

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 major supplementary statements made to the House of Representatives by the Minister for Defence, most recently on 25 March and 26 August 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. Important and, in some cases abiding, factors in Australia's strategic situation support that objective. Nevertheless, military initiatives taken by the Soviet Union and by Vietnam during the last twelve months have increased international tension, introducing new and significant uncertainties into prospects for stability in regions both distant and nearer at hand.

High importance is attached to improving Australia's capacity to mount independently a national defence effort that would maximise the risks and costs to any aggressor. The Government also places particular stress upon supporting the United States in its essential role in deterring the Soviet Union. The 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.

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.

Priority in the thrust of 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 this objective will strengthen our capacity to contribute to the support of the ANZUS alliance, no less than to national concerns.

Australia remains deeply mindful of its natural 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 continues to be placed on its 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.

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, enjoining 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. As Permanent Head, the Secretary is responsible for the

implementation in the Department of Defence, of the provisions of the *Audit Act* 1901 and the regulations and directions issued pursuant to this Act. He is required to furnish to the Secretary of the Department of Finance information relating to, and explanations of, the receipts and expenditure of the Department and other requirements of section 50 of the Act. Central administration is divided functionally into areas concerned with manpower and financial services, strategic policy and force development, programs and budgets, 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 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. 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. 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*, 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 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)

<i>Departmental category</i>	<i>Actual Expenditure</i>					<i>Estimated Expenditure</i>
	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>
Department of Defence—						
Capital equipment	151,589	281,200	319,238	406,880	495,731	618,320
Defence facilities	112,437	116,837	111,596	90,828	89,706	129,553
Defence co-operation	38,951	25,369	26,952	24,600	30,045	38,740
Manpower	1,009,257	1,104,690	1,197,742	1,255,390	1,386,587	1,505,890
Other running costs	437,665	504,031	569,285	633,872	788,876	901,143
<i>Total</i>	<i>1,749,899</i>	<i>2,032,127</i>	<i>2,224,812</i>	<i>2,411,570</i>	<i>2,790,945</i>	<i>3,193,646</i>
Department of Productivity and other Departments—						
Capital equipment	10,520	7,762	6,410	10,167	14,190	19,823
Defence facilities	7,469	9,234	8,832	6,915	9,147	8,841
Manpower costs (including Remuneration Tribunal and Defence Force Retirement and Death Benefits)	110,985	127,366	145,729	167,761	185,088	213,427
Other running costs	64,384	78,167	85,246	89,870	104,512	102,526
<i>Total</i>	<i>193,358</i>	<i>222,529</i>	<i>246,217</i>	<i>274,713</i>	<i>312,937</i>	<i>344,617</i>
Total expenditure on defence function	1,943,257	2,254,656	2,471,029	2,686,283	3,103,882	3,538,264
Special provisions—						
Acquisition Boeing 707 aircraft . . . . .	..	..	..	10,201	3,395	641
Allowance for prospective wage and salary increases . . . . .	..	..	..	..	..	110,000
Total defence expenditure	1,943,257	2,254,656	2,471,029	2,696,484	3,107,277	3,648,904

Equipment for the defence force

An amount of \$509.9 million (excluding Boeing 707 aircraft) was spent on equipment of a capital nature in 1979-80. An amount of \$638.1 million is expected to be spent in 1980-81.

The major equipment items received by the Services in 1979-80 included 1 patrol craft, 3 F-111C reconnaissance modification kits, 14 Rapier low level air defence fire units, 8 Blindfire low level air defence tracking radars, Mk 48 submarine launched torpedoes, 17 fire support vehicles, 2 air traffic control surveillance radars, 400 light trucks, 6 precision approach radars, 5 submarine attack/intercept sonar systems, 3 air defence radar simulators, 41 off-pavement forklifts, 49 light duty tracked tractors and 34 fire fighting trucks.

At the February 1980 Defence Review, the Government announced a decision to re-equip the tactical fighter force with 75 new aircraft, one to be chosen from the two contending aircraft, the McDonnell Douglas F/A-18 and the General Dynamics F-16. The Government also decided to acquire a fourth FFG guided missile frigate; two Sea King helicopters for training and operational deployment with HMAS *Melbourne*; additional Mk 48 torpedoes and a Close-in Weapon System for the third FFG guided missile frigate.

New major capital equipment decisions approved in the context of the 1980-81 Budget include a flight simulator for the P-3C Orion long range maritime patrol aircraft; 18 light helicopters for the RAN and RAAF; a second underway replenishment ship; more than 2,000, 4 and 8 tonne trucks for the Army; five additional patrol boats; Thirty-six, 155 mm howitzers for the Army and design and construction in Australia of two prototype minehunter catamarans.

On 9 September 1980 the Minister for Defence announced the Government's decision to replace the aircraft carrier HMAS *Melbourne* with a purpose-designed ship to be equipped with helicopters for anti-submarine warfare, but with a potential for operating also short take-off and vertical landing (STOVL) aircraft. The Minister also announced, subject to arrangements to be concluded, particularly with the United States Government, and to satisfactory resolution of a number of problems affecting productivity in Williamstown Dockyard, the Government's intention to build two FFG-type vessels at Williamstown Dockyard, with options for the possible construction of another four at a later time.

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 1980

Function	Service	Civilian	Total
Operational forces and direct logistic support	29,430	830	30,260
Specialist support (e.g. communications, medical services)	5,200	3,880	9,080
Stores and supply; storage and control	2,810	4,480	7,290
Dockyards, equipment production, repair and overhaul	3,175	6,690	9,865
Training	19,220	1,520	20,740
Support to reserves and cadets	1,440	100	1,540
Research and development	320	4,860	5,180
Central headquarters and administration including overseas representation	3,460	3,110	6,570
Regional commands and administration	6,265	3,850	10,115
Defence co-operation	210	—	210
Total	71,530	29,320	100,850

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 1,185 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

	Navy	Army	Air Force	Total
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	16,582	31,813	21,803	70,198
1980	16,961	32,321	22,249	71,531
1981 (Approved Targets)	17,300	32,850	22,441	72,591

COMPOSITION OF PERMANENT DEFENCE FORCE (a)
as at 30 June 1980

	Navy	Army	Air Force	Total
Male—				
Officers	2,037	4,126	3,309	9,472
Other ranks	12,707	25,157	16,484	54,348
Cadets	412	467	398	1,277
Apprentices	667	901	414	1,982
Junior recruits	171	—	—	171
Total	15,994	30,651	20,605	67,250
Female (b)—				
Officers	78	258	187	523
Other ranks	859	1,380	1,443	3,682
Cadets	30	32	14	76
Total (c)	967	1,670	1,644	4,281
Total strength	16,961	32,321	22,249	71,531

(a) Citizen Forces and Reserves on full-time duty are included in the appropriate categories. (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. (c) 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. Government approval has been given to expand the Army Reserve (Citizen Military Forces) to 30,000 by end June 1981.

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

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1976	1,025	21,183	458	22,666
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

(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 Cooperation Programs with South East Asian and South Pacific countries. The programs are bilateral, geared to the needs and priorities of cooperating 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 1979-80 over 580 overseas personnel were trained in Australia by the three Services. In line with recent Government decisions to further develop defence relations with neighbouring countries this figure is expected to expand significantly in future years. This may require the development or upgrading of facilities and equipment in Australia for this purpose.

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 1979-80 totalled \$16.2 million.

As well as the provision of training and advisory assistance, major projects undertaken with Indonesia included survey and mapping of the Moluccas, a maritime patrol project (including patrol boats and Nomad aircraft), provision of Army vehicles, and maintenance of C130 (Hercules), engines and gearboxes. Expenditure totalled \$9.6 million in 1979-80.

Assistance to Malaysia in 1979-80 amounted to \$2.9 million, mainly for training. Joint projects nearing completion include an Armed Forces Manufacturing Workshop, a Special Warfare Training Centre and a Defence Research Centre.

Programs with the Philippines, Thailand and Singapore in 1979-80 consisted mainly of training and advisory assistance but some project activities were commenced.

In 1979-80 expenditure on co-operation with South West Pacific countries increased to \$1.1 million. Activities in the South West Pacific are not confined to those states with defence forces. They include technical advisers, survey and mapping, training and equipment assistance.

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, 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, Japan, New Zealand, and the United States.

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 the 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 continued to contribute to United Nations peace-keeping operations with Australian Army observers in Kashmir and the Middle East. From late December 1979 to February 1980 an Australian Army contingent of some 150 participated in the Cease-Fire Monitoring Force in Rhodesia prior to that country's achievement of independence as Zimbabwe.

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, October 1980: *Melbourne*—aircraft carrier; *Supply*—oiler; *Stalwart*—destroyer tender; *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; *Kimbla*—oceanographic research ship; *Otway*, *Onslow*, *Ovens*, *Otama*, *Oxley*, *Orion*—submarines; *Attack*, *Acute*, *Advance*, *Adroit*, *Ardent*, *Assail*, *Aware*, *Barbette*, *Barricade*, *Bayonet*, *Bombard*, *Buccaneer*, *Fremantle*—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 S2EG 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. A detachment of Tracker S2Es are also based at Darwin for surveillance duties. 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 fourteen patrol boats being built in Cairns, four guided missile frigates in the United States of America and one amphibious heavy lift ship in Newcastle, New South Wales.

Modernisation of three destroyer escorts is being undertaken by Williamstown Naval Dockyard where construction of the oceanographic ship HMAS *Cook* is nearing completion.

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 a number of entry schemes available, depending upon an individual's age, educational standard and own particular interests. These include:

- *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 and direct entry tradesmen to age twenty-seven. 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 of America.



HMAS Fremantle undergoing speed trials in UK waters prior to delivery to RAN.

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.

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 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 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, WA, 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, NSW, 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 ACT, 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>		
	1977	1978	1979	1977	1978	1979	1977	1978	1979
<i>Staff colleges—</i>									
Joint Services Staff College	80	82	82	80	82	82	80	82	82
Australian Staff College	80	80	80	80	80	80	80	80	80
RAAF Staff College	42	48	48	42	48	48	42	48	47
RAN Staff College	—	—	34	—	—	34	—	—	34
<i>Officer cadet training establishments—</i>									
RANC	222	264	(a)537	96	119	332	33	41	217
RMC	432	438	439	142	148	135	52	89	77
RAAFA	96	122	130	42	45	46	21	26	25
<i>Apprentice schools—</i>									
Navy	390	419	677	180	240	184	170	101	167
Army	559	563	557	252	274	254	217	218	216
<i>Air Force</i>									
Wagga Wagga	253	278	338	136	135	161	103	133	(b)42
Laverton	79	77	86	40	37	50	32	38	(b)—
<i>Other—</i>									
RAN Junior Recruit Training School	713	326	360	760	330	360	652	570	344
RAAF School of Languages	37	37	34	37	37	34	37	37	34

(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.

Defence Science and Technology Organization

The Chief Defence Scientist heads the Defence Science and Technology Organization (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.

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, manages special joint undertakings with other countries; 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 other laboratories are headed by Chief Superintendents and responsible to the Chief Defence Scientist.

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.

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 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, 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 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); 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.

* On 2 November 1980 the Department of Productivity was abolished and the defence production functions transferred to the Department of Industry and Commerce.

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 145 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 1979-80 amounted to approximately \$10.9 million, the main items sold being Firing Device Demolition to the U.S.A., RDX/T.N.T. to the U.K., explosives to Malaysia and rifles and rifle spares to the Caribbean region.

Finance

The total outlay by the Department of Productivity on defence-orientated activities was \$107.0 million during 1979-80. This was in addition to a turnover of \$104.8 million by the Government Factories through their trust accounts.

Personnel

At 30 June 1980, 8,268 personnel were employed on specifically defence-orientated functions (excluding general financial and administrative management support) as follows: administration 177; aircraft production 2,437; munitions production 5,016; miscellaneous production 633; and overseas staff 5.

