

CHAPTER 4

DEFENCE

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

Further information on Australia's strategic environment and defence policies and programming is contained in the Government's White Paper on Australian Defence tabled in Parliament on 4 November 1976 and statements made to the House of Representatives by the Minister for Defence, most recently on 25 March, 26 August, 9 September and 4 December, 1980. Further factual information on the programs and activities of the Department and the Defence Force is contained in past Defence Reports and other publications issued by the Department of Defence.

Current defence policy

The primary aim of Australian defence policy is to ensure the security of Australia and its direct interests against military threat. Factors of geography that support our security interests provide us with considerable assurance in pursuit of that objective. Nevertheless, recent global and regional developments have led to increased tensions and rendered less predictable the prospects for stability in regions both distant and nearer at hand.

Australian defence policy attaches high priority to developing and improving Australia's capacity to mount an independent national defence effort in order to maximise the risks and costs to any aggressor. The Government also places particular emphasis upon supporting the United States in its efforts to deter global war.

Defence policy is to maintain the ability to deploy forces appropriate to cope with a range of lesser situations, or to expand in time should the need arise to meet more substantial threat. This policy does not assume that US combat support would be available in all circumstances. However, the alliance with the United States under ANZUS gives substantial grounds for confidence that, in the event of a major threat to Australia's security, US military support would be forthcoming.

Priority in Australian defence activity is accorded generally to areas close to Australia from which threat could be most readily projected against Australia itself or Australian territories, or the maritime resources zone and the nearer lines of communication.

The stress placed upon improving the operational self reliance of the Defence Force in Australia's own environs has regard to our own national interests and responsibilities and to the constraints imposed by resources on our ability to project power at distance. Progress towards the objective of greater self-reliance will strengthen our capacity to contribute in our region to the support of allies and friends as well as to national concerns.

Australia remains conscious of its traditional associations with the liberal democracies and with the Western strategic community. Additionally, Australia maintains its concern for the security and development of the strategic neighbourhood—South-East Asia, Papua New Guinea and the South West Pacific. High value is placed on developing defence links with the region.

Higher defence organisation

Legislation concerning the present organisation of the higher management of the Defence Force and the Department of Defence was passed by the Commonwealth Parliament in September 1975 and became effective on 9 February 1976. It specifically recognised that responsibility for the general control and administration of the Defence Force rests with the Minister for Defence.

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

Secretary, Department of Defence: The Secretary derives his normal administrative powers as a Permanent Head and Chief Officer from 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 Staff jointly responsible for the administration of the Defence Force (except for the matters falling within the command of the Defence Force or any other matter specified by the Minister.) The Secretary is the principal civilian adviser to the Minister for Defence and is responsible to the Minister for advice on general policy and on the management and utilisation of defence resources.

Higher defence machinery

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

An extensive committee system exists to prepare advice for the Minister on defence policy, and to identify the respective Armed Services' operational requirements to meet defence objectives. It is also designed to facilitate the sound management of resources and the development of general policy and to enable the interests of elements of the Defence organisation to be represented when decisions on resource allocation are taken. The committee system brings together the expertise of both military and civilian members in the internal policy formulating process and the proffering of advice to Government. The more important committees are described below:

The *Defence Committee*, chaired by the Secretary with the Chief of Defence Force Staff, the three Chiefs of Staff, and the Secretaries of the Departments of the Prime Minister and Cabinet, Treasury and Foreign Affairs as members. Representatives of other Government Departments and Agencies may be invited as members or consultants. It advises the Minister on general defence policies calling for co-ordinated information and advice about strategic, military, foreign affairs, financial and economic aspects.

The *Chiefs of Staff Committee*, chaired by the Chief of Defence Force Staff, is responsible for providing the Minister with collective professional advice on military operations; military implications of defence policy; endorsement of military plans; and other related subjects.

The *Defence Force Development Committee*, chaired by the Secretary with the Chief of Defence Force Staff and the three Chiefs of Staff as members. It is concerned with advising the Minister on the formulation of the Five Year Defence Program, annual budget estimates, new major equipment acquisitions, and other matters relating to force structure and the management of resources.

Defence Review

On 30 April 1981 the Prime Minister announced in the House of Representatives a major review of the Defence organisation as part of the Review of Commonwealth Functions.

The Committee is chaired by Mr John Utz, Chairman and Chief Executive of Wormald International Ltd.

The terms of reference for the Review are:

- To review the organisation of the higher Defence machinery in the light of experience since the Defence re-organisation of 9 February 1976, with particular reference to;
- the suitability of the organisation to propose and implement policy for the achievement of governmental defence objectives, including development of:
 - capability for independent defence of our national security interests;
 - national defence preparedness;
 - defence co-operation with allies and regional friends;
 - increased self-reliance in the national infrastructure supporting Defence; and
 - the scope for further rationalisation and economy in managerial arrangements for defence-related activities of the Government now conducted outside the Defence organisation.
- the suitability of the organisation for a defence emergency or war;
- the distribution of responsibilities within the higher Defence machinery as laid down in Defence and other relevant statutes and in the Directives issued by the Minister for Defence;
- the organisation and functions of the senior Defence Committees.

The Review Committee is expected to report in 1982.

EXPENDITURE ON THE DEFENCE FUNCTION
(S'000)

Departmental category	Actual Expenditure					Estimated Expenditure
	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
Department of Defence—						
Capital equipment	281,200	319,238	406,880	495,731	563,556	665,038
Defence facilities	116,837	111,596	90,828	89,706	116,793	178,722
Defence co-operation	25,369	26,952	24,600	30,045	37,914	40,693
Manpower	1,104,690	1,197,742	1,255,390	1,386,587	1,599,461	1,778,007
Other running costs	504,031	569,285	633,872	788,876	967,616	1,065,086
<i>Total</i>	<i>2,032,127</i>	<i>2,224,812</i>	<i>2,411,570</i>	<i>2,790,945</i>	<i>3,285,340</i>	<i>3,727,546</i>
Department of Industry and Commerce (defence functions)—						
Capital equipment	7,762	6,410	10,167	14,190	21,593	37,604
Defence facilities	9,234	8,832	6,915	9,147	8,755	18,746
Manpower costs (including Remuneration Tribunal and Defence Force Retirement and Death Benefits)	127,366	145,729	167,761	185,088	211,029	247,044
Other running costs	78,167	85,246	89,870	104,560	118,705	118,598
<i>Total</i>	<i>222,529</i>	<i>246,217</i>	<i>274,713</i>	<i>312,985</i>	<i>360,082</i>	<i>421,992</i>
Total expenditure on defence function	2,254,656	2,471,029	2,686,283	3,103,930	3,645,419	4,149,538
Special provisions—						
Acquisition Boeing 707 aircraft . . . . .	..	..	10,201	3,395	196	471
Allowance for prospective wage and salary increases . . . . .	..	..	..	..	..	100,000
Total defence expenditure	2,254,656	2,471,029	2,696,484	3,107,325	3,645,615	4,250,009

Equipment for the defence force

An amount of \$585.1 million (excluding Boeing 707 aircraft) was spent on equipment of a capital nature in 1980-81. An amount of \$702.6 million is expected to be spent in 1981-82.

The significant new equipment items received by the Services in 1980-81 included 2 guided missile frigates (HMAS *Adelaide* and HMAS *Canberra*), 1 amphibious heavy lift ship (HMAS *Tobruk*), 1 oceanographic ship (HMAS *Cook*), 1 patrol craft (HMAS *Warrnambool*), 680 light trucks, 8 bulk fuel tankers, 59 fire fighting trucks, 54 medium tracked tractors, 9 medium wheeled tractors, 20 medium motorised graders, as well as Harpoon anti-ship missiles and MK48 submarine launched torpedoes. In addition, the services received 1 destroyer (HMAS *Hobart*) and 1 submarine (HMAS *Otway*) from refit, 2 RF111C aircraft from modification with a reconnaissance capability, 5 P3C aircraft from fitment with AQS-901 sonics processors and 2 Macchi aircraft from refurbishment.

In June 1981 the Government acquired four F111A aircraft from the US Government to replace the four Australian F111C aircraft lost in accidents, bringing the strategic strike squadrons up to their original strength of 24 aircraft. The Government has also approved the acquisition of the Pave Tack target acquisition and tracking system for the F111s which will enable the aircraft to identify targets by day and night and give them the capability to use precision guided munitions.

Deliveries expected during 1981-82 include 3 self propelled combined water/diesel lighters, 1 destroyer escort (HMAS *Parramatta*) from refit, 4 patrol craft, additional Harpoon anti-ship missiles and MK 48 submarine launched torpedoes, 75 8 tonne trucks, 20 ambulances, 64 medium duty wheeled tractors, 20 Macchi aircraft from refurbishment, 1 C130H flight simulator, 1 Mulloka sonar system and a precision approach radar for Naval Air Station Nowra. HMAS ships *Adelaide* and *Canberra* are also expected to arrive in Australia during 1981-82.

Evaluation is continuing for a replacement for the Aircraft Carrier HMAS *Melbourne* and the construction in Australia of two FFG-type guided missile frigates.

Concerning selection of the new tactical fighter, the Minister for Defence announced on 4 December 1980 that major uncertainties about costs and other aspects of both contending aircraft programs had forced a deferment of type selection until later in 1981. On 20 October 1981, the Minister announced that the Government would purchase the McDonnell Douglas F/A-18 aircraft as Australia's new tactical fighter.

The Government expects to approve a number of major new capital equipment projects during 1981–82. Details of equipment approved in the context of the 1981–82 Budget will be announced by the Minister for Defence later in 1981.

Defence Facilities

During 1980–81 total expenditure on Defence facilities was \$244.1 million. Expenditure in 1981–82 is expected to increase to some \$316 million.

Emphasis continues to be placed on the development of facilities in the north of Australia. To support the new Fremantle class patrol boats, the patrol boat base at Cairns, Qld, is nearing completion and that at Darwin, N.T., is well advanced. In support of the RAAF, works started in 1981 on an aircraft maintenance complex at RAAF Base, Darwin; on improvements to the airfield at Learmonth, W.A.; and on surveys for the proposed new airfield at Derby, W.A. Construction began of workshops and stores at Lavarack Barracks, Townsville, Qld, to support Army's Operational Deployment Force.

Other operational bases where there are, or have recently been, new major works include: HMAS *Stirling*, Cockburn Sound, W.A.—armament depot and oil fuel installation; Garden Island, N.S.W.—first stage of a modernisation program for the RAN Fleet Base and dockyard; HMAS *Albatross*, Nowra, N.S.W.—new hangar and workshop for Fleet Air Arm; Holsworthy, N.S.W.—living and working accommodation for Army's 1 Task Force; Enoggera, Qld.—working accommodation for 6 Task Force; RAAF Base, Edinburgh, S.A.—improvements to operational, training and fuel storage facilities; Glenbrook, N.S.W.—command and administration facilities for RAAF Operational Command Headquarters. In addition, programmes are well under way for over 500 additional Service houses at Townsville, Darwin and Cockburn Sound.

Major works at logistic facilities, besides the modernisation programme at Garden Island Dockyard, include a modernisation programme at Williamstown Dockyard, Melbourne; development of the RAN's main storage and supply centre at Zetland, N.S.W. and the second stage of a programme at Randwick, N.S.W. to improve facilities for Army's main transport units in N.S.W.

Major works at Defence Force educational and training institutions include the commencement in early 1981 of construction of the Australian Defence Force Academy in Canberra; the first stage of development of facilities at Bonegilla, Vic., for Army's School of Military Survey and Apprentices' School; and improvements to the RAAF School of Technical Training at Wagga, N.S.W.

Defence manpower

Employment

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 1981

<i>Function</i>	<i>Service</i>	<i>Civilian</i>	<i>Total</i>
Operational forces and direct logistic support	29,850	720	30,570
Specialist support (e.g. communications, medical services)	5,200	3,880	9,080
Stores and supply; storage and control	2,815	4,490	7,305
Dockyards, equipment production, repair and overhaul	2,935	6,440	9,375
Training	19,440	1,490	20,930
Support to reserves and cadets	1,215	100	1,315
Research and development	305	4,880	5,185
Central headquarters and administration including overseas representation	3,860	3,300	7,160
Regional commands and administration	7,215	3,830	11,045
Defence co-operation	220	..	220
Total	72,520	29,180	101,700

NOTES: Figures have been rounded.

Figures cannot be reconciled with those in previous Year Books prior to 1979, owing to changes within classifications.

Civilian figures include only full-time operatives and exclude 1,212 locally-engaged civilians overseas, persons on extended leave and part-time staff.

Permanent Defence Force**PERSONNEL STRENGTHS OF THE PERMANENT DEFENCE FORCE AS AT 30 JUNE**

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1977	16,390	31,988	21,703	70,081
1978	16,298	31,883	21,689	69,870
1979	16,582	31,813	21,803	70,198
1980	16,961	32,321	22,249	71,531
1981	17,298	32,898	22,322	72,518
1982 (Approved Targets)	17,626	33,176	22,767	73,569

**COMPOSITION OF PERMANENT DEFENCE FORCE (a)
as at 30 June 1981**

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
Male—				
Officers	2,064	4,169	3,313	9,546
Other ranks	13,015	25,648	16,635	55,298
Cadets	417	477	408	1,302
Apprentices	666	818	441	1,925
Junior recruits	121	—	—	121
<i>Total</i>	16,283	31,112	20,797	68,192
Female (b)—				
Officers	90	280	213	583
Other ranks	894	1,479	1,289	3,662
Cadets	31	27	23	81
<i>Total(c)</i>	1,015	1,786	1,525	4,326
Total strength	17,298	32,898	22,322	72,518

(a) Includes Reserve personnel on full-time duty.

(b) Excludes female personnel on maternity leave.

Reserve Forces

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

**RESERVE COMPONENTS WITH TRAINING OBLIGATIONS (a)
as at 30 June**

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1977	970	21,641	473	23,084
1978	917	23,164	490	24,571
1979	1,037	22,978	498	24,513
1980	1,039	23,986	502	25,527
1981	1,021	31,125	591	32,737

(a) Strengths exclude those members who are serving full-time in the Permanent Defence Force but include members who have not fulfilled their minimum training obligations.

Defence co-operation

In support of Australia's defence and foreign policies the Government conducts Defence Co-operation Programs with South-East Asian and South Pacific countries. The programs are bilateral, geared to the needs and priorities of co-operating countries, and emphasise the transfer of skills and technology. Activities include training in Australia, joint projects, loan of Australian personnel, and combined military exercises.

Training in Australia is an important activity. In 1980–81 over 1,150 overseas personnel were trained by the three Services or with civil organizations, almost twice as many as in the previous year. In accordance with the Government's decision to increase defence co-operation with neighbouring countries this figure is expected to expand steadily in future years. To this end the development and

upgrading of selected facilities and equipment in Australia commenced in 1981. This includes the establishment of an English language training and cultural familiarization centre (AUSTFAMIL) at RAAF Laverton where most overseas personnel attend prior to undertaking training at other Service establishments. The cost of establishing this centre will be \$1.97 million.

Co-operation with Papua New Guinea included the provision of Australian Loan Servicemen to PNG, combined exercises, training for PNG Servicemen in Australia, survey and engineering projects in PNG, and the provision of defence equipment. Expenditure in 1980-81 totalled \$15.2 million.

As well as the provision of training and advisory assistance, major projects undertaken with Indonesia included survey and mapping of Maluku Province (Moluccas) and Irian Jaya, a maritime patrol project (including patrol boats and Nomad aircraft), provision of Army vehicles, and maintenance of C130 (Hercules), engines and gearboxes. Expenditure totalled \$11.9 million in 1980-81.

Assistance to Malaysia in 1980-81 amounted to \$3.9 million, mainly for training. Major equipment elements of joint projects are now complete. Related advisory assistance is being developed including in association with the Armed Forces Manufacturing Workshop, Defence Research Centre and the Ordnance Training Centre. Assistance in defence cataloguing is also being provided.

Continued training and advisory assistance were provided to the Philippines, Thailand and Singapore during 1981-82. Additional emphasis was directed towards the Philippines and Thailand where assistance was increased from the previous year's modest level and a number of joint projects were commenced.

In 1980-81 expenditure on co-operation with South West Pacific countries increased to \$2.6 million. Activities in the South West Pacific are not confined to those states with defence forces. They include technical advisers, survey and mapping, hydrography, channel clearance operations, training and equipment assistance. Assistance was provided to Vanuatu to equip its newly formed Police Mobile Force and to contribute to the cost of its initial training in Papua New Guinea.

Defence representation overseas

Defence representatives are accredited to Britain, Canada, France, India, Indonesia, Iran, Japan, Republic of Korea, Malaysia, Nepal, New Zealand, Pakistan, Papua New Guinea, the Philippines, Switzerland, Thailand and the United States of America.

Defence force activities overseas

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

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

Navy—A Destroyer or Destroyer Escort is maintained in South-East Asian waters for much of the year. In addition, the Aircraft Carrier *Melbourne*, an escort and support ships visited the area on good-will visits.

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

Air Force—Two squadrons of Mirage fighter aircraft are maintained at Butterworth with a detachment at Tengah in Singapore. Up to three P3 Orion maritime patrol aircraft are also located at Butterworth for surveillance duties.

The Defence Force continued to contribute to United Nations peace-keeping operations with Australian Army observers in Kashmir and the Middle East.

Since mid-January 1981, a Guided Missile Destroyer has been maintained on surveillance duties in the Indian Ocean and the Arabian Sea. These vessels have also paid good-will visits to Indian Ocean littoral states.

For the first time in 32 years, a RAN ship, the Destroyer Escort *Swan*, paid a good-will visit to the People's Republic of China, in late August—early September.

Under the Defence Co-operation Program with neighbouring countries, elements of the Defence Force have conducted surveying and mapping operations in Indonesia, Papua New Guinea and Fiji; and have undertaken other tasks in the Solomon Islands, Tonga, Vanuatu and Kiribati.

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 overall command of the Defence Force by the Chief of Defence Force Staff. Principal staff officers to the Chief of Naval Staff are the Deputy Chief of the Naval Staff, the Chief of Operational Requirements and Plans, the Chief of Personnel, the Chief of Technical Services, and the Chief of Materiel. Other senior officers of the RAN include the Flag Officer Naval Support Command and the Flag Officer Commanding H.M. Australian Fleet.

Ships of the Royal Australian Navy

The Fleet, September 1981: *Melbourne*-aircraft carrier; *Supply*-oiler; *Stalwart*-destroyer tender; *Tobruk*-amphibious heavy lift ship; *Adelaide*, *Canberra*-guided missile frigates; *Perth*, *Hobart*, *Brisbane*-guided missile destroyers; *Vampire*-destroyer; *Yarra*, *Parramatta*, *Stuart*, *Derwent*, *Swan*, *Torrens*-destroyer escorts; *Jervis Bay*-training ship; *Curlew*, *Snipe*-coastal minehunters; *Ibis*-coastal minesweeper; *Moresby*, *Flinders*-surveying ships; *Cook*, *Kimbla*-oceanographic research ships; *Otway*, *Onslow*, *Ovens*, *Otama*, *Oxley*, *Orion*-submarines; *Attack*, *Acute*, *Advance*, *Adroit*, *Ardent*, *Assail*, *Aware*, *Barbette*, *Barricade*, *Bayonet*, *Bombard*, *Buccaneer*, *Fremantle*, *Townsville*, *Warrnambool*-patrol boats; *Banks*, *Bass*-general purpose vessels; *Brunei*, *Labuan*, *Tarakan*, *Wewak*, *Betano*, *Balikpapan*-heavy landing craft.

Fleet Air Arm

The Fleet Air Arm maintains three front line squadrons for embarked operations in the carrier HMAS *Melbourne*. These squadrons currently consist of Skyhawk A-4G fighter/ground-attack aircraft, Tracker S2E/G anti-submarine aircraft and Sea King Mk 50 anti-submarine helicopters. Two Wessex 31B helicopters are also carried for Search and Rescue/Utility tasks. Three training and support squadrons are based at the RAN Air Station, Nowra, New South Wales. Tracker S2E and S2G aircraft are also used for surveillance duties in Bass Strait. Other aircraft operated by the Navy are the Bell 206B/1 helicopter in the survey ship HMAS *Moresby*, Iroquois UH-1B and Wessex 31B helicopters (utility tasks, and search and rescue), HS-748, (electronic warfare role) Skyhawk TA4-G and Macchi trainers and Jindivik pilotless target aircraft.

Ship construction and repairs

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

Other current construction projects include eleven patrol boats being built in Cairns, two guided missile frigates in the United States of America and modernisation of two destroyer escorts being undertaken by Williamstown Naval Dockyard.

Training and entry

Officer Entry. The Royal Australian Naval College at Jervis Bay is the training centre for officers in the RAN. Applicants must be under twenty years of age on 1 January of the year of entry, and must meet or intend meeting during the year of entry, the matriculation standard of the University of New South Wales, with passes in English, Mathematics, Physics and/or Chemistry. Officer appointees specialise in either Seaman, Engineering, Supply and Secretarial, or Instructor branches. Selected appointees complete a full time degree course in Engineering, Science, Surveying or Art at the University of New South Wales. Engineering Officer candidates must have attained Matriculation standard with passes in English, Mathematics, Physics and Chemistry. Male and female applicants for short service are selected after completing Year 12, to age twenty-four. Entry is also available to professionally qualified persons such as doctors, teachers, engineers and lawyers.

Sailor Entry. There are several entry schemes available, depending upon an individual's age, educational standard and interests. New entry training is carried out at the following establishments:

- *HMAS Nirimba* at Quaker's Hill, New South Wales, is the primary establishment for all RAN trade training which includes courses for apprentices aged between fifteen and seventeen-and-a-half, general entry personnel and direct entry tradesmen.
- *HMAS Leeuwin* at Fremantle, Western Australia, is the junior recruit training establishment for male entrants aged between fifteen-and-three-quarters and sixteen-and-a-half.
- *HMAS Cerberus* at Westernport, Victoria, is the training establishment for general entry members aged between seventeen and twenty-six. Recruits receive twelve weeks initial basic training before progressing to branch training courses.

Advanced branch training is also undertaken at the various schools at *HMAS Penguin*, *HMAS Watson* in Sydney, and the Naval Air Station at Nowra, New South Wales. A number of specialist courses are conducted in the United Kingdom and United States.

Australian Army

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

Higher organisation

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

The Army is organised into three commands as follows:

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

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

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

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

Training

Australian Staff College. The Australian Staff College is located at Queenscliff, Victoria. The course is held annually and is of twelve months duration. The normal intake is eighty students, twenty of whom are from overseas countries. The course is intended to train selected officers for appointments in all branches of the staff in peace and war and to prepare them to assume, after experience, command and higher staff appointments. On 1 January 1982 the College is to be retitled the Command and Staff College, with an associated change in curriculum.

Royal Military College. The Royal Military College was established in 1911 at Duntroon in the Australian Capital Territory to provide trained officers for the Army. The conditions of entry are laid down in the Royal Military College Regulations. The course is either four or five years of military and academic studies depending upon the academic course undertaken. On graduation, cadets are appointed lieutenant in the Australian Regular Army.

Officer Cadet School. The Officer Cadet School was established in 1951 at Portsea, Victoria, to increase the rate at which junior regimental officers could be produced for the Australian Army. Civilians between eighteen-and-a-half and twenty-two-and-a-half years are eligible for entry. Serving soldiers are eligible for entry from eighteen-and-a-half up to twenty-seven years. Civilians accorded special entry status because of completed or part completed tertiary qualifications are eligible for entry between eighteen-and-a-half and twenty-five years. The course lasts for forty-four weeks and, on graduation, cadets are appointed second lieutenants in the Australian Regular Army.

Women's Royal Australian Army Corps School. The WRAAC School at Mosman, New South Wales, has two wings: one whose task is the training of officer cadets for the WRAAC; and one which is a basic training wing. The officer cadets are selected on the same criteria as entrants to the Officer Cadet School. The course is of forty weeks duration and, on graduation, cadets are appointed second lieutenants in the Women's Royal Australian Army Corps.

Land Warfare Centre. The Land Warfare Centre at Canungra provides training for personnel in tactics and administration and conducts sub-unit and individual training in battle skills.

Army Apprentices School. The Army Apprentices School was opened in 1948 at Balcombe, Victoria, to train youths as skilled tradesmen for the Regular Army and to provide them with a background for an Army career. The course is open to youths between the ages of fifteen and seventeen and provides training in a number of highly skilled trades.

Other Schools. Army schools have been established for the major arms and services to train officers and other ranks in the up-to-date techniques of their own arm or service, to qualify them for promotion and to produce trained instructors. Courses at Army Schools are conducted for members of both the Regular Army and Army Reserve.

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) has command of the Royal Australian Air Force subject to the overall command of the Defence Force by the Chief of Defence Force Staff. The CAS is assisted in his decisions by an advisory committee which includes the Deputy Chief of the Air Staff, Chief of Air Force Personnel, Chief of Air Force Technical Services, Chief of Air Force Development, Chief of Air Force Materiel, Director General Supply—Air Force, Assistant Secretary Resources Planning, and other senior officers or specialists as may be directed by the CAS. The Committee has no statutory authority nor executive function and the CAS is not obliged to accept its recommendations.

The Chief of Air Staff administers and controls RAAF units in Australia through two commands: Operational Command and Support Command. Operational Command is responsible to the CAS for the command of operational units and the conduct of their operations within Australia and overseas. Operational units based at Butterworth, Malaysia, contribute to the development of the Malaysian and Singapore defence capability and provide forces for the Integrated Air Defence System. Support Command is responsible to the CAS for training of personnel, and the supply and maintenance of Service equipment.

Structural organisation

The RAAF has five operational elements, the units of which actively and directly participate in air operations. These elements are the strike/reconnaissance force, tactical fighter force, air transport force, tactical air support force and the maritime force. The strike/reconnaissance force provides a capability for offensive air operations against land and naval targets, and a long range reconnaissance capability. The tactical fighter force is responsible for air superiority, air defence and air interdiction operations, and also provides close air support to sea and land forces. The air transport force is used for routine strategic and domestic transport, and in addition has a tactical transport role. Tactical transport and close air support aircraft normally operate within a tactical air support force which is usually controlled by a joint (Air Force/Army) headquarters. Maritime forces are primarily employed in ocean surveillance, anti-submarine warfare and search and rescue. Major maritime operations are controlled by a joint (Air Force/Navy) headquarters.

The support component consists of those units and personnel which support units of the operational component. The elements are maintenance, supply, air training, ground training, administrative and the RAAF Reserve.

Aircraft

The RAAF's strike/reconnaissance force is equipped with F-111C aircraft. Canberra aircraft are used for aerial photography, survey and target towing. The air defence and ground attack squadrons are equipped with the Mirage 1110/D. Transport aircraft currently in use are Hercules C130H and C130E, Caribou, Mystere 20, HS-748, Boeing 707, and BAC-111. Three squadrons operate Iroquois helicopters and one operates the Chinook medium lift helicopter. Maritime squadrons operate Orion P-3B and P-3C aircraft. Aircraft used for aircrew initial training are the CT-4 Airtrainer, Macchi and HS-748T2.

Training

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

Engineer Cadet Squadron. The Engineer Cadet Scheme provides training for degree status in aeronautical, mechanical, electrical and communication engineering at the Royal Melbourne Institute of Technology and similar institutes in the Melbourne area.

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

Basic Aircrew Training. Flying training for RAAF pilots is conducted at Point Cook, Victoria, and Pearce, W.A., while RAAF navigators are trained at East Sale, Victoria. Officer and military training forms part of the flying training course. Trainees receive their wings and are commissioned on graduation. The RAAF also provides pilot and observer training for the RAN and initial pilot training for the Army. Airmen, aircrew for employment as flight engineers, loadmasters and crewmen are trained in two phases: a basic aircrew course at Richmond, N.S.W., and flying training within the conversion training or operational squadrons.

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

Officer Training. With the exception of those officers commissioned from the RAAF Academy or the flying training schools, all officers entering directly (with or without tertiary qualifications), commissioned airmen and airwomen, engineering and equipment cadets and undergraduate students undergo the Officers' Initial Training Course at the Officers' Training School, Point Cook, Victoria.

Staff College. The RAAF Staff College located at Fairbairn, A.C.T., provides staff training and higher service education to selected officers normally of the rank of Squadron Leader. The course, which is of one year's duration, is designed to broaden the students' professional background and to prepare them for command and staff appointments of greater responsibility. A two year correspondence course covering communication skills, military studies, international affairs and management is a compulsory prerequisite for entry to this 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 apprentice and adult trade training for technical personnel. They also provide post graduate-type training and specialist familiarisation courses on aircraft and telecommunication systems. Non-technical courses conducted at Wagga include catering, clerical, supervision and management and instructional technique.

**SERVICE ESTABLISHMENTS PROVIDING EDUCATIONAL COURSES OF SIX MONTHS DURATION
OR LONGER, AUSTRALIA, 1977, 1978, AND 1979**

<i>Establishment</i>	<i>Students enrolled</i>			<i>New entrants during year</i>			<i>Number completing course during year</i>		
	1978	1979	1980	1978	1979	1980	1978	1979	1980
Staff colleges—									
Joint Services Staff College	82	82	88	82	82	88	82	82	88
Australian Staff College	80	80	80	80	80	80	80	80	80
RAAF Staff College	48	48	41	48	48	41	48	47	41
RAN Staff College	—	34	36	—	34	36	—	34	35
Officer cadet training establishments—									
RANC	264	(a)537	567	119	332	314	41	217	245
RMC	438	439	456	148	135	139	89	77	71
RAAFA	122	130	127	45	46	33	26	25	26
Apprentice schools—									
Navy	419	677	904	240	184	252	101	167	527
Army	563	557	559	274	254	274	218	216	204
Air Force									
Wagga Wagga	278	338	335	135	161	173	133	(b)42	144
Laverton	77	86	109	37	50	50	38	(b)—	23
Other—									
RAN Junior Recruit Training School	326	360	256	330	360	256	570	344	220
RAAF School of Languages	37	34	45	37	34	45	37	34	35

(a) Now includes all RAN officer training. (b) Low numbers completing the course are due to extension of the course length by an average of three months. Apprentices graduated in 1980.



RAAF F/A18 fighter.

Defence Science and Technology Organisation

The Chief Defence Scientist heads the Defence Science and Technology Organisation (DSTO) which is engaged in research, analysis, development, trials and evaluation. It consists of a central office and thirteen establishments, a small number of people in overseas posts and some in joint activities with other nations. The DSTO contains about 4,800 staff (including some 1,100 professional) who provide a degree of scientific expertise in most physical sciences and some engineering fields of relevance to defence.

The objective of DSTO is to ensure that Australia takes best advantage of modern technology in its Defence Force. The major activities are: scientific input to Defence policy formulation; solution of Service problems particularly where high technology or special features of Australian physical or military environment are involved; modification and extension of life of Service equipment; development of Australian equipment; evaluation of Service equipment and procedures by trials, exercise analysis or operational research; support to defence industry; international co-operation in defence Research and Development.

The central office of DSTO in Canberra has 3 Divisions:

Programs and Administration Division controls the management and administration of the DSTO forward planning and advises on the optimum deployment of DSTO resources; co-ordinates co-operation with overseas governments and is responsible for information services as well as career planning and assessments. It manages special joint undertakings with other countries.

The Projects and Analytical Studies Division provides management and advice on Major Projects and co-ordinates relevant establishment activities; co-ordinates analytical studies throughout DSTO, fosters DSTO contacts with other national science and technology agencies and bodies.

The Service Laboratories and Trials Division plans and executes trials of Defence Force equipment; maintains a source of engineering design for development and modification of military equipment; advises on appropriate engineering and trials standards.

DSTO Establishments

DSTO laboratories are located in eastern and southern Australia. Those primarily concerned with testing and evaluating Service equipment are functionally grouped under the Services Laboratories and Trials Division.

The DSTO establishments are:

Advanced Engineering Laboratory, Salisbury, S.A.

Armed Forces Food Sciences Establishment,* Scottsdale, Tas.

Aeronautical Research Laboratories, Fishermen's Bend, Vic.

Central Studies Establishment, Canberra, A.C.T.

Engineering Development Establishment,* Maribyrnong and Monegeetta, Vic.

Electronics Research Laboratory, Salisbury, S.A.

Joint Tropical Trials Research Establishment,* Innisfail, Qld

Materials Research Laboratories, Maribyrnong, Vic.

Materials Testing Laboratory,* Alexandria, N.S.W.

Royal Australian Navy Research Laboratory,* Edgecliff, N.S.W.

Royal Australian Navy Trials and Assessing Unit,* North Sydney, N.S.W.

Trials Resources Laboratory, Salisbury, S.A.

Weapons Systems Research Laboratory, Salisbury, S.A.

* Responsible to Chief Defence Scientist through Controller Services Laboratories and Trials Division.

DSTO Reviews

In line with Commonwealth government policy to review its major research organisations, DSTO was the subject of review in 1980. The reports:

- Independent External Review of the Defence Science and Technology Organisation Report, October 1980
- Internal Review into Objectives and Procedures of the Defence Science and Technology Organisation, October 1980

are published by the Australian Government Publishing Service.

The Minister for Defence announced the Government response to the reviews' recommendations on 29 July 1981. Many of the recommendations concerned the organisation, management and administration of DSTO, and were aimed at streamlining its operations. Some recommendations aimed at enhancing relations with industry and external science. The Minister agreed that scientists in

Government service required special working arrangements if innovation was to flourish and the Government accepted most of the recommendations. Some relating to organisation, including whether DSTO should be a Statutory Authority, were referred to the major review of Defence Organisation announced on 7 May 1981.

Natural Disasters Organisation

The Natural Disasters Organisation (NDO) was established in the Department of Defence in 1974, absorbing the functions of the former Directorate of Civil Defence; the latter had been in the Department of the Interior until moved to Defence in December 1972.

The organisation mitigates the effects of disasters at the request of State and territory counter disaster organisations and in conjunction with the Defence Force, Commonwealth Government Departments and other Government and non-Government organisations; and supports the development of a core civil defence structure. The NDO and the State and Territory Emergency Service organisations constitute the core civil defence structure for Australia, but their main continuing activity in peace is related to mitigation of the effects of disasters. The States and Territories have complete responsibility for their own counter disaster organisations.

At the national level NDO is required to develop and implement contingency plans involving Commonwealth resources to cope with requests by State/Territory counter-disaster authorities during disasters, and with civil defence needs. The headquarters of NDO in Canberra, through its National Emergency Operations Centre, provides a focal point for the co-ordination of national effort where appropriate. It is through this Centre that the physical resources available from the Commonwealth are co-ordinated when assistance or support is requested by State and Territory authorities.

The NDO administers a number of programs from Commonwealth funds for the support of the Emergency Service organisations, namely: the supply of emergency type equipment (radios, rescue vehicles, first aid kits, generators, flood rescue boats, etc); reimbursement of salaries of State/Territory full time organisers at regional level; provision of training films and handbooks, and subsidies on a limited dollar-for-dollar basis to provide accommodation for the State/Territory units at local government level.

Other programs which benefit all organisations with a counter-disaster involvement, and the community at large, are: training, principally at the Australian Counter Disaster College at Macedon, Victoria; emergency broadcasting facilities; a fall out shelter survey service; and a public awareness program.

DEFENCE PRODUCTION

Defence production functions of Department of Industry and Commerce

The defence production functions of the Department of Industry and Commerce are carried out under the *Supply and Development Act* 1939 and include the following:

Planning, establishment, operation and management of facilities producing aircraft, guided missiles, small arms, ammunition, explosives, clothing and other defence goods. Acquisition, maintenance, and disposal of strategic materials, investigation and development of Australian sources of supply of defence material in conjunction with the Department of Defence.

For the performance of the above functions the Department has two production divisions—

Munitions Supply, and Aircraft, Guided Weapons and Electronics Supply—supported by the Marketing Branch and elements of Central Office administrative staff.

Munitions supply

The Munitions Supply Division is responsible for the production of munitions required by the Defence Force. Production is carried out in Government factories, which may place orders with private industry for components and materials. The factories currently in operation and their main products or services are as follows:

Ammunition Factory, Footscray, Victoria (fuses, primers, cartridge cases and small arms ammunition); Australian Government Clothing Factory, Victoria (uniforms and clothing); Albion Explosives Factory, Deer Park, Victoria (high explosives, propellant); Explosives Factory, Maribyrnong, Victoria (propellants, explosives, rocket motors); Mulwala Explosives Factory, New South Wales (propellants and chemicals); Munitions Filling Factory, St Marys, New South Wales (filling of ammunition and explosive munitions); Ordnance Factory, Bendigo, Victoria (heavy guns, mountings, large gears); Ordnance Factory, Maribyrnong, Victoria (guns, projectiles, heavy forgings, rocket motor components); and Small Arms Factory, Lithgow, New South Wales (rifles, machine guns, mortar shells and fuse components).

Aircraft, guided weapons and electronics supply

Design, production and product support both in Government factories, and in industry, of aircraft, aero-engines, other aircraft components and guided weapons is the responsibility of this Division. Planning of capacity and negotiation (in conjunction with the Department of Administrative Services) of contractual arrangements concerning aircraft modification, repair and overhaul, and for the supply of spare parts and airborne equipment for the Services, are also functions of the Division.

The following factories are operated by the Division: Government Aircraft Factories at Fishermen's Bend, Victoria, together with its final assembly workshops and test airfield at Avalon, Victoria and the Aircraft Engineering Workshop at Pooraka, South Australia.

A twin turbo-propellor utility aircraft known as Nomad has been designed and developed by the Government Aircraft Factories (GAF) and the Government has approved production of 200 aircraft. A new Mark IV version of the Jindivik is being developed with costs being shared by Britain and Australia. The Ikara anti-submarine weapon system which has been fitted into 9 RAN ships has also been purchased by the British and Brazilian Navies. A commercial workload has also been maintained, a prime activity being the production of components for Boeing aircraft.

Marketing

Overseas sales orders of munitions items in 1980-81 amounted to approximately \$11.6 million. The main items sold were propellant, 105 mm ammunition, 25 lb aircraft practice bombs, FFG shafting, handcuffs, 7.62 mm L1A1 rifles and rifle spares, to USA, UK, New Zealand, Hong Kong, Fiji, Brunei and the Caribbean region.

Finance

The total outlay by the Department of Industry and Commerce on defence-orientated activities was \$125.6 million during 1980-81. This was in addition to a turnover of \$115.0 million by the Government Factories through their trust accounts.

Personnel

At 30 June 1981, 9,015 personnel were employed on specifically defence-orientated functions (excluding general financial and administrative management support) as follows: administration 163; aircraft production 2,511; munitions production 5,623; miscellaneous production 712; and overseas staff 6.