO Weapons Systems Research Laboratory, Salisbury, South Australia

The laboratory is 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. Its laboratory at Pyrmont, New South Wales, conducts operations research studies on maritime warfare, analyses maritime exercises, and undertakes research on underwater acoustics, oceanography, sonar and mine warfare.

Defence Support Centre, Woomera, South Australia

The Centre provides services to support the township of Woomera and a residential base for the operation of joint U.S.-Australian facilities at Nurrungar.

Natural Disasters Organisation—NDO

NDO's primary peacetime function is to mitigate the effects of disasters. It does this, at the request of a State or Territory, by co-ordinating physical assistance from Commonwealth sources including the Defence Force. These actions are designed to complement the activities of a State/Territory's own counter disaster organisation. NDO and State/Territory counter disaster organisations constitute the nucleus of the civil defence structure.

NDO develops and implements national level contingency plans to provide for effective responses to requests by designated State/Territory counter disaster authorities for Common-

wealth assistance during disasters or for civil defence needs. A National Emergency Operations Centre, located at NDO headquarters in Canberra, co-ordinates national efforts when required and maintains communications with State and Territory authorities and Commonwealth departments. NDO also manages a National Registration and Inquiry System (NRIS) for disaster victim registration and location.

On behalf of the Australian International Development Assistance Bureau, NDO acts in an advisory, planning and operational capacity for Australian overseas disaster preparedness and relief, in Papua New Guinea and the south west Pacific region.

NDO operates the Australian Counter Disaster College at Mount Macedon in Victoria for training selected personnel in disaster management and civil defence, as well as providing a forum to promote understanding and co-operation between elements of the counter disaster community. Training is conducted either at the College or by mobile teams from the College visiting a State or Territory.

NDO makes a direct contribution to the national counter disaster capability through the administration of a number of Commonwealth funded financial programs for the support of State/Territory Emergency Services. These programs include the supply of emergency equipment such as radios, rescue vehicles, flood boats, etc., reimbursement of salaries of State/Territory full-time organisers at regional level, subsidies on a dollar for dollar basis to an agreed limit towards accommodation costs of units at local government level, and the provision of public awareness and training material.

Office of Defence Production

Within overall defence policy, the Office of Defence Production (ODP) provides commercially oriented industrial support for the Australian Defence Force in both peace and war through the effective management of the government owned and operated factories and dockyards.

As at 30 June 1987, ODP comprised some 12,500 people in 9 operational Munitions Group establishments, the Government Aircraft Factories, two dockyards and a Central Office located in Victoria, New South Wales and the Australian Capital Territory. These establishments have a large and diverse spread of capabilities ranging from heavy engineering, through chemicals and explosives to clothing. Of the twelve establishments:

- seven are primarily engaged in producing ammunition, explosives, small arms and ordnance;
- the Australian Government Clothing Factory specialises in the design and production of a wide range of quality uniforms and accoutrements;
- the Guided Weapons and Electronic Support facility in New South Wales provides a range of technical support for the Defence Force and industry in electronics related fields;
- the Government Aircraft Factories (GAF) located at Fishermens Bend and Avalon in Victoria are primarily engaged in the design, production and overhaul of manned and unmanned aircraft and guided weapons. A government owned company, Aerospace Technologies of Australia Pty Ltd, took over the administration of GAF on 1 July 1987;
- Garden Island Dockyard undertakes the repair, refit, modernisation and conversion of surface naval ships; and
- Williamstown Dockyard is primarily concerned with the construction and modernisation of naval ships to destroyer size. It has been sold to a commercial organisation.

AUSTRALIANS AT WAR

(This special article has been contributed by the Australian War Memorial—written by Matthew Higgins)

Over 100,000 Australians have lost their lives through war. Many more thousands have been wounded, while the number of Australians who have served abroad in wartime is eight to nine times the number who have died.

These bare statistics alone show the significance that war has had for Australia. Australia's history is different from that of many other nations in that since the first coming of the Europeans and their dispossession of the Aborigines, Australia has not experienced a subsequent invasion; no war has since been fought on Australian soil. Yet Australians have fought in ten wars. Some of these have been in distant lands, others much closer to home. All of them were begun by other nations and involved Australia because of its overseas ties; alliances formed through sentiment, loyalty or simply for reasons of security. Paramount among these ties have been those with Great Britain and, more recently, the United States.

At times war has brought Australian society together. Remarkable displays of patriotic fervour have been created in wartime, as witnessed at the outbreak of World War I. But war has also turned Australian society against itself. During the conscription referenda campaigns of World War I and the moratorium street marches of the Vietnam years (caused, in part, by the conscription issue) the nation experienced great social tension.

War began to have an impact on Australia and Australian society during the later 1800s. Australia's participation in several small imperial wars during the second half of the nineteenth century allowed the colonies to demonstrate their loyalty to Britain and helped to strengthen imperial ties. These overseas involvements also encouraged the colonies to believe that they could occupy a larger place on the international stage.

World War I, though, had a much greater impact on Australian society. Anzac Day, commemorating the landing of Australian and New Zealand troops on the Gallipoli Peninsula on 25 April 1915, is Australia's most important commemorative day. The Anzac legend, representing the Australian fighting man as a resourceful, resilient, even cheerful warrior, has become part of Australia's folklore. It has been an accepted part of the culture for two generations of Australians. More recently it has been questioned increasingly.

That same Anzac landing really heralded Australia's entry into the First World War, a war that took nearly 60,000 Australian lives. The tremendous cost of the War (Australia's casualty rate, in proportion to the number of troops engaged, was higher than for any other country in the British Empire) left an indelible scar on the nation. Perhaps the most tangible sign of this was the number of memorials, still standing today, built in cities and towns around the country after the end of hostilities. The Australian War Memorial was inspired by that War.

World War II, for the first time in white Australia's history, placed the country under the very threat of invasion. Australia's total resources were called upon to a degree not seen before. Women increasingly filled the places in primary and secondary industry left by men. By the end of the War in 1945, the place of women in society had changed dramatically. The War also fundamentally altered Australia's relationship with Britain, for it had forced Australia to look away from Britain and towards the United States for support and security.

The Asian wars that followed, in Korea, Malaya, Malaysia and Vietnam, have all helped to change further Australia's outlook on the world. Well before 1972, when the last Australians left Vietnam, Australia had begun to see itself not merely as a part of the European world but, realistically, as a neighbour of South-East Asia. Involvement in these conflicts has strengthened Australia's relationship with the United States.

Australia's military history began with the several companies of Marines of the Royal Navy which landed with the first fleet in 1788. From 1790 until 1870 the colonies' defence forces consisted mainly of a succession of British regiments which garrisoned remote forti-

cations, guarded convicts, fought Aborigines and played a notable role in Australia's development. During the 1850s, the six colonies began raising their own forces. Towards the end of the century these grew rapidly.

Australian soliders took part in a number of overseas campaigns during the colonial period. Some 2,500 volunteers from New South Wales and Victoria went to New Zealand in 1863 to fight in the Waikato regiments against the Maoris. In 1885, 750 New South Wales troops went to the Sudan to assist British forces in quelling rebellion. Because the men of the Waikato regiments had joined a New Zealand force, the Sudan contingent (though it saw little action) is regarded as Australia's first official expeditionary force. Victoria, New South Wales and South Australia also sent naval contingents to China during the Boxer rebellion, 1900-01.

From European settlement in 1788 until after Federation in 1901, Australia's strategic naval defence was provided by ships of the Royal Navy. Colonial naval forces for local defence were also established. In 1860 the Victorian government dispatched the corvette, HMVS *Victoria*, to serve in New Zealand during the Anglo-Maori wars. The South Australian cruiser, *Protector*, served off China during the Boxer rebellion.

When the Australian colonies achieved Federation in January 1901 they had been involved in a war in South Africa for more than a year. In October 1899 the Boer War had broken out between the British and the mainly Dutch farmers (Boers) of the Transvaal and the Orange Free State. The Australian colonies and (after Federation) the Commonwealth sent contingents totalling 16,175 men to serve with the British army. The war was one of movement in which the Australians, fighting as mounted infantry, played a key role. By the time a peace treaty was signed in 1902, they had suffered over 1,900 casualties; of these 518 had died, most from disease.

World War I

By 1914, Europe had become increasingly unstable. When the heir to the throne of the Austro-Hungarian empire was assassinated in June, an intricate system of alliances led the major European States into war. On 4 August Britain and Germany went to war. As a member of the British empire, Australia was automatically committed. Australians entered the War with enthusiasm, out of a sense of adventure or a sense of loyalty to Britain, or both. Australian leaders promised support right up to 'the last man and the last shilling', and Britain was offered a force of 20,000 men—the Australian Imperial Force (AIF).

The first Australian force to take part in the War was the Australian Naval and Military Expeditionary Force. By December 1914, the AN&MEF had seized German wireless stations in New Guinea and nearby islands, though not without suffering five men killed and four wounded—the first Australian battle casualties of the War.

The 1st Division of the AIF sailed from Australia in November 1914. During the voyage, HMAS *Sydney* destroyed the German raider, SMS *Emden*, off the Cocos Islands. During five months' training in Egypt, the men of the 1st Division, together with New Zealand troops, came to be known as the Anzacs (the Australian and New Zealand Army Corps).

On 25 April 1915 the Anzacs landed on the Gallipoli Peninsula and began an eight-month campaign against Turkish forces. Despite their determination, the Australians and New Zealanders failed to achieve their objectives. The campaign developed into a stalemate in which neither the Anzacs nor the British and French troops on other parts of the Peninsula made substantial advances. Conditions were appalling and disease took a greater toll than fighting. Finally, on 20 December 1915, the last Australians were evacuated. During the campaign Australia suffered 8,700 dead, 19,000 wounded and 700 missing.

After Gallipoli, the main body of the AIF went to France to fight on the Western Front against the Germans. Between July and September 1916 the Australians fought in the first battle of the Somme and experienced some of the bloodiest fighting of the war, sustaining immense casualties. The battle for the village of Pozzières was the major Australian action during the Somme fighting and extraordinarily intense German shellfire turned it into a living hell. After the War, official historian C. E. W. Bean wrote that Pozzières ridge was 'a ridge more densely sown with Australian sacrifice than any other place on earth'.

Following the fighting for Bullecourt in April-May 1917, the Australian infantry attacked strong German defences around Ypres in Belgium, fighting in terrible mud amid heavy artillery and gas barrages. Messines Ridge, Menin Road and Broodseinde were taken but it proved impossible to advance beyond Passchendaele before winter. Australian casualties in this fighting totalled 38,000.

Meanwhile, the Australian Light Horse had been fighting the Turks in the deserts of Sinai and Palestine. Lighthorsemen helped defend the Suez Canal against Turkish forces in 1916 before advancing across the Sinai desert. During 1917 they fought with British forces to drive the Turks out of their defences between Gaza and Beersheba. This advance included a dramatic charge at Beersheba on 31 October. By December, Jerusalem had been captured.

On the Western Front, spring 1918 saw a German offensive break through allied lines on the Somme. An Australian counter-attack at Villers-Bretonneux began a series of reverses for the Germans and by July much ground had been regained. On 8 August, the long-awaited allied offensive began and the Australians played a major role in the drive to the Hindenburg line. Germany agreed to an armistice and, after four years of terrible fighting and horrific casualties, the War ended on 11 November 1918. In Palestine, the Turks had signed an armistice nearly two weeks before, following the capture of Damascus by allied forces.

The Australian Flying Corps provided four squadrons in the air war; one served in the Middle East and three others on the Western Front. Australians also flew with the British Royal Flying Corps. Australian naval forces served in a number of theatres during the War. They patrolled the North Sea, the South China Sea, the Bay of Bengal, the Netherlands East Indies and the Mediterranean.

Though a considerable distance from the fighting, Australians at home felt the impact of the War. New demands were made on the Australian economy. New industries had had to be developed. The cost of defence meant heavy borrowing and new taxes. Strikes broke out in 1915 and recurred throughout the War.

The enormous casualties incurred by the AIF on the Somme in 1916 raised the issue of conscription being used to maintain levels of reinforcements. It soon opened up the divisions in society that the war had been creating since 1914, but which had remained beneath the surface. Forced to put the issue to a referendum, the Prime Minister, W. M. Hughes, led the campaign for a 'yes' vote. The referendum was lost narrowly and Hughes, because of his role in the 'yes' campaign, was expelled from the Labor Party which was against conscription. Hughes took a number of followers with him, and with his previous political opponents formed the National Party. The new party was elected with a landslide majority in May 1917. A second referendum in December 1917 rejected conscription by a larger majority. The campaign was shorter than the first, although the bitterness on both sides had increased. The degree of tension created by these referenda had rarely been seen before in Australian history.

Australia had lost nearly 60,000 servicemen during the War. One in five of those who went overseas failed to return.

World War II

Despite its formation following World War I, the League of Nations did not avert future conflicts. The rise of Nazism in Germany (which partly resulted from the peace treaty signed in 1919) and Fascism in Italy led to a series of international crises in the 1930s. Germany invaded Poland on 1 September 1939, and Britain and France declared war on Germany two days later. Australia was again at war.

Australian troops embarked for the Middle East early in 1940. In December they joined in the Allied campaign against the Italians in Cyrenaica which culminated in the capture of Benghazi in February 1941. The German *Afrika Korps* then landed at Tripoli and pushed back the Allies. Australian, British Commonwealth and Polish troops were besieged in Tobruk by the Germans and Italians until relieved in December. The campaign rolled across North Africa several times. In October 1942 the Australians played a significant part in the battle of El Alamein, in which the Germans and Italians were decisively defeated and forced to retreat from the North African theatre.

After playing a prominent part in the North Africa in early 1941, the 6th Australian Division was sent with New Zealand and British troops to halt a threatened German invasion of Greece. Overwhelmed by the Germans, the force fought a rearguard action before being withdrawn to Crete and Egypt. Crete was evacuated following a German airborne assault in May 1941.

Australians joined British and Indian troops in June to attack the Vichy French in Syria. The invasion thrust north from Palestine with naval support along the coast and, after a five-week campaign, the Vichy forces concluded an armistice.

Japan entered the War on 7 December 1941. Despite their determined efforts, Australians and Allied forces in Malaya and Singapore, and smaller garrisons on Java, Timor, Ambon and New Britain were overwhelmed during the next few months. The survivors began a three-and-a-half year ordeal in captivity. Australia itself was attacked four days after the surrender of Singapore, when Japanese aircraft bombed Darwin on 19 February 1942. Broome and other north-west coastal towns were also attacked in subsequent raids. Japanese midget submarines raided Sydney Harbour during the night of 31 May.

Combined Australian and American efforts, however, prevented large-scale attacks on the Australian mainland. Japan suffered significant defeats in the battle of the Coral Sea in May 1942 and in the battle of Midway a month later. In August at Milne Bay in Papua, the Australians dealt the Japanese their first defeat on land. The bitter Kokoda campaign, fought by Australians in the humid, malarial jungle and rugged mountains of New Guinea, halted the Japanese advance on Port Moresby. By early 1943 Australian and American forces had pushed the Japanese out of Papua. Allied forces progressively retook New Guinea and adjacent islands during 1943 and 1944. By 1945, Australian troops had almost cleared New Guinea of the Japanese and had landed in Borneo. American forces were poised to invade Japan by mid-1945. On 6 and 9 August, atomic bombs were dropped on Hiroshima and Nagasaki, killing nearly 100,000 people. Japan surrendered shortly after.

The Royal Australian Navy played an important and diverse role during the War. From 1939 to 1941 Australian ships served with the Royal Navy in the Mediterranean Sea and the Indian Ocean. In July 1940, HMAS *Sydney* sank the Italian cruiser, *Bartolomeo Colleoni*, off Crete but was itself sunk by the German raider, *Kormoran*, off Western Australia in November 1941.

Following Japan's entry into the War, Australian naval operations were confined mainly to the Pacific Ocean and the seas to the north of Australia. RAN vessels co-operated closely with United States' ships in a range of engagements in support of Allied advances in the south-west Pacific theatre.

Air fighting played a much more significant role during World War II than it had in World War I. During 1939 to 1945, the RAAF co-operated closely with its British counterpart, particularly in the Mediterranean, North African and Malayan theatres. Australian aircrew served with the Royal Air Force in the bomber offensive against Germany and in the invasions of Europe.

Closer to Australia, the RAAF repelled Japanese fighters over Darwin and Port Moresby in 1942 and fought over the Bismarck Sea in 1943. Coastal surveillance, mine-laying and anti-submarine patrols were undertaken by RAAF squadrons. Transport and fighter-bomber squadrons supported ground assaults against the Japanese in Papua, New Guinea and adjacent islands. The RAAF often co-operated with American air formations in the War against the Japanese.

The War created complex administrative, military, economic and industrial burdens for Australia. Of the total population of 7,000,000 Australians, nearly 500,000 were engaged in munitions, or building roads or airfields, and over 1,000,000 joined the armed services. Industry, commerce and the labour market were regulated, prices and rents were fixed and food, petrol and clothing were rationed.

Australian women played a major role during World War II. They served in the three services and formed a large component of the labour force, releasing men for active service from munitions, ship-building and aircraft works, factories, farms, commerce, transport and communications.

After Japan entered the War, Australia depended increasingly on the United States for military support. General Douglas MacArthur arrived in Melbourne in March 1942 to lead Australian-American efforts. During the following two years, thousands of American servicemen were quartered in Australia, primarily for training before operations in the south-west Pacific area. Their presence had a considerable impact on Australian society, while at the same time the alliance with the United States was affecting Australia's long-term foreign policy.

Australia lost 34,000 service personnel during World War II. Total battle casualties were 72,814. Over 31,000 Australian became prisoners-of-war. Of these more than 22,000 were captured by the Japanese; by August 1945 over one third of them had died in the appalling conditions of the prisoner-of-war camps.

Wars in Asia

Not long after the end of World War II, the Cold War between Communist and Western nations intensified. During the 1950s and 1960s, Australia's concern about the growth of communism—particularly in Asia—saw the nation's foreign policy and defence commitments become much more closely oriented to that part of the globe, while at the same time it sought a still stronger alliance with the United States.

Communist North Korea invaded South Korea on 25 June 1950. The United Nations (UN) called for assistance to repel the aggressors. Australian air, sea and ground forces were dispatched and fought alongside other UN forces, always ultimately under American command. Australian soldiers fought in a number of bitterly contested actions, including Kapyong and Maryang San, and mounted numerous patrols and raids during the static war which developed from late 1951 to July 1953 while armistice negotiations dragged on. Australian airmen made a major contribution to the UN effort, flying a wide range of missions throughout the conflict. The RAN was represented by nine vessels, including the aircraft carrier HMAS *Sydney*. On 27 July 1953 an armistice was finally signed. The Australian services suffered 339 dead and 1,216 wounded; 29 servicemen became prisoners-of-war. During the war Australia, the United States and New Zealand signed the ANZUS treaty.

Two years before Australian forces embarked for Korea, fighting had broken out in Malaya between communist insurgents and British authorities. In 1950 Australia provided bomber and transport squadrons and army advisers. Combat troops were sent in 1955 and several RAN ships also undertook operations against the insurgents. Thirty-six Australians died during the Malayan emergency, which ended in 1960.

Three years later Australians were involved in another nearby conflict, Indonesia's 'confrontation' of Malaysia. Indonesia, opposing the formation of this new nation (consisting of Malaya, Singapore—which later withdrew—Sarawak and Sabah), started sending guerilla forces into Malaysia in 1963. During 1964 to 1966 Australian troops helped to defeat the guerillas in Sarawak and Sabah, while the RAN and RAAF helped defend the Malayan mainland against direct infiltration. Seventeen Australians died during the confrontation.

By the time the confrontation finished, Australian combat troops had been fighting in Vietnam for over a year. Following the end of French colonial rule in 1954, Vietnam had been divided, with a communist government in the north and a non-communist government in the south. Fighting broke out between communist guerillas and the southern régime during the late 1950s. By 1962 the United States was supplying substantial military support for the southern government, and in July Australia sent the first of its military advisers.

In 1965 Australia committed a battalion of troops to the conflict, and in 1966 an Australian task force of two (later three) battalions with supporting arms was provided. Australian troops fought mainly in Phuoc Tuy province against the Viet Cong (the guerillas of the communist National Liberation Front) and also against North Vietnamese forces outside the province. The RAAF flew transport aircraft, bombers and helicopters in Vietnam. Guided missile destroyers and specialist teams were provided by the RAN. More than 50,000 Australians served in Vietnam, making it Australia's biggest military commitment since World War II.

As involvement in Vietnam continued, opposition at home mounted. Growing numbers of Australians believed Australia should not be fighting in Vietnam; many were angered by the use of conscripts in the war. Opposition culminated in the nationally co-ordinated moratorium street marches of 1970–71. A bitter divisiveness permeated Australian society, reminiscent of the referenda campaigns of 1916–17.

Australian forces had withdrawn from Vietnam by late 1972. A total of 496 Australians had died and 2,398 were wounded during the war. Repercussions of the war, and Australia's involvement in it, are still being felt as Vietnamese refugees settle into Australian society and as the controversy over the effects on veterans of defoliants used in the war continues.

Australians have fought in ten wars on many different battlefields around the world. These involvements have left their mark on Australian society, causing great human cost yet helping to shape an Australian identity and Australia's relations with the rest of the world.

AUSTRALIAN WAR CASUALTIES

	Duration	Numbers enlisted or engaged	Deaths	Wounded	Prisoners-of-war
New Zealand	1860-61 (official Australian involvement)	Crew of HMVS <i>Victoria</i> served 1860-61 (several thousand Australians enlisted in the New Zealand Waikato regiments 1863-69)	Accurate figures not available	Accurate figures not available	Accurate figures not available
Sudan	1885	770 men joined the New South Wales contingent to the Sudan	9 died from all causes	3	—
South Africa	1899-1902	16,000 Australians joined colonial and Commonwealth contingents to serve in South Africa	251 killed in action or died of wounds, 267 died of illness, total 518 dead	538	100
Boxer rebellion	1900-01	560 men, from New South Wales, South Australia and Victoria served in colonial naval contingents	6 died from all causes	Accurate figures not available	—
First World War	1914-18	417,000 men enlisted in the Australian Imperial Force (including Australian Flying Corps) 330,000 served overseas (no figures for the Royal Australian Navy)	60,000 deaths from all causes (AIF only)	155,000 (AIF only)	4,044 (397 died while captive)
Second World War	1939-45	691,000 men and 35,800 women enlisted in the Australian Military Forces (AIF and Militia), 45,000 men and 3,100 women enlisted in the Royal Australian Navy, 189,000 men and 27,000 women enlisted in the Royal Australian Air Force	35,000 deaths from all causes (all services)	66,553 (all services)	7,289 in the war against Germany (of whom 234 died while captive), 22,376 in the war against Japan (of whom 8,031 died while captive)
Korean war	1950-53	10,657 army personnel engaged, 4,507 navy personnel engaged (no figures for air force)	339 deaths from all causes (all services)	1,216 (all services)	29 (1 died while captive)
Malayan emergency	1950-60	7,000 army personnel engaged (no figures for other services)	36 deaths from all causes (all services)	20	—
Indonesian confrontation	1963-66	3,500 army personnel (no figures for other services)	15 deaths from all causes (all services)	9	—
Vietnam war	1962-72	42,700 army personnel engaged, 2,858 navy personnel engaged, 4,443 air force personnel engaged	496 deaths from all causes (all services)	2,398 (all services)	—

Note: Casualty figures differ between sources due to variations in recording methods, criteria for classification etc.; the figures for deaths, wounded and prisoners-of-war should therefore be regarded as approximate only.

THE AUSTRALIAN DEFENCE FORCE ACADEMY

(This special article has been contributed by the Australian Defence Force Academy)

Background

The Australian Defence Force Academy, located in Canberra, commenced its activities in January 1986 and is now the centre for tertiary education for the Armed Services. The single Service Colleges which previously performed this function are now responsible for providing a purely military education and professional training.

From their foundation, the Royal Military College (1911) and the Royal Australian Naval College (1913) provided general education for cadets as well as professional training, except during the two World Wars when the normal courses were curtailed. After World War II, each of the three Armed Services adopted, as policy, that the educational standards should be raised for officers in training.

The establishment of the Royal Australian Air Force College in 1947 was the first move to provide a tertiary level education for officer cadets. The College developed into the RAAF Academy and from 1963 Academy graduates were required to complete a Bachelor's degree in Science from the University of Melbourne, in addition to their flying training and military studies.

Two decades of improvements in courses and standards at the Royal Military College (RMC) led to an agreement, in 1967 between the Department of Defence and the University of New South Wales, under which they would co-operate to further develop RMC into a degree-level institution. To that end, the University established the Faculty of Military Studies at RMC to conduct courses leading to the award of the University's degrees in arts, science and engineering.

Also in 1967, the University of New South Wales entered into an association with the RAN College enabling it to present approved courses. Subsequently, first year courses for certain University programs in arts, science and engineering were introduced. Successful cadets were sponsored by the Navy to complete Bachelor's degrees on the University's campus.

Concurrent with the developments at the RAN College and RMC, there was an inquiry by the Department of Defence into the feasibility of setting up a college for the joint education of officer cadets of the three Armed Services. Investigations on a wider scale followed, with the result that in 1974 the Commonwealth Government announced its intention of establishing a single tertiary institution for the Defence Force. Construction began in 1981 and the first officer cadets joined the Academy in 1986.

Entry to the Academy as an officer cadet is by selection. Applications are invited from young men and women who are seeking careers as officers in the Armed Services, and who have the educational qualifications to gain entry to the University of New South Wales and meet certain physical and personal standards.

Undergraduate students are officer cadets of the Royal Australian Navy, Australian Regular Army and Royal Australian Air Force. In addition to their academic studies, officer cadets undertake programs of military training at the Academy and at Service training establishments.

Commencement

The first intake of 343 First Year Officer cadets joined 174 Second Year and 142 Third Year officer cadets who transferred from the Royal Australian Naval College, Royal Military College and Royal Australian Air Force Academy. Together these young men and women formed the inaugural officer cadet body, termed the Corps of Officer Cadets.

Overseas students

A number of overseas students attend the Defence Academy. Overseas officer cadets who require English as a Second Language complete this course at the University of New South Wales prior to commencing first Year at the academy. The majority of overseas students come from New Zealand with Thailand and Singapore also represented during 1986.

Changes to service colleges

The advent of the Defence Academy has brought about the closure of the three single-Service officer training schemes which have rendered outstanding service to the Defence Force over many years. Their passing underlines the importance of the Defence Academy which is now to assume many of the roles and responsibilities formerly fulfilled by them. The establishments which closed at the end of 1985 were the Officer Cadet School, Portsea; the Engineer Cadet Squadron, RAAF Frognall and the element of No. 7 Stores Depot, RAAF Toowoomba.

Role

The role of the Defence Academy is to provide a balanced and liberal university education for officer cadets of the three Services, within a military environment which provides some initial professional military training. The Academy will also cater for higher post graduate studies for both military and civilian personnel.

The Defence Academy will be the source of over 40 per cent of the officer establishment of the Australian Defence Force. The officer cadet population will build up and is expected to peak at around 1,100 in 1989.

Compared with the previous single-Service arrangements the Defence Academy offers economies of scale with a broader and more appropriate range of academic courses and research. It also provides an environment within which young officers will develop a much better understanding of joint Service issues and the inter-dependencies that each Service has on the others. The friendships and associations that will be forged at the Defence Academy will cross Service boundaries, and will pay rich dividends in terms of inter Service co-operation and management in future years.

Academic integrity

Following an agreement signed on 7 May 1981, the University of New South Wales has accepted responsibility for the academic integrity of the Academy. The courses offered by the University College have been developed in close association with the Services to ensure that their needs will be met.

The academic year is divided into two sessions which together provide 33 weeks of study. This is consistent with practices in other Australian universities. Breaks during the year provide scope for leave, academic field trips, military tours and excursions, and adventurous training.

The following degrees of the University of New South Wales may be awarded to officer cadets of the Defence Academy:

Bachelor of Arts	BA
Bachelor of Arts with Honours	BA (Hons)
Bachelor of Engineering	BE (Elec)
	BE (Mech)
	BE (Civil)
Bachelor of Science	BSc
Bachelor of Science with Honours	BSc (Hons)

Arts and Science degree rules are liberal and permit major and minor Arts and Science subjects to be mixed.

Most officer cadets undertaking Arts and Science courses will be awarded degrees after three years. Students of merit may be offered transfer to an honours program which requires an additional year of study. Engineering courses follow a prescribed four year program.

Midshipmen and Air Force officer cadets studying aeronautical engineering, naval architecture or marine science will complete the last two years of their studies at either the University of New South Wales (in Sydney), Sydney University or the Royal Melbourne Institute of Technology.

Higher degrees are also offered; Masters Degrees by course work and/or research and Doctorates of Philosophy for original research. Other post graduate courses designed to provide continuing education for Service officers at varying stages of their careers are available. To help maintain the Service ethos and to provide opportunities for suitably qualified personnel, a small number of Service officers are seconded to the University as Honorary Visiting Fellows in most academic departments.

Military training

As soon as they join the Defence Academy, new officer cadets undertake three weeks of Common Military Training in which they acquire the knowledge and skills necessary for their early Service life.

At the end of each year a period of concentrated military training is undertaken by officer cadets. This period culminates in the Graduation Parade for third year officer cadets who have completed their training.

During academic sessions, six periods of Common Military Training have been incorporated in the weekly academic program to ensure officer cadets' military development continues during the year.

Common Military Training is conducted throughout the three years of an officer cadet's attendance at the Defence Academy and includes the following subjects:

- **Defence Studies.** This subject covers the development of each of the three Services and warfare in general. It also studies the place that Australia occupies in world affairs and emphasizes domestic and international affairs.
- **Military Communication Skills.** This subject introduces officer cadets to the style and format of written communication used by all three Services and gives them practice in formal speaking. Its object is to make each officer cadet confident and effective both in writing and in speaking.
- **Methods of Instruction.** This subject concentrates on the preparation and conduct of military instruction. Officer cadets are also introduced to the design and programming of military training courses.
- **Physical and Recreational Training.** This subject deals with fitness, strength and agility. As sport plays an important part in Service life, officer cadets are required to obtain a coaching or refereeing qualification for at least one sport while at the Defence Academy. Competitions in a wide range of sports are conducted within the Defence Academy and teams are entered in most civilian competitions in Canberra.
- **Drill and Ceremonial.** This subject engenders a knowledge of the customs and traditions of military ceremonial as well as self discipline and teamwork.
- **Weapon Training.** Operation and maintenance of the basic small arms Service weapons and weapons safety are covered in a series of courses.

Single-Service training

While officer cadets of all three Services live and work together at the Defence Academy they also undertake training that is relevant to their parent Service. After an initial induction period at the Defence Academy, officer cadets are introduced to their chosen Service during a special familiarisation period and more time is set aside at the beginning of the second and third years for further single-Service training. This is conducted by the individual Services and its composition varies according to each Service's requirements.

The Corps of Officer Cadets

The organisation providing the military environment within which an officer cadet's qualities are developed is the Corps of Officer Cadets.

The Director of Military Education and Training (colonel or equivalent) is the Commanding Officer, Corps of Officer Cadets with this appointment rotated amongst the three Services. The Corps of Officer Cadets contains six squadrons, each commanded by a major (or equivalent) with the strength of up to 192 officer cadets. Each squadron is subdivided into four cadet divisions of 48 officer cadets, each commanded by an army captain (or equivalent). The smallest sub-unit in the Corps of Officer Cadets is a section of eight officer cadets, commanded by a senior officer cadet. Each squadron has a warrant officer class two (or equivalent) and a sergeant to assist the officer commanding. The staff of the Corps of Officer Cadets is organised to ensure that an appropriate mix of Navy, Army and Air Force personnel is always maintained.

Under the supervision and guidance of the military staff, the day-to-day running of the Corps of Officer Cadets is the responsibility of the third year officer cadets. They fill senior and junior officer cadet command appointments within the Corps of Officer Cadets at wing, squadron, division and section levels. The responsibilities include matters relating to the administration and discipline of the Corps, as well as the co-ordination and administration of all sporting and social activities in which the Corps is involved.

Officer cadets are allotted to one of the six squadrons on joining the Corps of Officer Cadets. Throughout their time at the Defence Academy, officer cadets are mixed by Service, seniority and academic discipline. Each of the sub-units is therefore a combination of Navy midshipmen and Army and Air Force officer cadets.

Sports

Participation in sporting activities at the Defence Academy is designed to promote competition, teamwork, leadership, strength, agility and endurance.

Defence Academy sports are not limited to team events. Individual excellence in such sports as athletics, swimming, sailing and shooting, among others, is encouraged. All officer cadets are required to play one major sport in both summer and winter.

Library

The Australian Defence Force Academy Library was founded on collections transferred from the Bridges Memorial Library at the Royal Military College. Materials were also drawn from the libraries at the RAN College and the RAAF Academy.

The collections and services of the Academy library support research and undergraduate and postgraduate study within the University College. Approximately 190,000 volumes are held and there are current subscriptions to some 2,000 periodicals.

Computer centre

The Academy Computer Centre provides computer processing and programing support services for teaching, research, and administration throughout the Academy. In addition it offers a program and data entry service.

Prospects

The Defence Academy has made an excellent start under challenging and often difficult circumstances and all objectives are being met. A spirit of co-operation and determination to succeed exists amongst the military and academic staff and the development of esprit de corps amongst officer cadets from the three Services has exceeded expectations.

The Academy represents one of the most significant long-term military developments that has taken place in Australia in recent decades. It is an imaginative and exciting advancement in the training and education of the officer corps of the Australian Defence Force.