

## CHAPTER 4

### DEFENCE

#### Department of Defence

##### **Functions of the Department of Defence**

In general the functions of the Department of Defence include all aspects of defence policy, joint Service matters and matters having an inter-departmental defence aspect. More particularly the functions of the Department and associated inter-Service and departmental machinery include strategic appreciations, national intelligence assessments and strategic intelligence reports; defence planning and deployment of Australian Forces; formulation of defence policy objectives; military advice to the Minister for Defence; planning and control of joint military operation; defence programming and disposition of resources for manning, equipment, supplies and works for the Defence Forces; supervision of estimates, allocation of funds among Departments of the Defence group, and control of expenditure; scientific advice and formulation of defence research and development policy; formulation of defence group policies relating to defence industry and to matériel procurement and reserves; rationalisation of Service activities and co-ordination of their policies; review of implementation by the Services of defence policies; financial and other common conditions of service in the Defence Forces; higher appointments in the Defence Forces; Defence and Service advisers abroad; general policy and technical direction of the Services electronic data processing project and the further development and application of E.D.P.; and management of joint service and inter-departmental machinery engaged in above matters.

##### **Organisation, higher defence machinery, and the control of the joint Service machinery**

The following are the principal committees of the joint service and inter-departmental advisory machinery within the Department.

The *Defence Committee* is a statutory body consisting of the Secretary, Department of Defence, who is Chairman; the Chairman of the Chiefs of Staff Committee; the Chiefs of Staff of the three Services; the Secretary, Department of the Prime Minister and Cabinet; the Secretary, Department of Foreign Affairs; and the Secretary to the Treasury. Its function is to advise the Minister for Defence on: the defence policy as a whole and the co-ordination of military, strategic, economic, financial, and foreign affairs aspects of defence policy; matters of policy or principle and important questions having a joint Service or an inter-departmental defence aspects; and such other matters having a defence aspect as are referred to the Committee by or on behalf of the Minister for Defence.

The *Chiefs of Staff Committee* is responsible to the Minister for Defence for professional military advice; preparation of military appreciations and plans; control of joint military operations through designated commanders, and direction and co-ordination of related activities; the exercise of executive functions for the control and administration of special forces of a multi-national nature, the responsibility for which is assigned to the Australian Government; recommending the allocation of resources to joint Service Forces in the field; the exercise of executive functions for the control of joint Service (Military) establishments and organisations; the control and co-ordination of joint Service military training and exercises; the development of joint warfare doctrine; and the development of joint operational requirements.

The *Defence Force Development Committee* consists of the Secretary, Department of Defence (Chairman), the Chairman of the Chiefs of Staff Committee, and the Chiefs of Staff of the three Services. It is responsible for advice to the Minister for Defence on: the development of the Defence Forces as a whole; the inclusion in the five year rolling programme of major weapons and equipment capabilities; initiation and review of major studies concerned with the development of the Defence Forces; and review of matters of common interest to members and of progress in the preparation of proposals and appreciations for submission to the Government.

The *Defence Administration Committee* consists of the Secretary, Department of Defence (Chairman), the Chairman of the Chiefs of Staff Committee, the Chiefs of Staff of the three Services, the Secretaries of the three Service Departments and the Department of Supply and a representative of the Treasury. Its functions are to review the progress of the Defence Programme; consider reports of the Defence (Industrial) Committee; consider priority listing of works projects and programmes;

consider variations in bases of provisioning and scales of rations, clothing, etc.; consider variations in scales and standards of accommodation; and exercise overall control of the Defence Vote.

The *Defence (Industrial) Committee* co-ordinates and makes recommendations regarding the capabilities of Australian industry to meet the matériel requirements of the Services in peace and war. Members of the Defence Business Board are co-opted as necessary for specific subjects. The *Defence Business Board* is constituted to advise on business matters of common interest to the three Services, or important subjects on which the collective advice of the Board is desired from the business aspect, with a view to promoting efficiency and economy in the execution of the Defence Programme. The Board comprises businessmen who serve in a part-time honorary capacity. Three of the members also serve as business advisers to the separate Service Departments.

Far-reaching changes have been made in defence administration over the last few years, designed to provide the Government with the best possible advice in making decisions on defence policy by ensuring that all proposals have been thoroughly examined and that the best available military, strategic, technological, intelligence and economic advice is provided. These changes include the establishment of a Joint Staff, the strengthening of the Defence Science Organisation, the establishment of a Joint Intelligence Organisation, strengthening of the Programme Management and Defence Facilities Division and other areas of the Department to provide greater capacity, the introduction of systems analysis and the introduction of the five year rolling programme system based on the concepts of planning-programming-budgeting.

#### Basis of current defence policy

The primary aim of Australian defence policy is to ensure the security of Australia and her Territories.

Because of the close links between Australian security and wider regional security, Australian policy stresses not only immediate direct defence, but also progress and stability in nearby countries, particularly in the South-East Asian area. In concert with our major allies and in keeping with our resources, Australia continues to make an active contribution to the collective defence arrangements in the area—SEATO, ANZUS and the Five-Power arrangements in Malaysia and Singapore—with the aim of supporting secure and stable independent nation States in South-East Asia with which Australia can establish co-operative relations.

During the past year, the withdrawal of Australian Combat Forces from the Republic of Vietnam was completed. Other forms of assistance continue however, including an Australian Army assistance group of 150 personnel in advisory and training roles.

Australia has long-standing defence links with Malaysia and Singapore. As a contribution to the Five-Power arrangements which were formally inaugurated in November 1971, Australia along with New Zealand and the United Kingdom, maintains forces of all arms in the area.

#### Personnel strengths

The selective national service scheme is in its seventh year of operation and continues to be essential for the maintenance of Army strength. Of the estimated Army strength at June, 1972, some 11,600 will be national servicemen. The reduction in the strength of the national service element takes into consideration the Government's decision to reduce the period of full-time duty from 24 months to 18 months.

#### PERSONNEL STRENGTHS OF DEFENCE FORCES, JUNE 1962 TO 1972

##### NAVY

<i>Strength at June—</i>	<i>Permanent Forces</i>	<i>Citizen Forces</i>	<i>Emergency Reserves</i>	<i>Total</i>
1962. . . . .	11,103	6,424	..	17,527
1963. . . . .	11,663	5,433	..	17,096
1964. . . . .	12,569	5,202	..	17,771
1965. . . . .	13,503	3,762	443	17,708
1966. . . . .	14,714	3,797	686	19,197
1967. . . . .	15,893	3,931	793	20,617
1968. . . . .	16,454	4,047	904	21,405
1969. . . . .	16,943	3,971	1,114	22,028
1970. . . . .	17,304	4,462	897	22,663
1971. . . . .	17,232	5,093	918	23,243
Estimated strength at June 1972 . . . . .	17,459	4,590	1,200	23,249

PERSONNEL STRENGTHS OF DEFENCE FORCES  
JUNE 1962 TO 1972—*continued*

## ARMY

<i>Strength at June—</i>	<i>Permanent Forces</i>		<i>Citizen Forces</i>	<i>Emergency Reserves</i>	<i>Total</i>
	<i>Australian Regular Army</i>	<i>Pacific Islands Regiment</i>			
1962 . . . . .	20,985	638	30,041	..	51,664
1963 . . . . .	21,944	695	27,341	..	49,980
1964 . . . . .	22,681	812	27,505	..	50,998
1965 . . . . .	25,314	1,415	28,146	288	55,163
1966 . . . . .	32,702	1,732	32,046	662	67,142
1967 . . . . .	41,464	2,246	34,670	889	79,269
1968 . . . . .	42,944	2,406	35,762	1,031	82,143
1969 . . . . .	44,051	2,474	34,256	981	81,762
1970 . . . . .	44,533	2,434	31,397	822	79,186
1971 . . . . .	43,769	2,593	29,364	657	76,383
Estimated strength at June 1972 . . . . .	39,800	2,680	27,200	600	70,280

## AIR FORCE

<i>Strength at June—</i>	<i>Permanent Forces</i>	<i>Citizen Forces</i>	<i>Emergency Reserves</i>	<i>Total</i>
1962 . . . . .	15,815	765	..	16,580
1963 . . . . .	15,840	788	..	16,628
1964 . . . . .	16,564	926	..	17,490
1965 . . . . .	17,720	724	26	18,470
1966 . . . . .	19,358	865	170	20,393
1967 . . . . .	20,130	1,059	303	21,492
1968 . . . . .	21,564	907	397	22,868
1969 . . . . .	22,712	902	467	24,081
1970 . . . . .	22,642	841	668	24,151
1971 . . . . .	22,539	788	700	24,027
Estimated strength at June 1972 . . . . .	22,769	778	700	24,247

**Equipment**

An amount of \$144.4 million was spent on equipment of a capital nature in 1970-71; this included \$37.6 million under credit arrangements with the Government of the United States of America. An amount of \$173.4 million is expected to be spent in 1971-72 of which \$41.8 million will be under the credit arrangements with the United States of America.

The major equipment items received in 1970-71 by the Services included: ship (1 River Class destroyer escort); aircraft (24 Phantom F4E leased from the United States Air Force, 11 Macchi, 3 Pilatus Porter, 7 helicopters); and a large quantity of military vehicles and equipment.

Major new equipment items planned for delivery in 1971-72 include 10 Skyhawk and 12 Macchi aircraft, 12 helicopters, 149 M113 tracked carriers and a wide range of other equipment.

**Research and development**

The laboratories of the Department of Supply together with the Services' own technical establishments, have continued to work on projects and investigations in support of Service needs. A new agreement with the United Kingdom has been negotiated for the conduct of the Woomera Range and its associated technical facilities, and collaborative programmes in space tracking and other selected topics have been arranged with the United States of America.

## Defence expenditure

DEFENCE EXPENDITURE BY DEPARTMENT OR SERVICE 1966-67 TO 1971-72  
(\$'000)

	<i>Defence (a)</i>	<i>Navy</i>	<i>Army</i>	<i>Air</i>	<i>Supply</i>	<i>Other</i>	<i>Total</i>
<b>Actual expenditure—</b>							
1966-67 . . . . .	18,081	202,607	352,837	281,011	80,312	15,240	950,088
1967-68 . . . . .	17,492	223,492	381,019	378,615	90,038	18,877	1,109,533
1968-69 . . . . .	19,077	232,327	410,621	382,559	90,482	29,631	1,164,697
1969-70 . . . . .	23,440	241,140	409,386	301,162	94,091	33,841	1,103,060
1970-71—							
Total . . . . .	22,080	247,924	421,037	302,657	106,011	37,864	1,137,573
less United States credits . . . . .	..	24,773	12,310	19,198	572	..	56,853
Payments from appropriations . . . . .	22,080	223,151	408,727	283,459	105,439	37,864	1,080,720
<b>Estimated expenditure—</b>							
1971-72—							
Total . . . . .	25,048	282,741	477,214	316,143	110,443	40,794	1,252,383
less United States credits . . . . .	..	21,660	12,133	28,723	805	..	63,321
Payments from appropriations . . . . .	25,048	261,081	465,081	287,420	109,638	40,794	1,189,062

(a) Includes defence aid for Malaysia, Singapore and South Vietnam.

**Logistic arrangement with the Government of the United States of America**

The logistic arrangement referred to in previous issues of the Year Book continues to apply. Loans are now obtained on an annual basis.

**Reserve and Citizen Forces**

Citizen and Reserve Forces may be called out by proclamation for continuous full-time service in a "Time of Defence Emergency". The particular circumstances giving rise to the proclamation of a time of defence emergency could be varied, but would occur in a situation where the Regular Forces needed the full-time support of the Citizen and Reserve Forces in hostilities short of general war.

The three Services also have volunteer Emergency Reserves which may be called out for continuous full-time service when they are needed. These reserves provide a ready means of supplementing and reinforcing operational units.

**Australian forces serving overseas**

In response to an invitation of the Government of South Vietnam, Australia has provided Forces since 1962 to assist in the defence of that country. The number of men involved was increased progressively reaching 8,000 in the first half of 1968, and remained at approximately that level until November 1970 when approximately 1,000 men were withdrawn. In March 1971 a further reduction of about 1,000 men was announced, and in August 1971 the Prime Minister announced the withdrawal of all remaining combat forces from Vietnam.

As at 31 December 1971 the Australian element of the ANZUK Force in Malaysia and Singapore included:

*Navy*—One escort present in the area at all times, and one submarine present for part of the year; shore support units.

*Army*—One battalion of R.A.R.; one field battery; a reconnaissance flight; a transport platoon; elements of headquarters, signals and logistics units integrated with United Kingdom and New Zealand elements.

*Air Force*—Two squadrons of Mirage fighter aircraft and supporting elements.

**Defence co-operation with South-East Asian countries**

In support of Australia's policy of contributing to the common defence of South-East Asia, the Government has undertaken several programmes of defence co-operation with friendly countries of South-East Asia.

Current defence aid to Malaysia and Singapore, to which amounts of \$16 and \$4 million respectively have been pledged for the period 1971-74, represents a continuation of the programme first commenced in 1964. To date over \$45 million has been spent on that programme. As well, other projects in defence co-operation have been undertaken, most notably the provision of 16 refurbished Sabre jet fighters to the Royal Malaysian Air Force. Under the official aid programme a wide range of equipment items has been and is continuing to be supplied to the Malaysian and Singapore armed forces. The training and development of those armed forces is further assisted by the attendance of numerous Malaysian and Singapore personnel on courses in Australia, and the despatch of servicemen from Australia to work with the Malaysian or Singapore armed force in specialised fields. During 1971, 329 Malaysian and 25 Singapore personnel arrived in Australia to attend training courses.

Australia will undertake a comprehensive programme of military training and defence support aid to South Vietnam at a cost of \$3.5 million in 1971-72. This aid will embrace the training of South Vietnamese armed forces personnel, at an Australian-sponsored jungle warfare training centre at Van Kiep, and the provision of military equipment for the South Vietnamese forces.

Defence co-operation between the Australian and Indonesian armed forces has also been developing in recent years. In 1971, 79 Indonesian personnel attended training courses in Australia while arrangements were also made for student exchange between Staff Colleges, and for Australia to assist in the mapping of areas of Kalimantan and Sumatra. Projects of this kind will continue.

Australia is providing the Khmer Republic with items of a logistic-support nature within a budgeted aid expenditure in 1971-72 of \$1.75 million. Dual-purpose items, such as Landrovers and communications equipment are being supplied. In addition, a programme of training is being provided for Khmer personnel in Australia, including basic officer training, jungle warfare, and pilot training, and Khmer personnel will also be trained in South Vietnam by Australian instructors in association with the United States of America's training establishments.

## Naval Defence

Prior to 1901, naval defence systems were organised under the State Governments. Information regarding these systems is given in Year Book No. 2, page 1084. An outline of the development of Australian naval policy is given in Year Books No. 3, page 1060, and No. 12, page 1012. An account appears in Year Book No. 15, pages 921-3, of the building of the Australian Navy, its costs, the compact with the Imperial Government, and other details. The growth and the activities of the Royal Australian Navy during the 1939-45 War are shown in Year Book No. 36, pages 1023-7.

Under the provisions of the Commonwealth of Australia Constitution Act the Minister of State for the Navy administers the Department of the Navy. Under the *Naval Defence Act* 1910-1966 the Royal Australian Navy is administered by the Naval Board. The Naval Board consists of the Minister as President, four Naval Members, and the Secretary to the Department of the Navy.

Strong links with the Royal Navy are maintained by a constant exchange of officers for extended tours of duty and by a full exchange of information and ideas. A liaison staff is maintained by the Royal Australian Navy in London and by the Royal Navy in Australia. Advanced training and staff courses in the United Kingdom are provided by the Royal Navy for Royal Australian Navy officers. A liaison staff is also maintained by the Royal Australian Navy in Washington, and a comprehensive exchange of information is provided by this link. Staff courses in the United States of America are also attended by officers of the Royal Australian Navy.

### **Ships of the Royal Australian Navy**

*The Fleet, December 1971: Melbourne—aircraft carrier; Sydney—transport; Supply—oiler; Stalwart—destroyer tender; Perth, Hobart and Brisbane—guided missile destroyers; Vendetta, Duchess, Anzac—destroyers; Yarra, Parramatta, Stuart, Derwent, Swan, Vampire, Torrens, Queenborough—destroyer escorts; Teal—coastal minesweeper; Curlew, Snipe—coastal minehunters; Moresby, Paluma—surveying ships; Diamantina, Kimbla—oceanographic research ships; Oxley, Otway, Onslow, Ovens—submarines; Attack, Aitape, Acute, Adroit, Advance, Archer, Ardent, Arrow, Assail, Aware, Barbette, Barricade, Bayonet, Bombard, Buccaneer, Ladava, Lae, Madang, Samarai—patrol boats; Banks, Bass—auxiliaries; Jeparit—transport.*

*In operational reserve, December 1971: Tobruk—destroyer; Quiberon, Quickmatch—destroyer escorts; Gascoyne, Barcoo—oceanographic research ships; Culgoa—barrack ship; Hawk, Gull, Ibis—minesweepers; Bandolier—patrol boat; Castlemaine—ocean minesweeper; Sprightly—fleet tug; Kara Kara—boom gate vessel.*

*On service overseas.* During the year ended December 1971 the following ships served in South-East Asian waters as units of the Commonwealth Strategic Reserve, and after its disbandment with the ANZUK force, with headquarters in Singapore: *Derwent, Duchess, Parramatta, Yarra, Vendetta*. The following ships served in support of the allied forces in South Vietnam: *Perth, Sydney, Hobart, Brisbane*.

The ships *Melbourne, Curlew, Anzac, Hawk, Snipe, Jeparit, Kimbla, Sydney, Otway, Brisbane, Perth, Hobart, Swan, Onslow, Diamantina* also made overseas visits.

#### Fleet Air Arm

The Fleet Air Arm of the Royal Australian Navy maintains three front line squadrons for embarkation in the operational carrier H.M.A.S. *Melbourne*. These squadrons currently consist of Skyhawk A4-G fighter/ground attack aircraft, Tracker S2-E anti-submarine aircraft, and Wessex MK. 31B anti-submarine helicopters. Four training and support squadrons are based at the Naval Air Station, at Nowra, New South Wales. Other aircraft operated by the Navy are the Scout helicopter in *Moresby*, Iroquois helicopter (training and search and rescue), Dakota, Macchi trainer.

#### Ship construction and repairs

There are two naval dockyards, one at Garden Island, New South Wales, and one at Williamstown, Victoria. Also, the dockyard at Cockatoo Island, which is operated by the Vickers Cockatoo Dockyard Pty Ltd by agreement with the Commonwealth, carries out considerable naval work. All three dockyards carry out ship refitting for the Navy.

The construction of the destroyer escort H.M.A.S. *Torrens* was completed at Cockatoo Island and the ship entered service in 1971. Construction of H.M.A.S. *Flinders*, a small hydrographic ship, was commenced at Williamstown Dockyard in 1970. An extended refit of the Daring Class destroyers was commenced at Williamstown Dockyard with H.M.A.S. *Vampire* which was recommissioned into the R.A.N. in late 1971. H.M.A.S. *Vendetta* is currently in refit.

A contract for a further two Oberon class submarines was let during 1971 to Scott Lithgow Ltd. Approval has been given for the construction of a fast combat support ship and an oceanographic ship, both of which are to be built in Australia in the near future. A preliminary design for a new destroyer was completed in 1971. This will determine the major characteristics of the ship and will provide the basis for a detailed design.

#### Personnel, training, entry, women's services, reserves

*Personnel.* The estimated strength of the Royal Australian Navy in terms of personnel borne for full-time duty for 1971-72 is 17,459. At 30 December 1971 the actual strength of personnel borne for full-time duty was 2,150 officers and 14,785 sailors, which included 116 officers and sailors of the Citizen Naval Forces and 19 officers and sailors of the Royal Australian Navy Emergency Reserve.

*Training.* On entry, General List officers are trained at the Royal Australian Naval College, H.M.A.S. *Creswell* at Jervis Bay. The College was established to provide trained officers for the R.A.N. Junior entry to the College is at the age of fifteen to seventeen years and senior entry at a maximum age of twenty years. In November 1971 there were 99 cadet midshipmen under training. On completion of initial training, officers go to the Fleet for sea training, followed by advanced training either ashore in Australia, at universities or technical colleges, or at Royal Navy training establishments in the United Kingdom.

H.M.A.S. *Cerberus* at Westernport, Victoria, is the main training establishment for adult sailors in the permanent naval forces, while several advanced training schools are established in New South Wales. The period of initial engagement for sailors varies from six years for tradesmen to nine or twelve years, and on completion sailors may re-engage for shorter periods up to the age of fifty.

H.M.A.S. *Nirimba* at Quakers Hill, New South Wales, is the naval school for apprentices. It provides secondary education, as well as technical training in trades, to boys aged fifteen to seventeen and a half years. The school was established in 1956 to meet the R.A.N.'s increased demand for highly skilled tradesmen. In December 1971 there were 513 naval artificer apprentices under training.

H.M.A.S. *Leeuwin* at Fremantle, Western Australia, is the junior recruit training establishment. Entrants must be aged between fifteen and a half and sixteen and a half years. Training lasts one year and instruction is mainly academic, the remaining time being devoted to basic naval and disciplinary training. On completion of the course sailors are posted for a period of sea training, after which they proceed to technical and specialist courses. In December 1971 there were 456 junior recruits undergoing training.

On completion of initial training sailors join the Fleet for sea training before returning to the various training schools at H.M.A.S. *Cerberus*, H.M.A.S. *Penguin* and H.M.A.S. *Watson* at Sydney and R.A.N. Air Station at Nowra, New South Wales. Sailors who are selected for the Submarine service receive initial submarine training in the United Kingdom and a number of technical courses for certain sailors are conducted in the United States of America.

*Direct entry officers.* To meet increasing requirements for officers, direct entries are accepted into the Royal Australian Navy. Short service commissions of seven years are granted on completion of training as seamen, supply or aircrew officers to suitable applicants who have completed their secondary schooling and who are over seventeen years of age and under twenty-four years of age. Other direct entries may be approved outside these age limits from persons with appropriate qualifications and experience.

Opportunities exist for university undergraduates studying medicine, dentistry and engineering to enter the R.A.N., and on successful completion of their studies to commence short or full-time service in the Navy. Fully qualified doctors, dentists, engineers, instructors and legal officers may also enter the R.A.N. directly if they are of the appropriate age.

*Women's Services.* The present Women's Royal Australian Naval Service was inaugurated in January 1951. The numbers serving in shore establishments in December 1971 were 36 officers and 669 W.R.A.N.S. The Royal Australian Naval Nursing Service was reconstituted in November 1964, and its strength in December 1971 was 19 officers.

*Emergency Reserve.* In November 1964 approval was given to form the Royal Australian Naval Emergency Reserve to provide a readily available source of trained manpower which may be called on for continuous full-time service. The authorised establishment of this force is 2,000 officers and sailors. At 30 December 1971 the strength of the reserve available for mobilisation was 78 officers and 849 sailors, which excluded 3 officers and 16 sailors serving full-time. Members are required to complete thirteen days' training annually and are paid an annual bounty.

*Citizen Naval Forces.* The Citizen Naval Forces consist of the R.A.N. Emergency List, Royal Australian Fleet Reserve, Royal Australian Naval Reserve, Royal Australian Naval Reserve (Sea-going), Royal Australian Naval Volunteer Reserve, and Women's Royal Australian Naval Service Reserve. The authorised establishment of the combined forces is 10,000. At 30 December 1971 there were 1,336 officers and 3,813 sailors in the Citizen Naval Forces. These figures excluded 116 officers and 149 sailors serving full-time. The R.A.N.R. is the training reserve of the Citizen Naval Forces. Members carry out weekly training and thirteen days' continuous training annually; sailors engage for periods of three years. Other reserves do not normally carry out part-time training, but members may volunteer for periods of annual training and for periods of full-time service with the R.A.N. A Women's Royal Australian Naval Service Reserve consisting of ex-permanent naval forces W.R.A.N.S. officers and W.R.A.N.S. was authorised in June 1968 and enlistments commenced in mid-November 1968.

## Military Defence

A detailed historical account of the Australian defence forces prior to federation appears in Year Book No. 2, pages 1075-81. See also Year Book No. 12, page 999.

### Commonwealth systems

Under the terms of the Commonwealth of Australia Constitution Act the Commonwealth took over control of defence matters in March 1901. The growth of the Commonwealth Military Forces may be considered to have taken place in a number of phases. For particulars of the phases which cover the period from the welding together of the military forces of the States into one homogenous Army in 1902 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.

National Service Training was introduced in 1951 and suspended in 1959-60. In November 1964 the Government announced that National Service was to be re-introduced from June 1965. The scheme provided for a period of two years full-time duty in the Regular Army followed by three years in the reserve. In 1971 the period of service was varied to eighteen months full-time duty followed by three and one-half years on the reserve. National Service registrants who are members of the Citizen Military Forces or who join prior to the ballot may elect to serve in the C.M.F. for a total of five years, as an alternative to full-time continuous National Service Training. Special C.M.F. units have been formed to provide for those persons who wish to serve in the C.M.F., but who are unable to do so in normal units, because of remote location, etc.

### Organisation

Army Headquarters is responsible for the policy and control of the Australian Army. The Military Board consists of the Minister for the Army, President; the Chief of the General Staff; the Vice Chief of the General Staff; the Adjutant-General; the Quartermaster-General; the Master-General of the Ordnance; the Deputy Chief of the General Staff; the Citizen Military Forces Member; and the Secretary, Department of the Army. After the 1939-45 War, Command Headquarters were established to implement Army Headquarters policy and to command and administer those units placed under their authority. Command Headquarters are established in the capital cities of Australia and Papua New Guinea. The geographic extent of Commands is as follows.

*Northern Command*—the State of Queensland.

*Eastern Command*—the State of New South Wales, less those parts included in Southern and Central Commands.

*Southern Command*—the State of Victoria and part of southern New South Wales.

*Central Command*—the State of South Australia, plus a portion of south-western New South Wales.

*Western Command*—the State of Western Australia.

*Tasmania Command*—the State of Tasmania.

*Northern Territory Command*—the Northern Territory.

*Joint Force HQ Papua New Guinea (Army Component)*—Papua New Guinea.

In January 1972 the Prime Minister announced that the Army was to be re-organised on a functional basis to consist of a Field Force Command, a Logistic Command and a Training Command. This re-organisation is to take place over a period of three to five years.

The Army is divided into the Field Force, Forces in Papua New Guinea, and the Australian Support Area, with both Regular and Citizen Military Forces elements in each. The basic formation of the Field Force is the division, which consists of nine infantry battalions with supporting arms and service units. Within the division three task force headquarters can command varying combinations of divisional units. The substantial part of the combat elements of one Regular and two C.M.F. divisions have been raised, together with logistic support units. The Regular element of the Forces in Papua New Guinea consists of two battalions of the Pacific Islands Regiment with a number of supporting units. An infantry battalion forms the major C.M.F. element. The Australian Support Area provides the training, administrative, and command structures on the mainland.

At 31 December 1971, units of the Australian Regular Army were deployed overseas as follows. In South Vietnam a residual force remained following the withdrawal of the task force which had been serving at the invitation of the Government of that country. In addition there was the major part of an infantry battalion group stationed in Singapore.

### Personnel, training, women's services, cadets

*Personnel.* The effective strength at 29 December 1971 was: Australian Regular Army, 42,543 (including 2,625 Pacific Islanders, 290 Citizen Military Forces on full-time duty, and 1,032 Women's Services); Citizen Military Forces, 27,910.

*Staff College.* Until 1938 the training of staff officers was carried out in the various Military Districts throughout Australia, except in cases where officers were selected from time to time to attend courses abroad. In 1938 an Australian Command and Staff School, located in the original Officers' Mess at Victoria Barracks, Sydney, was established. Between 1939 and 1945 the training of staff officers was carried out under varying conditions by different schools in accordance with the changing needs of the war.

Early in 1946 the Staff School (Australia) was established at Seymour, Victoria, and redesignated the Staff College in conformity with other Commonwealth training establishments for training officers for command and staff appointments. The College was later moved to Queenscliff, Victoria, where it is at present situated. The course is held annually and is of twelve months' duration. The normal intake is seventy students, and on successfully completing the course an officer is awarded the symbol 'psc'. The course is designed 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.

Included in the 1972 course will be students from Brunei, Canada, Ceylon, India, Indonesia, Malaysia, New Zealand, Pakistan, Thailand, United Kingdom and United States of America. Vacancies on each course are reserved also for officers who may be nominated by the Royal Australian Navy, the Royal Australian Air Force, and the Commonwealth Public Service.



In order to ensure common standards in tactical doctrine, and staff and command training throughout the Commonwealth of Nations, liaison is maintained with other Staff Colleges, and to this end there is also a reciprocal exchange of instructors between the United Kingdom, the United States of America, and Australia. An instructor is also provided by New Zealand.

*Royal Military College.* The Royal Military College was established in 1911 at Duntroon in the Australian Capital Territory for the purpose of providing trained officers for the Army. The conditions of entry are laid down in the Royal Military College Regulations. The course is four years of military and academic studies. The first three years are primarily academic and the fourth year military. Following affiliation with the University of New South Wales a Faculty of Military Studies was introduced in 1968. Cadets who meet the requirements for admission to the Faculty may take a course, leading to the award of a degree in Military Studies by the University of New South Wales in one of the following: Arts, Applied Science or Engineering. Cadets not admitted to the Faculty take a diploma course appropriate to their educational background. On graduation, cadets are appointed lieutenants in the Australian Regular Army. The College also trains New Zealand cadets for commissions in the New Zealand Permanent Forces. In 1967 one Thai cadet commenced training at the College; another Thai cadet commenced in 1970 and a third in 1972.

*Officer Cadet School.* The Officer Cadet School was established in 1951 at Portsea, Victoria, for the purpose of speeding up the production of junior regimental officers for the Australian Army. Serving members of the Regular Army, the Citizen Military Forces and civilians between the ages of eighteen and a half and twenty-two and a half are eligible to apply for entrance. A special entry provides for candidates up to twenty-four and a half years. The course lasts for forty-four weeks, and on graduation cadets are appointed second-lieutenants in the Australian Regular Army. Graduates normally proceed to further training at the Army School of the Arm and Service to which they have been allotted before being posted to regimental duties. The Officer Cadet School also trains officers on occasions for Kenya, Malaysia, New Zealand, Thailand, the Philippines, Brunei, the Pacific Islands Regiment and South Vietnam.

*Officer Training Unit.* An Officer Training Unit has been established at Scheyville, New South Wales, which is responsible for the training of National Service Officers.

*Women's Royal Australian Army Corps School.* The W.R.A.A.C. School, established in 1952 at Mildura, Victoria, moved to Mosman, New South Wales, in 1958. It has three wings, one whose primary task is the training of officer cadets for the W.R.A.A.C., one for the training of non-commissioned officers at all levels and for other special courses, and one which is a basic training wing. The officer cadets are selected from eligible applicants, who may be serving members between nineteen and a half and thirty-two years of age, or civilians between nineteen and a half and thirty years of age. The course is of twenty-seven weeks' duration and on graduation cadets are appointed lieutenants in the Royal Australian Army Nursing Corps or the Women's Royal Australian Army Corps.

*Army Apprentices' School.* The Army Apprentices' School was opened in 1948 at Balcombe, Victoria, with the aim of training youths as skilled tradesmen for the Australian Regular Army and to form a background for an Army career with prospects of promotion for the graduates. The course is open to youths between the ages of fifteen and seventeen years and provides training in a number of highly skilled trades. Most apprentices attend two years of intensive theoretical and practical work at the Apprentices' School which is followed by two years on-the-job training in an appropriate Army workshop or technical unit under the supervision of an Apprentice Master. The exceptions to this are the Radio Tradesmen who train for three years at the Apprentices' School before one year on-the-job training. Before leaving the Apprentices' School all apprentices take the Victorian Apprenticeship Commission's final grade public examination, which ensures that they will be accepted as qualified tradesmen in civilian life when they eventually leave the Army. In addition to trade and military training, the Apprentices' School provides the facility for apprentices to attain an educational standard of Victorian Technical Leaving.

*Other Schools.* Army schools have been established for the major Arms and Services for the purpose of training officers and other ranks in the up-to-date techniques of their own Arm or Service, to qualify them for promotion requirements, and to produce trained instructors. Courses at Army schools are conducted for members of both the Regular Army and the Citizen Military Forces.

The following Army schools have been established: Jungle Training Centre, Armoured Centre, School of Artillery, School of Military Engineering, Transportation Centre, School of Military Survey, School of Signals, Infantry Centre, Army Aviation Centre, Army Intelligence Centre, Royal Australian Army Service Corps Centre, Royal Australian Army Medical Corps School of Army Health, Royal Australian Army Ordnance Corps Centre, Royal Australian Electrical and Mechanical Engineers' Training Centre, Royal Australian Army Provost School, School of Music, Air Support Unit (Army Component), and Air Movement Training and Development Unit (Army Component).

*Women's Services.* In July 1950 approval was given for the enlistment of women into the Australian Regular Army on a limited scale. Enlistment commenced into the Royal Australian Army Nursing Service in November 1950 and into the Australian Women's Army Corps early in 1951. In February 1951 the Royal Australian Army Nursing Service became a Corps and was designated the Royal Australian Army Nursing Corps (R.A.A.N.C.). During June 1951 the Australian Women's Army Corps was redesignated the Women's Royal Australian Army Corps (W.R.A.A.C.). The Women's Services in the Australian Regular Army now comprise two Corps only, the Royal Australian Army Nursing Corps and the Women's Royal Australian Army Corps.

Women's Services are incorporated in the Citizen Military Forces, and one company of the Women's Royal Australian Army Corps is located in each Command excluding Northern Territory Command and Papua New Guinea. Companies of the Royal Australian Army Nursing Corps are also located in each Command excluding Northern Territory Command and Papua New Guinea.

*Australian Cadet Corps.* The Australian Cadet Corps is a voluntary organisation. It serves as a training ground to provide, to some extent, the future officers and non-commissioned officers of the Australian Military Forces, and, as such, occupies a foremost position in the scheme of national defence. The Australian Cadet Corps, does not, however, form part of the Australian Military Forces. School Cadet units are raised at educational establishments throughout the Commonwealth and Papua New Guinea, except in the Northern Territory. The minimum age for enrolment is the year in which the applicant reaches the age of fourteen years, and cadets, who, in the large majority of schools receive a free issue of A.M.F. pattern uniform, may remain in the Cadet Corps until they cease to be pupils of the educational establishments concerned. A few units retain their own pattern school uniform and are not issued with A.M.F. pattern uniforms. Provision is made for the appointment of officers of cadets, cadet under-officers, warrant and non-commissioned officers on an authorised establishment scale from within school units. School Cadet units may be, and in many cases are, affiliated with Citizen Military Force units. The establishment of the Corps is 46,000 all ranks, and at 15 October 1971 comprised 337 School Cadet units with a posted strength of 38,986 all ranks.

## Air Defence

There are two elements in air defence: static air defence and counter air operations by strike aircraft.

Static air defence is provided by manned interceptor fighter aircraft, at times augmented by surface-to-air missile systems and gun defences, all operating under the direction of a control organisation. Such static systems are limited in their defensive coverage by the radius of action of the fighter aircraft and/or the effective operating range of the controlling radar.

Complementary to the static air defence system and capable of much wider ranging activities are the counter air strike forces. The aim of these forces is to destroy the enemy's offensive air capabilities at their source.

### Higher organisation

The Air Board is responsible to the Minister for Air for the control, organisation, and administration of the Royal Australian Air Force and is constituted as follows: Chief of the Air Staff, Air Member for Personnel, Air Member for Supply and Equipment, Air Member for Technical Services, and the Secretary, Department of Air.

The Air Board administers and controls R.A.A.F. units in Australia and its Territories through two commands, Operational Command and Support Command. The guiding principles of the command organisation within Australia are to decentralise day-to-day operating activities as far as possible and to streamline the force and make it as efficient as possible. Operational units overseas, working within the broad directives issued by the Air Board, comprise the R.A.A.F. components of the ANZUK Force located at Butterworth in Malaysia and in the Republic of Singapore. The R.A.A.F. component of the Australian Forces in South Vietnam was in the final process of being withdrawn during 1972.

The members of the Air Board and their staffs are located at the Department of Air in Canberra. An R.A.A.F. representative is located in London, there is an R.A.A.F. mission in Italy, and air attachés are located in Djakarta, Saigon, Paris, and Washington. *Operational Command* is responsible for the command of operational units and the conduct of their operations within Australia and its territories. *Support Command* is responsible for the recruitment and training of personnel, and the supply and maintenance of service equipment.

### Jubilee Year

As this year marks the commencement of a new era in the history of the Royal Australian Air Force, following the completion of its Jubilee Year in 1971, some additional information has been compiled to commemorate the 50th Anniversary of the creation of the R.A.A.F. During 1971 there were seven air displays in five States and the Australian Capital Territory. H.R.H. the Duke of Edinburgh, as Marshal of the R.A.A.F., participated in the main celebrations. A special souvenir book *The Golden Years* was published and a commemorative postage stamp issued.

### Development of the Royal Australian Air Force

Although junior in years to the Army and Navy the R.A.A.F. has achieved a commendable record in a comparatively short period.

The development of the R.A.A.F. has been in three separate phases, starting with the creation and slow growth in Australia of an Air Force as a distinct entity in the 1920's and 1930's. In 1925 the first reference to Air Defence appeared in Year Book No. 18, page 610 and summarised developments from 1911 to that time.

In 1929 with the abolition of the Air Council and the constitution of the Defence Committee, the regulations relating to the Air Board were amended to delete all reference to the Air Council. The Air Board in its control and administration of the Air Force functioned under the Department of Defence and was responsible to the Minister for Defence. The Headquarters of the Air Board came to be known as the Royal Australian Air Force Headquarters or more generally as Air Force Headquarters. A civilian element was established within the Headquarters and its officers were members of the Defence Department. This continued until 13 November 1939, when three additional Departments were established separately from the Department of Defence, namely the Departments of Navy, Army and Air.

A reference to the constitution and expansion of the Air Board is contained in Year Book No. 36, page 1027. (In 1954 the Secretary of the Department of Air was appointed a member of the Air Board in place of the Finance Member.)

The second phase saw the great expansion of the Air Force during the 1939-45 War, rising from a total of some 3,000 personnel to over 180,000 including approximately 18,000 in the Women's Auxiliary Australian Air Force. On 1 September 1945 there were 489 individual R.A.A.F. units compared with the original twenty-two at the outbreak of war. Full details of the expansion and development of and type of operations of the R.A.A.F. in the 1939-45 War may be found in Year Book No. 36, page 1027.

By the end of the 1939-45 War air power had grown into a recognisable third dimension in modern warfare and events since then have continued to demonstrate the value of the distinctive role of air power in any armed conflict.

The final phase required the restructuring and development of the Air Force from the immediate post war period and in 1953 three R.A.A.F. Field Commands were formed to control and administer the first phase of the change over from the old Area structure to a new functional command organisation. Concurrently with the introduction of the new command structure the title of the central controlling authority for the Air Force was changed to that of Department of Air.

In 1959 the number of commands was reduced from three to two, one dealing with operations and the other providing all support required.

In 1960 the Department of Air transferred from Melbourne to Canberra.

### Operations since the 1939-45 War

The post World War II era saw a continuation of actual military operations by the R.A.A.F. in Korea, Malaya and South Vietnam.

*Operations in Korea and Malaya.* Reference to R.A.A.F. participation in operations in Korea is contained in Year Book No. 40, pages 1112-13. Australian assistance in the form of one transport squadron provided to the Malayan authorities is detailed in Year Book No. 40, page 1113. A reference to operations by No. 1 (Bomber) Squadron in Malaya is contained in Year Book No. 45, page 1066.

*Operations in South Vietnam.* No. 2 Canberra Bomber Squadron operated in South Vietnam from April 1967 to June 1971 and flew over 13,000 sorties. No. 9 Helicopter Squadron operated in South Vietnam from June 1966 to December 1971 and flew over 237,000 sorties in support of the 1st Australian Task Force. It carried over 414,000 passengers, 4,000 medical evacuations and nearly 27 million pounds of freight. R.A.A.F. Transport Flight Vietnam and later No. 35 Caribou Squadron operated in South Vietnam from August 1964 to February 1972 and had flown over 81,000 sorties and its loadings included over 677,000 passengers, 106 medical evacuations, over 91 million pounds of freight and over 12 million pounds of mail.

**R.A.A.F. awards and decorations since 1939-45 War**

The numbers of the various awards and decorations conferred on members of the R.A.A.F. for gallantry or meritorious service in Korea, Malaya and South Vietnam appear below.

	<i>Korea</i>	<i>Malaya</i>	<i>Vietnam(a)</i>	<i>Total</i>
Companion Order of Bath (C.B.) . . . . .	..	3	..	3
Commander, Order of British Empire (C.B.E.) . . . . .	..	..	8	8
Distinguished Service Order (D.S.O.) . . . . .	3	..	9	12
Officer Order of British Empire (O.B.E.) . . . . .	3	1	2	6
Member Order of British Empire (M.B.E.) . . . . .	11	5	16	32
Distinguished Flying Cross (D.F.C.) . . . . .	(b)45	9	(c)61	(b)(c)115
Distinguished Flying Cross, Bar . . . . .	6	4	3	13
Air Force Cross (A.F.C.) . . . . .	13	2	..	15
Air Force Cross, Bar . . . . .	1	..	..	1
Royal Red Cross (Associate) . . . . .	1	..	..	1
Conspicuous Gallantry Medal (C.G.M.) . . . . .	..	..	1	1
George Medal (G.M.) . . . . .	..	..	1	1
Military Medal (M.M.) . . . . .	..	..	1	1
Distinguished Flying Medal (D.F.M.) . . . . .	18	1	10	29
British Empire Medal (B.E.M.) . . . . .	2	7	5	14
British Empire Medal (B.E.M.) for gallantry . . . . .	..	..	1	1
Mention in Dispatches . . . . .	(d)156	35	(e)129	(d)(e)320
Mention in Dispatches (Second) . . . . .	1	..	..	1
King's or Queen's Commendation . . . . .	15	1	..	16
Foreign Awards (United States of America) . . . . .	(f)140	..	..	(f)140
Commander-in-Chief Cards . . . . .	..	3	..	3

(a) Summary of awards granted in Vietnam is correct at 28 January 1972. (b) Includes 4 awards to RAF personnel. (c) Includes 4 awards to RNZAF and 1 to RAN personnel. (d) Includes 7 awards to RAF personnel. (e) Includes 2 awards to RNZAF personnel. (f) Includes 4 awards to RAF personnel.

**Organisation of units**

*Bases.* Each command is established with the units necessary to carry out its allotted function. There is no fixed rule in relation to the number and types of units within each command, as this depends upon the nature of its present and future responsibilities. Where possible, units having similar functions or requiring similar facilities are located together, and the geographical locations are known as bases.

*Formations*—comprising a headquarters unit to control the activities of a number of units at one location; each formation has a base squadron which provides common services to all units at the location.

*Flying squadrons*—strike reconnaissance, air defence, ground attack, medium and short range transport, helicopter, and maritime reconnaissance squadrons which undertake the operational flying and in conjunction with operational conversion units, the operational flying training commitments of the R.A.A.F.

*Operational conversion units*—specialising in operational conversion training of aircrew for the strike reconnaissance, air defence, and ground attack squadrons.

*Aircraft depots*—specialising in major overhaul, etc., of aircraft and equipment.

*Stores depots*—centrally located depots to which stores and equipment ordered by the R.A.A.F. are delivered for distribution to units.

*Airfield construction squadron*—specialising in airfield construction tasks in support of the R.A.A.F. operational component within Australia and the Territories.

*Telecommunications units*—responsible for the communications services of the R.A.A.F.

*R.A.A.F. Hospitals*—hospitals in Australia and at Butterworth providing medical services for the R.A.A.F.

*Flying and ground schools and units*—schools and units specialising in the aircrew and ground staff training required by the R.A.A.F.

*R.A.A.F. Diploma Squadron and R.A.A.F. Academy*—training units, to diploma and university degree level respectively for officer cadet entrants to the R.A.A.F.

*R.A.A.F. Staff College*—trains specially selected R.A.A.F. officers for higher staff and command posts.

**Aircraft**

The R.A.A.F.'s strike reconnaissance force is equipped with Canberra and Phantom F4-E aircraft, and the air defence and ground attack squadrons are equipped with the Mirage 111-O. Transport aircraft currently in use are Hercules C130A and E, Caribou, Dakota, Mystere 20, HS748, and BAC111. The two helicopter squadrons operate the Iroquois and the two maritime squadrons operate Neptune SP2H and Orion P3-B aircraft. Aircraft used for training are the Winjeel, Macchi, HS748, and Mirage 111-O.

**Personnel, reserve, woman's services**

At 30 December 1971, the authorised Permanent Air Force establishment was 24,963 and the Citizen Air Force 1,080: the enlisted strength was Permanent Air Force 22,378 and Citizen Air Force 763, while the strength of the General Reserve was 5,774. The Permanent Air Force figures include the Women's Royal Australian Air Force, which has an establishment of 1,022 and strength of 857, and the R.A.A.F. Nursing Service with an establishment of 122 and strength of 101.

**Department of Supply**

For information relating to the creation of the Department of Supply and its development up to 1959 see Year book No. 51, page 1204, and earlier issues. On 18 December 1959 the Department assumed responsibility for the operation and management of space tracking stations in Australia on behalf of the United States of America's National Aeronautics and Space Administration (NASA). On 29 March 1962 Australia became a foundation member of the European Launcher Development Organisation, and the Department accepted responsibility for the test firing of the launching rocket for that Organisation's experimental satellite, using the facilities of the Woomera Rocket Range. The last of these ten test firings at Woomera was on 12 June 1970.

On 1 May 1968 the Department took over the Administration of the Antarctic Division from the Department of External Affairs.

**Functions of Department**

The functions of the Department of Supply include the following.

Defence research and development, including the operation of the Joint United Kingdom-Australia Weapons Research Project, and Australian research and development.

Planning, establishment, operation and management of facilities producing aircraft, guided missiles, small arms, ammunition, explosives, marine engines, clothing, telecommunications equipment, and other defence goods.

Printing for the Defence group of departments.

Arrangement of contracts for purchasing in Australia of supplies and services required by the Armed Forces and certain other Government organisations.

Acquisition, maintenance, and disposal of strategic materials.

Investigation and development of Australian sources of supply in connection with defence.

Disposal of surplus or obsolescent Commonwealth goods on behalf of all departments.

Provision of Commonwealth transport facilities outside the Australian Capital Territory and the Northern Territory.

Provision and control of stores required for or in connection with matters administered by the Department of Supply, and general storage for other departments as required.

Arrangements for ascertaining costs and the control and limitation of profits in connection with the production of munitions and other defence goods.

Operation and management of space tracking stations and certain other facilities on behalf of the Government of the United States of America.

Organisation of expeditions and establishment and maintenance of stations in the Antarctic for the purposes of exploration and conducting scientific studies.

The Minister for Supply administers the *Supply and Development Act* 1939-1966, except in so far as it concerns the building (see also Chapter 12, Transport and Communication), repair, and maintenance of merchant ships and the building, extension, alteration, repair, and maintenance of shipyards, drydocking, and repair facilities for merchant ships.

The Minister for Supply also administers the *Antarctic Treaty Act* 1960, the *Australian Antarctic Territory Acceptance Act* 1933, the *Australian Antarctic Territory Act* 1954-1963, and the *Heard Island and McDonald Islands Act* 1953-1963.

For the performance of the above functions the Department is organised into five Divisions, namely:

Research and Development; Munitions Supply; Aircraft, Guided Weapons and Electronics Supply; Planning and Procurement; and Finance and Management Services.

### Research and Development

The Research and Development Division is responsible for scientific research and development in relation to war material; the operation of the Joint United Kingdom-Australian Weapons Research Project; and support of space research programmes for the United States of America's National Aeronautics and Space Administration (NASA). The headquarters is situated in Canberra, and the following establishments are included in the Division: (a) Weapons Research Establishment, Salisbury, South Australia; (b) Defence Standards Laboratories, Maribyrnong, Victoria; Woodville North, South Australia; Alexandria, New South Wales; Joint Tropical Research Unit (J.T.R.U.) at Innisfail, North Queensland in conjunction with the United Kingdom Ministry of Defence; (c) Aeronautical Research Laboratories, Fishermen's Bend, Victoria; and (d) Central Studies Establishment, Canberra, Australian Capital Territory.

*Weapons Research Establishment.* The Establishment has three scientific Wings, namely Trials Wing, Applied Physics Wing and Weapons Research and Development Wing. The Trials Wing is concerned with the operation, development and instrumentation of the Woomera Range, and the planning, execution, and assessment of trials to meet the requirements of projects approved under the United Kingdom-Australia Joint Project Procedures. The Applied Physics Wings conducts scientific research of significance to the Defence requirements of Australia in the broad fields of systems analysis, electronics, optics, radio propagation, radar, lasers, infra-red, visual surveillance, whilst the Weapons Research and Development Wing is engaged similarly in aeroballistics, weapon systems, rocket propulsion and marine physics for the Defence group of departments.

In addition, an Engineering Wing provides engineering design, development and maintenance facilities, and certain technical services for the scientific Wings (including the Joint Project Trials Wing). Engineering support is also provided for other Research and Development Division Laboratories. The Engineering Wing also undertakes tasks for other Supply organisations and the Australian Defence Services.

*Defence Standards Laboratories.* This Establishment (at Maribyrnong, Victoria) provides a scientific service to the Defence Services, Department of Supply factories and other authorities engaged in support to Defence, generally within the fields of chemistry, physics, metallurgy, engineering, explosives and ammunition, and to a limited extent, in the fields of biochemistry and physiology. It also undertakes scientific research appropriate to its responsibilities and of significance to the defence requirements of Australia. It is the principal Standards Laboratories of the Defence group of Departments and provides calibration facilities for the higher grades of standards. The Australian National Standards Commission has appointed D.S.L. as a verifying authority under the Weights and Measures (National Standards) Act.

Branches are located at Woodville North, South Australia and Alexandria, New South Wales.

*The Joint Tropical Research Unit (J.T.R.U.) at Innisfail provides facilities for studying the behaviour and degradation of a wide range of materials and stores in hot/wet and hot/dry tropical environments.*

*Aeronautical Research Laboratories.* The work of this establishment is broadly related to the aeronautical aspects of materials science, mechanical engineering, aircraft structures, aerodynamics and system studies. It undertakes research and development on specific defence projects, provides advice and conducts investigations for the Services, Government departments and industries engaged in defence work. Scientific research related to these responsibilities and of significance to the defence requirements of Australia is also undertaken.

*Central Studies Establishment.* This establishment assists the Defence group of departments in the application of Operational Research and Systems Analysis techniques to the study of military problems.

*United States of America's projects.* Agreements have been signed by the Governments of Australia and the United States of America to co-operate in the establishment and operation in Australia of space vehicle tracking stations. The agencies for the Australian and the American Governments are the Department of Supply and the National Aeronautics and Space Administration (NASA) respectively.

As part of the world-wide network supporting NASA's space programme the stations are designed to track spacecraft in their orbits around the earth or on their journey into space, to receive telemetered data from the spacecraft and to issue radio commands controlling the spacecraft's manoeuvres. The Department of Supply is responsible for managing, staffing and operating the stations on behalf of NASA. The stations which are now in operation are at:

- Island Lagoon near Woomera (deep space probes and optical tracking of scientific satellites);
- Carnarvon in Western Australia (manned space flights and scientific satellites);
- Orroral Valley in the A.C.T. (scientific satellites);

Honeysuckle Creek in the A.C.T. (manned space flights, particularly the 'man on the moon' Apollo project);

Tidbinbilla in the A.C.T. (deep space probes and manned space flights). Construction of a 210 ft tracking antenna is proceeding at this station; it is scheduled for completion in 1973.

An extensive communications system links the tracking stations with the control centres in the United States of America. At all five stations the responsibility is vested in a station director who is a senior officer of the Department of Supply. Tidbinbilla, Honeysuckle Creek and Carnarvon, play an important part in the communications network during the Apollo moon-landing missions.

Under the Australian Government's policy of using the resources of private industry wherever possible, contracts for operation and maintenance services at the stations have been let as follows: Amalgamated Wireless (A'asia) Ltd, (Carnarvon and Orroral Valley, Tidbinbilla and Island Lagoon), and Standard Telephones and Cables Pty Ltd (Honeysuckle Creek). NASA expenditure on operations in Australia for the period July 1970 to June 1971 was \$11.5 million.

The Department also manages and operates the Project Hibal Balloon Launching Station, based at Mildura, Victoria. The agencies for this project are the Department of Supply and U.S.A. Atomic Energy Commission. The primary purpose of the station is to monitor the level of radioactivity in the upper atmosphere using high altitude balloons. Research experiments are also flown on behalf of United States and Australian Universities and research institutions.

### Munitions Supply

The Department of Supply is responsible for the production of munitions required by the Armed Services. Production is carried out in Government factories, and a wide range of orders is also placed with private industry.

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 Factories, Victoria (uniforms and clothing); Defence Printing Establishment, Victoria (special defence printing requirements); Engine Works, Victoria (building and servicing of marine diesel engines); Explosives Factory, Albion, Victoria (high explosives, propellants, chemicals); Explosives Factory, Maribyrnong, Victoria (propellants, explosives, chemicals, ammunition, rocket motors); Explosives Factory, Mulwala, New South Wales (propellants, chemicals); Munitions Filling Factory, St Marys, New South Wales (ammunition filling and assembly other than small arms ammunition); Ordnance Factory, Bendigo, Victoria (heavy guns, mountings, large turbine gears); Ordnance Factory, Maribyrnong, Victoria (guns, projectiles, fire control equipments, rocket motor components); and Small Arms Factory, Lithgow, New South Wales (rifles, machine guns, rocket launchers, mortar bombs, small calibre shells).

### Aircraft, guided weapons and electronics supply

*Aircraft.* Production both in Government factories and in industry of military types of aircraft and aero-engines and of other aircraft components required by the Services is administered by the Department of Supply through this Division. Planning of capacity and the negotiation 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: The Government Aircraft Factory at Fishermen's Bend and the Final Assembly Workshops and Test Airfield at Avalon, Victoria, and the Machine Shop at Northfield, South Australia.

During 1968 the French Mirage supersonic fighter aircraft production programme for the R.A.A.F. was completed. The current aircraft production programme comprises the Jindivik radio-controlled target aircraft, which has been or is being supplied to Britain, Sweden, and the United States of America, as well as to the Weapons Research Establishment and the Royal Australian Navy.

Apart from the Government Aircraft Factory, the Commonwealth Aircraft Corporation Pty Ltd is the only major aircraft manufacturer in Victoria. The Corporation is the prime contractor for the Australian production for the R.A.A.F. of the Italian Macchi jet trainer and for the production of the British Viper engine that powers this aircraft. Hawker de Havilland Australia Pty Ltd at Bankstown and Lidcombe, New South Wales is the major sub-contractor for the Macchi.

*Guided weapons:* The production of the Ikara anti-submarine missile is continuing at the Government Aircraft Factory at Fishermen's Bend. Production of the complete Ikara system, covering broadly the missile, motor, propellants, guidance equipment, launcher, and magazine handling equipment, is a combined effort by departmental establishments and industry, directed and co-ordinated by the Department.

Ikara has been fitted to 9 R.A.N. ships and variants have also been purchased by the British and Brazilian Navies. Other overseas sales are being actively pursued. Turana, a development from the Ikara concept which uses the same shipboard launchers, is a small jet engine-powered, pilotless target aircraft being produced by the Government Aircraft Factory for the R.A.N.

At St. Marys, New South Wales, a Guided Weapons and Electronics Support Facility has been established to repair and maintain guided missiles for the Armed Services. The facility also provides support to the Services in calibration, aerial testing and modelling, and the provision of sonar and environmental test facilities.

*Electronics:* The Department is responsible for the technical aspects of production in and procurement from Australian industry of telecommunications and electronic equipment for the Australian Services, for Commonwealth authorities such as Directorate of Civil Defence and for foreign aid programmes administered by the Department of Foreign Affairs.

Some of the more important projects handled for the Services recently have included UHF multi-channel radio relay equipment, a range of military pack sets, tactical training systems for the training of ship and submarine personnel, mobile calibration centres, automatic message switching systems and air traffic control tower installations.

A large contract is in existence for the domestic development of micro-electronic devices. Other contracts have also been arranged to establish the reliability of Australian-made electronic equipment and components.

### Planning and Procurement

*Contract board:* The Board, constituted under the *Supply and Development Regulations 1939-1966*, arranges for the procurement of supplies and services for the Naval, Military and Air Forces of the Commonwealth and for the Department of Supply. Upon request, the Board also arranges contracts on behalf of other Commonwealth departments and authorities. It also arranges disposal—by means of public tender, auction or otherwise—of all surplus or unserviceable Commonwealth-owned goods. The Board comprises representatives of three Service Departments and of the Department of Supply. In each State there is a District Contract Board similarly constituted, which is authorised to exercise the functions of the Contract Board within certain financial limits.

The Board's policies and procedures are administered by the Contracts Branch of the Department of Supply in Canberra.

### PURCHASES AND REALISATIONS FROM DISPOSALS 1969-1970 AND 1970-71 (\$'000)

<i>District Contract Board</i>	<i>Purchases</i>		<i>Realisations from disposals</i>	
	1969-70	1970-71	1969-70	1970-71
New South Wales . . . .	44,939	41,675	3,595	4,275
Victoria . . . . .	125,788	114,450	3,726	6,792
Queensland . . . . .	7,078	10,447	1,048	1,253
South Australia . . . .	9,406	10,546	1,472	1,809
Western Australia . . .	1,327	2,220	521	601
Tasmania . . . . .	287	255	148	155
<b>Total . . . . .</b>	<b>188,825</b>	<b>179,593</b>	<b>10,510</b>	<b>14,885</b>

*Planning.* The central planning authority of the Department is the Production Planning Branch, whose principal functions are:

- to study manufacturing capacity available for the Services' requirements in peace and war and to plan for and assist in the development of additional production capacity and to plan the organisation of industrial resources for defence production in war;
- to provide and administer reserve stocks of materials and reserve pools of plant, equipment and other requirements needed for rapid expansion in the event of war;
- to receive and allocate to the appropriate departmental divisions all orders and procurement demands placed on the Department; to monitor all aspects of progress in satisfying them and to keep client departments informed of progress;



to provide advisory services in the field of materials supply and utilisation to Government factories and contractors engaged in the production of munitions requirements; to administer the national stockpile of strategic materials.

A number of Industry Advisory Committees has been established to advise the Minister and the Department of the ability of industry to meet the Services' matériel requirements for mobilisation in war. The Committees represent all major activities concerned with the supply of defence equipment and the members of the Committees include industrialists of wide experience and the highest ability in their chosen field.

Emphasis is given to a maximum participation by Australian Industry in meeting the requirements of the Defence Services, whenever it is economically and technically possible to do so. Where it is necessary to order a requirement from overseas, the aim is still to involve local industry through co-production or in work of an offset nature.

The Department's efforts are directed towards:

- achieving closer collaboration with industry and bringing to its early attention, the forecast requirements of the Services;
- exercising and upgrading the technological capability of industry by awarding contracts to assist in complex production and development tasks for defence purposes;
- seeking co-production and offset opportunities with overseas industry in defence contracts; and
- encouraging and facilitating participation in sub-contract work from overseas industry.

*Stores and transport.* The Stores and Transport Branch functions as the central storage and transport authority for most Commonwealth departments. It is the authority for the arrangement of furniture removals at departmental expense in all States, but not in the Northern Territory. It has agents in Darwin. It also operates a shipping and customs section and the England-Australia bulk air freight scheme for Commonwealth departments.

On 27 June 1971 the Branch had under its control land, buildings and works, vehicles, plant and equipment valued at \$29,415,969; 4,872 motor vehicles and 3,096,129 sq ft of storage space as well as storage facilities for large quantities of chemicals, bulk liquids and explosives.

*Overseas sales and aid.* The Sales and Aid Branch promotes sales of Departmental products and administers the Department's patents and licensing agreements. It is responsible also for administering arrangements for the supply of military type stores under Defence Aid programmes.

The Branch is also responsible for the development, co-ordination and monitoring of reciprocal purchasing arrangements against Australian defence purchases from overseas, and the development of closer co-operation between Australia and New Zealand in the defence supply field.

#### **Finance and Management Services**

*Finance.* The total expenditure on Department of Supply activities in 1970-71 was \$211,243,000. This was made up of \$108,029,000 from Parliamentary Appropriations and \$103,214,000 from Trust Fund accounts which included \$20,564,000 for stores and transport, \$61,863,000 for Government munitions and aircraft factories, \$19,772,000 for projects of other Governments, and \$1,015,000 for cafeterias.

*Management Services.* The Technical Services Branch of the Department provides an operating, advisory and consultative service to the Department for industrial engineering, office methods, management operations research, archives and registry practice, instrumentation, electrical and communications engineering services, materials handling, defence standardisation, stores cataloguing, library services and safety.

The Automatic Data Processing Branch provides services to the Department by: assisting in the specification of data-processing systems; designing and implementing computer based systems; co-ordinating computer equipment requirements; and providing ADP training programmes.

*Personnel.* At 30 November 1971 the Department employed 20,979 personnel as follows: administration 2,432; cadets and trainees 299; laboratories 6,200; aircraft production 1,969; munitions production 6,455; miscellaneous production 1,040; Stores and Transport Branch 2,556; and overseas staff 28.

