

CHAPTER 4

DEFENCE

This chapter outlines Australia's defence policy and its defence relationships with other countries; the higher Defence organization; the functions, organization, 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 supplementary statements made to the House of Representatives by the Minister for Defence on 22 September 1977 and 24 October 1978. 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 Territories. While Australia's strategic prospects are judged on balance to be favourable, there are uncertainties which must be insured against. Defence policy is to maintain the ability to deploy a balanced force to cope with a range of lesser situations, or to expand in time should the need arise to meet a serious emergency.

The Australian alliance with the United States under ANZUS gives substantial grounds for confidence that, in the event of a fundamental threat to Australia's security, US military support would be given. However, even though her security may be ultimately dependent upon US support, Australia owes it to herself to be able to mount a national defence effort that would maximise the risks and costs to any aggressor.

Short of this major and improbable situation, Australia could face a range of other situations that she should expect to handle more independently. The requirements and the scope for Australian Defence activity are today confined basically to areas close to home—areas in which military deployments by a power potentially unfriendly to Australia could permit that power to attack or harass Australia itself or Australian territories, or the maritime resources zone and the nearer lines of communication.

The promotion of increased self-reliance derives essentially from our own national interests and responsibilities. It also accords with Australia's status as an ally of the United States: by accepting local responsibilities, Australia can contribute to the alliance relationship and to the US global effort.

Australia remains deeply mindful of her natural associations with the liberal democracies and with the Western strategic community. Additionally, Australia maintains her concern for the security and development of the strategic neighbourhood—South-East Asia, Papua New Guinea and the South-West Pacific. High value continues to be placed on her defence links with the region.

Higher Defence organization

Legislation to give effect to the re-organization of the higher management of the Defence Force and the Department of Defence was passed by the Commonwealth Parliament in September 1975. The legislation, which came into effect on 9 February 1976, specifically recognised that responsibility for the general control and administration of the Defence Force rests with the Minister for Defence.

The Chief of Defence Force Staff exercises command of the Defence Force through the three Service Chiefs of Staff (Navy, Army and Air) who are the professional heads and have responsibility for the management of their respective arms of the Defence Force. The Chief of Defence Force Staff is the principal military adviser to the Minister.

The Secretary, Department of Defence has the powers and functions generally prescribed for such appointments in the Australian Public Service Act, but these are qualified by the statutory authority of the Chief of Defence Force Staff and by Ministerial directives to the Secretary, enjoying responsiveness of the Public Service structure to the operational priorities of the Chiefs of Staff. The Secretary is responsible to the Minister for advice on general policy, financial policy, and on the management and utilisation of defence resources. Central Administration is divided functionally into

areas concerned with manpower and financial services, strategic policy and force development, management and infrastructure services, supply and support, and defence science and technology.

The Chief of Defence Force Staff and the Secretary, Department of Defence advise the Minister on matters involving their joint responsibility in respect of administration of the Defence Force. The three Service Chiefs of Staff, the Chief of Defence Force Staff and the Secretary, Department of Defence all have the right of direct access to the Minister.

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 identify the respective Armed Services' operational requirements to meet defence objectives, and to facilitate the professional management of military careers, the sound management of resources and the development of general policy. It also 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* is chaired by the Secretary and has as members, 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. It advises the Minister on general Defence policies calling for co-ordinated information and advice about strategic, military, foreign affairs and economic aspects.

The *Chiefs of Staff Committee* is chaired by the Chief of Defence Force Staff and 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* is chaired by the Secretary and its members are the Chief of Defence Force Staff and the three Chiefs of Staff. It is primarily concerned with the formulation of the Five Year Defence Program and with advising the Minister on related matters encompassed by it.

EXPENDITURE ON THE DEFENCE FUNCTION (S'000)

Departmental Category	Actual Expenditure				Estimated Expenditure
	1974-75	1975-76	1976-77	1977-78	1978-79
Department of Defence					
Capital equipment	90,050	151,589	281,200	319,238	359,201
Defence facilities	121,846	112,437	116,837	111,596	93,582
Defence co-operation	88,647	38,951	25,369	26,952	24,625
Manpower including Defence Force Retirement and Death Benefits	1,008,998	1,111,915	1,222,739	1,333,590	1,389,526
Other running costs	366,588	437,665	504,031	569,285	614,921
<i>Total(a)</i>	<i>1,676,129</i>	<i>1,852,557</i>	<i>2,150,176</i>	<i>2,360,660</i>	<i>2,481,855</i>
Department of Productivity and other Departments					
Capital equipment	12,246	10,520	7,762	6,410	10,746
Defence facilities	5,574	7,469	9,234	8,832	6,575
Manpower costs	21,583	8,327	9,317	9,881	9,522
Other running costs	75,116	64,384	79,841	86,884	89,056
<i>Total(b)</i>	<i>114,519</i>	<i>90,700</i>	<i>106,154</i>	<i>112,007</i>	<i>115,899</i>
Total	1,790,648	1,943,257	2,256,330	2,472,667	2,597,754

(a) Research and Development formerly with the Department of Productivity integrated with Defence Science and Technology of the Department of Defence during 1974-75. (b) Historic data up to and including 1974-1975 has not been adjusted for the reclassification of Department of Productivity expenditure attributable to the Defence Functions.

Equipment for the Defence Force

An amount of \$325.6 million was spent on equipment of a capital nature in 1977-78. An amount of \$369.9 million is expected to be spent in 1978-79.

The major equipment items received by the Services in 1977-78 included 1 Oberon Class submarine, 4 replacement ESM systems for destroyer escorts, 8 Nomad aircraft, 4 P3C LRMP aircraft, 2 fire support vehicles, 53 Leopard tanks, 400 light trucks, and 10 medium girder bridges.

Major new equipment items planned for delivery in 1978-79 include 1 patrol boat, 2 self-propelled lighters, 8 work boats (12 metre), 14 Leopard tanks, 33 fire support vehicles, 2 Nomad aircraft, 6 P3C LRMP aircraft, 12 C130H aircraft, 8 submarine fire control systems, 46 off-pavement forklifts, 400 light trucks, 3 attack/intercept sonars, 2 replacement ESM systems for destroyer escorts, 4 optical Rapier surface-to-air guided weapons, 31 light duty tractors, 6 precision approach radars, 1 tactical airtraffic control surveillance radar, and 1 air surveillance radar.

New major capital equipment decisions approved in the context of the 1978-79 Budget include a second phase of the construction of a multi-purpose Defence secure communications network, construction of a maintenance facility and the development of an air launch support capability as the first phase of the acquisition of air-to-surface anti shipping missiles, further surface-to-air Standard practice missiles, purchase of additional Mark 48 torpedoes, construction of 6 Jindivik pilotless target aircraft, the fitment of Mulloka active sonar systems in the River Class destroyer escorts, acquisition of an electronic warfare processing centre for the Army, purchase of long lead items for a Mirage aircraft refurbishment program and acquisition of a replacement radar homing and warning system for F111C aircraft.

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 1978

	Service	Civilian	Total
Combat/operational forces and direct logistics support	29,860	710	30,570
Specialist support (e.g. medical services, communications)	6,050	1,500	7,550
Stores and supply	3,080	5,300	8,380
Workshop and repair facilities	2,850	860	3,710
Quality assurance inspection	110	1,220	1,330
Naval dockyards (construction and refit)	120	5,520	5,640
Training (staff, direct support and service trainees)	17,760	1,750	19,510
Support to reserves and cadets	1,610	120	1,730
Research and development	440	5,150	5,590
Central departmental functions and specialist administrative services	1,390	3,880	5,270
Defence regional offices (financial, audit, civil personnel and management support)	-	1,590	1,590
Service command and district HQ's and service administrative support	6,100	2,530	8,630
Defence co-operation and UN support	500	-	500
Total	69,870	30,130	100,000

Figures have been rounded. Civilian figures include only full-time operatives and exclude locally engaged civilians overseas, persons on extended leave and part-time staff.

Permanent Defence Force

PERSONNEL STRENGTHS OF THE PERMANENT DEFENCE FORCE

Strengths as at end June	Volunteer Forces			Total	National Servicemen
	Navy	Army	Air Force		Army
1974	16,141	30,197	21,119	67,457	38
1975	16,094	31,514	21,546	69,154	-
1976	15,993	31,430	21,351	68,774	-
1977	16,390	31,988	21,703	70,081	-
1978	16,298	31,883	21,689	69,870	-
1979 (estimated)	16,530	31,910	21,821	70,261	-

NOTE. Defence Force manpower statistics for earlier years are shown in Year Book No. 61, page 100.

COMPOSITION OF PERMANENT DEFENCE FORCE (a)
as at 30 June 1978

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
Male—				
Officers	1,910	4,161	3,414	9,485
Other ranks	12,574	25,044	16,172	53,790
Cadets	414	474	341	1,229
Apprentices	380	704	349	1,443
Junior recruits	193	—	—	193
<i>Total</i>	<i>15,471</i>	<i>30,383</i>	<i>20,276</i>	<i>66,130</i>
Female (b)—				
Officers	73	200	146	419
Other ranks(c)	754	1,300	1,276	3,321
<i>Total</i>	<i>827</i>	<i>1,500</i>	<i>1,413</i>	<i>3,740</i>
Total Strength	16,298	31,883	21,689	69,870

(a) Citizen Forces and reserves on full time duty are included in the appropriate category. (b) Females serve in the Women's Royal Australian Naval Service, the Royal Australian Naval Nursing Service, the Women's Royal Australian Army Corps, the Royal Australian Army Nursing Corps and other Army Specialist corps. The Women's Royal Australian Air Force and the RAAF Nursing Service were disbanded on 1 May 1977 when all female personnel were incorporated into the Permanent Air Force. (c) Includes female officer cadets.

Reserve Forces

With the Permanent Forces, the Reserve Forces of the Navy, Army and Air Force form a basis for expansion of the Defence Force.

Each Reserve Force consists of several reserve elements with different call out provisions and training obligations. The elements obliged to render training are as follows:

Active citizen forces (Royal Australian Naval Reserve; Active Citizen Military Forces; Active Citizen Air Force) which may be called out by proclamation for continuous full-time service in a time of defence emergency or war.

Emergency Reserves (Naval Emergency Reserve Force; Regular Army Emergency Reserve; Air Force Emergency Force) which may be called out by the Governor-General for continuous full-time service as the need arises.

PERSONNEL STRENGTHS OF THE RESERVE FORCES (a)

<i>Strengths as at end June</i>	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1974	1,593	20,000	746	22,341
1975	1,302	20,374	554	22,230
1976	1,025	21,183	458	22,666
1977	970	21,641	473	23,084
1978	917	23,164	490	24,571
1979 (estimated)	1,180	23,600	620	25,400

(a) Strengths refer to Reserves with training obligations and exclude those members who are serving full time in the Permanent Defence Force but includes all other listed Reserve members including some who have not fulfilled their minimum training obligations.

Defence co-operation

In support of Australia's Defence policy, the Government conducts defence co-operation activities with South-East Asian and South Pacific countries. These activities include joint projects, training in Australia, loan of personnel and combined military exercises.

In 1977-78, expenditure on Defence co-operation with Papua New Guinea totalled \$14.6 million. This included the loan of Australian servicemen to P.N.G., training for P.N.G. servicemen in Australia, survey and engineering projects in P.N.G. and the provision of Nomad aircraft and certain items of equipment.

Expenditure on the Defence Co-operation Program with Indonesia to June 1977 amounted to \$34.5 million. Major current projects include the survey and mapping of Irian Jaya, field communications, Sioux helicopters, language training, defence research and development, and a maritime patrol project (involving patrol boats and Nomad aircraft).

Annual expenditure on Defence co-operation with Malaysia and Singapore is now running at approximately \$3.5 million and \$0.5 million respectively. Major continuing projects in Malaysia include an Armed Forces manufacturing workshop, a parachute and diving school and a defence research centre. Assistance to Singapore is mainly a C130 simulator and in the area of training, particularly of qualified flying instructors. Training assistance is also provided to Thailand and the Philippines.

Assistance to South-West Pacific countries includes technical advisory personnel, engineering and transport equipment, and the provision of training in Australia.

Training in Service training establishments in Australia is an important part of Defence co-operation activities. Between 600-700 overseas personnel are trained in Australia each year by the three Services.

Defence representation overseas

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

Defence Force activities overseas

The main areas in which Australian Defence Force elements have been deployed overseas during the year are Malaysia/Singapore and Papua New Guinea. Units have also visited Indonesia, the Philippines, India, Japan, New Zealand, Hawaii, Britain, Canada and the United States.

In support of the Five Power Arrangements, 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;

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

Air Force—Two squadrons of Mirage fighter aircraft are maintained at Butterworth in Malaysia, with a detachment at Tengah in Singapore.

The Defence Force contribution to United Nations peace-keeping operations reached its highest level for many years with a RAAF helicopter contingent and a small RAN element in Sinai, a RAAF Caribou transport aircraft serving in support of the United Nations Observer Group in Kashmir, and Australian Army observers in Kashmir and the Middle East.

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 naval task group, consisting of surface warships, naval aviation, and the RAN's submarine force.

Development of the Royal Australian Navy

Information relating to naval defence systems prior to 1901 appears in Year Book No. 2, page 1094; further information relating to the development of Australian naval policy appears in Year Books No. 3 and 12, pages 1060 and 1012 respectively; an account relating to the building of the Australian Navy, its cost, the compact with the Imperial Government, and other details appears in Year Book No. 15, pages 921-3; and the growth and the activities of the RAN during the 1939-45 war are described in Year Book No. 36, pages 1023-7.

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, and the Chiefs of Operational Requirements and Plans, Personnel, Technical Services, and Materiel. Other senior officers of the RAN include the Flag Officer Commanding HM Australian Fleet and the Flag Officer Commanding East Australia area.

Ships of the Royal Australian Navy

The Fleet, October 1978: *Melbourne*—aircraft carrier; *Supply*—oiler; *Stalwart*—destroyer tender; *Perth*, *Hobart*, *Brisbane*—guided missile destroyers; *Vendetta*, *Vampire*—destroyers; *Yarra*, *Parramatta*, *Stuart*, *Derwent*, *Swan*, *Torrens*—destroyer escorts; *Jervis Bay*—training ship; *Curlew*, *Snipe*—coastal minehunters; *Ibis*—coastal minesweeper; *Moresby*, *Flinders*—surveying ships; *Diamantina*, *Kimbla*—oceanographic research ships; *Otway*, *Onslow*, *Ovens*, *Otama*, *Oxley*, *Orion*—submarines; *Attack*, *Acute*, *Advance*, *Adroit*, *Ardent*, *Assail*, *Aware*, *Barbette*, *Barricade*, *Bayonet*, *Bombard*, *Buccaneer*—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 embarkation in the operational carrier HMAS *Melbourne*. These squadrons currently consist of Skyhawk A4G fighter ground-attack aircraft, Tracker S2G anti-submarine aircraft and Sea King Mk 50 anti-submarine helicopters. Three training and support squadrons are based at the RAN Air Station, Nowra, New South Wales. Other aircraft operated by the Navy are the Bell 206B helicopter in the survey ship HMAS *Moresby*, Iroquois UH1B and Wessex 31B helicopters (utility tasks and search and rescue), HS-748, S2Es Macchi trainer and Jindivik pilotless target aircraft.

Ship construction and repairs

There are two naval dockyards, one at Garden Island, New South Wales, and one at Williamstown, Victoria. The dockyard at Cockatoo Island, which is operated by Vickers Cockatoo Dockyard Pty Ltd by agreement with the Commonwealth Government, carries out considerable naval repair work and has the capability to construct warships.

Current construction projects include one Fremantle Class submarine in the United Kingdom (due to be completed in early 1979), two guided missile frigates in the United States of America and an oceanographic vessel being built at Williamstown. Modernisation of three River Class destroyer escorts, *Parramatta*, *Stuart* and *Derwent*, is progressing and the half-life refit of a fourth, *Yarra*, is complete.

Extensive improvements to the weapons control system of the guided missile destroyers *Hobart*, *Perth* and *Brisbane* are being undertaken at Garden Island Dockyard.

Training and Entry

Officer Entry. The Royal Australian Naval College at Jervis Bay is the training centre for officers in the RAN. Male applicants for permanent service are selected either after completing year ten (at fifteen or sixteen years of age) or after matriculating, to age twenty. The majority of these officers study for degrees in Arts, Science or Engineering at the University of NSW. Male and female applicants for short-service are selected after completing year twelve, to age twenty three. Entry is also available to professionally qualified persons, such as doctors, dentists, teachers, engineers and lawyers.

Sailor Entry. There are a number of entry schemes available, depending upon an individual's age, educational standard and own particular interests.

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 and technical training for General Entry personnel.

HMAS Leeuwin at Fremantle, Western Australia is the junior recruit training establishment for boys aged between fifteen-and-three-quarters and sixteen-and-a-half.

HMAS Cerberus at Westernport, Victoria is the main training establishment for General Entry enlisted members aged between seventeen and twenty-six. Recruits receive twelve weeks basic training before advancing to specialist training courses.

On completion of initial training further branch and category training is undertaken at the various schools at *HMAS Penguin*, *HMAS Watson* and *HMAS Nirimba* in Sydney, *HMAS Cerberus* in Victoria and the Naval Air Station at Nowra, New South Wales. A number of specialised training courses are conducted in the United Kingdom and the 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.

Development of the Australian Army

A detailed account of the Australian Defence Force prior to Federation appears in Year Book No. 2, pages 1075-81. See also Year Book No. 12, page 999. For particulars of the phases which cover the period from Federation up to the re-establishment of the Military Board and the organisation of commands after the 1939-45 War, see Year Book No. 46 and earlier issues.

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 Materiel, the Chief of the Army Reserve and the Inspector General 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 Citizen Military Forces.

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:

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.

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 and 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 three wings: one whose task is the training of officer cadets for the WRAAC; one for the training of junior non-commissioned officers; 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, prepares senior non-commissioned officers for commissions 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 of 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 Citizen Military Forces.

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.

Development of the Royal Australian Air Force

For a short note about the development of the Royal Australian Air Force, see Year Book No. 58, page 91.

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 Operations, 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. Operational units in the Middle East and in Kashmir contribute to United Nations peace keeping activities. 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 role of the strike/reconnaissance force is primarily to counter air operations. 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 logistic 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 Citizen Air Force.

Aircraft

The RAAF's strike/reconnaissance force is currently equipped with F111C and Canberra aircraft. The air defence and ground attack squadrons are equipped with the Mirage 111-0. Transport aircraft currently in use are Hercules C130H and C130E, Caribou, Dakota, Mystere 20, HS748, and BAC1-11. Four squadrons operate Iroquois and Chinook helicopters and the two maritime squadrons operate Orion P3B and P3C aircraft. Aircraft used for basic training are the CT4 Airtrainer, Macchi and HS748.

Training

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 and above. 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.

RAAF Academy. The RAAF Academy is an affiliated college of the University of Melbourne. Cadets are selected principally for the General Duties Branch and, after four years tertiary training, graduate with a Bachelor of Science degree and the award of a Graduate Diploma in Military Aviation. 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.

Engineering Cadet Squadron. The Engineering Cadet scheme provides training for degree or diploma 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 are stationed at No. 7 Stores Depot Toowoomba, Queensland and undertake a three year course at the Darling Downs Institute of Advanced Education. They graduate with a Bachelor of Business Studies degree.

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.

Basic Aircrew Training. RAAF pilot, navigator and air electronic officer trainees are selected primarily direct from civilian life, although some places are filled by serving officers (including graduates of the RAAF Academy) and airmen. Direct entry and serving airmen trainees are commissioned on graduation, having completed their officer training concurrently with their flying training. Additionally, the RAAF provides initial pilot training for the Army and complete pilot and observer training for the RAN.

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 other operational squadrons.

Ground Training. Training for non-aircrew personnel is generally provided in two stages: basic training, which includes apprentice training, brings the airman to a level of proficiency in his particular trade such that he can be recognised and employed as a qualified tradesman on an operating unit; and advanced training covers higher level training courses including supervision and management techniques, and specialist courses on particular aircraft or telecommunications systems.

Major Ground Training Schools. 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 training.

**SERVICE ESTABLISHMENTS PROVIDING EDUCATIONAL COURSES OF SIX MONTHS DURATION
OR LONGER
AUSTRALIA, 1976 AND 1977**

<i>Establishment</i>	<i>Students enrolled</i>		<i>New entrants during year</i>		<i>Number completing course during year</i>	
	1976	1977	1976	1977	1976	1977
<i>Staff colleges—</i>						
Joint Services Staff College	72	80	72	80	72	80
Australian Staff College	81	80	81	80	81	80
RAAF Staff College	42	42	42	42	41	42
<i>Officer cadet training establishments—</i>						
RANC	112	222	92	96	56	33
RMC	440	432	130	142	77	52
RAAFA	99	96	40	42	19	21
<i>Apprentice schools—</i>						
Navy	283	390	170	180	168	170
Army	537	559	260	252	197	217
Air Force						
Wagga Wagga	274	253	149	136	104	103
Laverton	91	79	56	40	30	32
<i>Other—</i>						
RAN Junior Recruit Training School	496	713	801	760	673	652
RAAF School of Languages	29	37	29	37	29	37

Defence Science and Technology

Under the policy, administrative and technical control of the Chief Defence Scientist, the Defence Science and Technology (DST) organization is engaged in research, analysis, development, trials and evaluation. It consists of a central office and a number of establishments, a small number of people in overseas posts and some in joint activities with other nations. The DST contains about 5,100 staff who provide a degree of scientific expertise in most physical sciences and some engineering fields of relevance to defence.

The functions of the DST are: defence science policy; scientific advice on all defence matters; conduct of research and development including development of new equipment which will improve military effectiveness and analysis of weapons systems and equipment; relationship of Australian research and development to international programs; trials and evaluation of proposed and existing equipment.

The DST consists of three main functional areas of responsibility: Military Studies and Operational Analysis Division; Policy and Program Planning Division; and DST laboratories.

Military Studies and Operational Analysis Division

The Division formulates the program of analytical studies for tactical, operational and force structure problems to assist the Department and Services. The Central Studies Establishment and Services Analytical Studies Group carry out most of these studies. Scientific Advisers, oversighted by the Division but attached to each Service arm, provide advice on military needs as well as constituting a direct link with the DST.

Policy and Program Planning Division

This Division defines principal objectives of the DST and advises on scientific and technical aspects of Defence policy including arrangements for international co-operation in scientific and technical activities.

DST Laboratories

Responsibility for the preparation, co-ordination and reviews of the DST program rests with the Deputy Chief Defence Scientist. Management is provided for the scientific and financial resources of the laboratories and trial units. Laboratories primarily concerned with testing and evaluating service equipment are functionally separated into the Services Laboratories and Trials Division.

The DST Laboratories are:

Electronics Research Laboratory, S.A.

Weapons Systems Research Laboratory, S.A.

Advanced Engineering Laboratory, S.A.

Trials Resources Laboratory, S.A.

Materials Research Laboratories, Victoria

Aeronautical Research Laboratories, Victoria

Engineering Development Establishment, Victoria

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

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

Armed Forces Food Science Establishment, Tasmania

Joint Tropical Trials and Research Establishment, Queensland.

Natural Disasters Organisation

The Natural Disasters Organisation (NDO) was created in the Department of Defence in 1974, absorbing all 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 NDO and the State and Territory Emergency Service organisations constitute the core civil defence structure for Australia. The main pre-occupation in peace-time is in mitigating the effects of natural disasters, but the primary role is to ensure that the total structure maintains and improves the dual use capability for meeting both the civil defence and natural disasters requirements. The State Governments have complete responsibility for their own organisations. The headquarters of the NDO at Canberra provides a focal point for the co-ordination of national effort in natural disasters and civil defence emergencies. In such emergencies, it ensures that States and Territories receive the full material and physical support of the Commonwealth Government.

The NDO administers a number of programs from Commonwealth funds for the support, principally, 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 professional organisers at regional level; provision of training films and handbooks, and subsidies on a dollar-for-dollar basis to provide accommodation for the State units at local government level. Other programs benefit all organisations with a counter-disaster involvement, and the community at large, examples being: training courses at the Australian Counter Disaster College at Mt Macedon; emergency broadcasting facilities; fall out shelter survey service and the public information program. NDO is also required to develop and implement contingency plans involving Commonwealth resources, to cope with natural disasters and civil defence needs. A Disaster Earmark Store has been established at the RAAF Stores Depot, Dubbo, N.S.W. to expedite the supply of certain items to meet initial disaster relief requirements.

DEFENCE PRODUCTION

The Government production establishments became one of the functions of the Department of Productivity following its creation on 8 November 1976, the function having previously been the responsibility of the Department of Industry and Commerce (see Year Book No. 61, page 109).

Defence production functions of Department of Productivity

The defence production functions of the Department of Productivity 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, marine engines, 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 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 Marketing Branch and elements of Central Office and Regional technical and administrative staffs.

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); Clothing Factory, Victoria (uniforms and clothing); Engine Works, Victoria (servicing of marine and land-based diesel engines); 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, calibre shells and fuse components).

Aircraft, guided weapons and electronics supply

Production 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 government purchasing authority) 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 Factory 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-propeller utility aircraft known as Nomad has been designed and developed by the Government Aircraft Factories (GAF) and the Government has approved production of 120 aircraft. The Jindivik radio-controlled target aircraft and the Turana pilotless target aircraft continued in production. The Ikara anti-submarine weapon system which has been fitted into 9 RAN ships has also been purchased by the British and Brazilian Navies.

Finance

The total outlay by the Department of Productivity on defence-orientated activities was \$81,220,000 during 1977-78. This was in addition to a turnover of \$75,315,000 by the Government Factories through their trust accounts.

Personnel

At 30 June 1978, 8,342 personnel were employed on specifically defence-orientated functions (excluding general financial and administrative management support) as follows: administration 443; aircraft production 2,401; munitions production 4,730, miscellaneous production 761; overseas staff 7.

