

1946
NEW ZEALAND

AIR DEPARTMENT

(REPORT ON THE) FOR THE YEAR 1945-46

Presented in pursuance of Section 7 of the Air Department Act, 1937

REPORT BY THE HONOURABLE F. JONES, MINISTER IN CHARGE OF THE AIR DEPARTMENT, FOR THE YEAR ENDED 31st MARCH, 1946

MR. SPEAKER,—

I have the honour to present to Parliament the report of the Air Department for the year ended 31st March, 1946.

This is the first report since the termination of hostilities in Europe and the Pacific, and I am glad of this opportunity to express my appreciation of the outstanding services rendered to their country by all ranks of the Royal New Zealand Air Force in New Zealand and overseas throughout the war. Although a number of New Zealanders served in the Royal Flying Corps and the Royal Naval Air Service in the Great War, this is the first struggle in which the Royal New Zealand Air Force has taken part, and it can be justly proud of its young and splendid laurels.

REPORT BY THE CHIEF OF THE AIR STAFF FOR THE YEAR ENDED 31st MARCH, 1946

The Hon. the MINISTER OF DEFENCE.

I HAVE the honour to submit the following report on the Royal New Zealand Air Force for the year ended 31st March, 1946.

The outstanding event of the past year has been the defeat of the Axis Powers, followed by demobilization of the R.N.Z.A.F. Other important activities include air support to the 2nd Australian Corps in the Bismarck and Solomons Area; the use of the Air Force transport organization to facilitate demobilization; the despatch of a Fighter Squadron (No. 14) to Japan; and the maintenance of Air Transport Services to Japan, the South Pacific Islands, and within the Dominion for military and civil purposes.

As the previous reports submitted during the war period have necessarily been restricted, it is felt desirable to refer briefly in this first post-war report to the development of the R.N.Z.A.F. throughout the whole period of the war, without which it is difficult to examine this year's report on the final phase of the war.

MAJOR FEATURES IN THE DEVELOPMENT OF THE R.N.Z.A.F., 1939-1946

Although the R.N.Z.A.F. expansion programme approved early in 1937 was not completed on the outbreak of war, it was only the three years of development and planning that enabled New Zealand to participate fully in the Commonwealth Air Training Programme. Otherwise the delays involved would have materially reduced and seriously delayed our contribution to Allied victory in the air. This air-training organization in New Zealand continued to expand up to June, 1941, when it reached a peak intake of 4,500

aircrew personnel a year. A total of 13,158 trained and semi-trained aircrew were passed through New Zealand schools, the bulk of whom were despatched to the United Kingdom and Canada for service with the Royal Air Force. The scheme necessitated the retention within New Zealand of approximately 10,000 trained airmen for this purpose alone up to the end of 1944, and represented the major contribution of the R.N.Z.A.F. to the war. It demonstrated the suitability of a high proportion of young New Zealanders by virtue of education, and physique and temperament, for aircrew training. The record of the R.N.Z.A.F. in terms of trained aircrew personnel in proportion to the population was the highest in the British Commonwealth, and their achievements, primarily in the European theatre, were outstanding. It was not possible, however, owing to man-power difficulties which developed after 1943, to send any ground personnel to the United Kingdom.

On the outbreak of war the New Zealand Bomber Squadron, equipped with Wellington aircraft, was forming in England and on the point of flying out to New Zealand. It was handed over to the R.A.F., and as No. 75 (N.Z.) Bomber Squadron it earned a fine reputation in Bomber Command, producing the first R.N.Z.A.F. V.C., the late Sergeant Pilot J. A. Ward. As the numbers of New Zealand aircrew serving with the R.A.F. increased, R.N.Z.A.F. squadrons manned by R.A.F. ground personnel were formed as a token of the contribution made by New Zealand. Provision was made for six such squadrons, which were formed on the dates and for the roles set out below:—

- (i) *No. 485*: Formed 1st March, 1941, as a fighter squadron equipped with Spitfires, and took part in the defence of Britain with an excellent record.
- (ii) *No. 486*: Formed 3rd March, 1942, as a fighter squadron equipped with Hurricanes, and also took part in the defence of Britain with distinction. Was later re-equipped with Typhoons, and subsequently Tempests, and formed part of the occupational air Forces in Germany.
- (iii) *No. 487*: Formed in August, 1942, as a medium bomber squadron equipped with Venturas, and later with Mosquitoes. Squadron Leader Trent earned his V.C. whilst serving in this squadron, which also formed part of the occupational Forces in Germany.
- (iv) *No. 488*: Formed in Malaya on 11th October, 1941, as a fighter squadron equipped with Buffaloes. Disbanded in March, 1942, and re-formed in England 25th June as a night fighter squadron with Beaufighters, operating with success against German night raiders.
- (v) *No. 489*: Formed 12th December, 1941, as a torpedo bomber squadron equipped with Beauforts, Hampdens, Beaufighters, and later with Mosquitoes. In common with other Coastal Command units, this squadron was employed against enemy shipping.
- (vi) *No. 490*: Formed in December, 1942, as a flying-boat squadron equipped with Catalinas, and later with Sunderlands. Shortly after its formation, No. 490 Squadron was transferred to West Africa, whence it was employed on long-range reconnaissance.

During operations against a U-boat by this squadron, an aircraft from No. 200 (R.A.F.) Squadron was directed to render assistance. The pilot of this aircraft was the late Flying Officer Trigg, R.N.Z.A.F., who sighted another U-boat, which he attacked and sank, the action, unfortunately, costing him his life, but earning him the Victoria Cross.

All the above units, with the exception of No. 75 Squadron (in New Zealand) have since been disbanded. It may be noted that these squadrons employed less than 10 per cent. of the total R.N.Z.A.F. aircrew personnel serving with the R.A.F.

The outbreak of war with Japan faced the Government with unprecedented problems and involved the Air Force in a complete reorientation of plans and a heavy increase in overall commitments to meet the home-defence problem, whilst still maintaining the flow of trained personnel overseas. There was a serious shortage of combat aircraft in New Zealand. Emergency steps were taken to organize and to arm training types for local defence. The construction of modern airports to accommodate U.S. Air Forces was hastened. A Fighter Defence organization with an early-warning system (Radar stations) and an observer corps network was developed. In January, 1942, the small Air Force unit established in Fiji since November, 1940, was increased by the location of a R.N.Z.A.F. Bomber Squadron at Nandi equipped with Hudsons. The dire shortage of modern combat aircraft available to the R.N.Z.A.F. for use in New Zealand and the South Pacific was not relieved until United States equipment (Corsairs and Venturas) became available in 1944, although the United Kingdom supplied limited numbers of Kittyhawks and Hudsons from their own U.S. allocations. This enabled the R.N.Z.A.F. to provide during 1942-43 five Bomber Squadrons (Hudsons), which, from July, 1942, onwards, operated under U.S. command in the South Pacific area.

As the threat of Japanese invasion diminished, so the offensive capacity of the R.N.Z.A.F. was steadily developed. Towards the end of 1942 it was decided to place the R.N.Z.A.F. under United States authority for command and supply, and suitable allocations of U.S. combat types for progressive delivery by April, 1944, were made. The expansion of the R.N.Z.A.F. in the South Pacific Area to twenty squadrons was approved early in 1943. New Zealand fighter and bomber squadrons played an important part in the fight for air superiority and the defence of sea communications in the Solomons area in 1943 and 1944. As the Japanese air power was overcome, the role of the R.N.Z.A.F. changed to that of air support to the 2nd Australian Corps, and the aircraft (Corsairs) were equipped as fighter bombers. The operational statistics of R.N.Z.A.F. squadrons employed in the South Pacific area during the war are given in Appendix A.

On 2nd September, 1945, the Chief of the Air Staff (Air Vice-Marshal L. M. Isitt) represented New Zealand at the official surrender in Tokyo.

At the end of 1945, No. 14 (Fighter) Squadron commenced training for the British Commonwealth Occupation Force in Japan, and was embarked in H.M.A.C. "Glory" at the end of March, 1946.

OPERATIONS

With the reduction of the garrison commitment in the South Pacific Area, all our operational squadrons (with the exception of the two flying-boat squadrons, which still remained in the South Pacific Area) came under the command of General MacArthur in the South-west Pacific Area. By December, 1944, R.N.Z.A.F. squadrons were the only operational air Forces in the North Solomons and Bismarek area and were engaged in giving both tactical and close support to the Australian Army Forces. Their work in this sphere gained high praise from the Australian Field Commanders, which is a good augury for future co-operation.

With the intended move of our fighter squadrons still farther afield into the Borneo area, plans were put in hand for the expansion of air transport squadrons and the conversion of the existing bomber reconnaissance squadrons to this type. These plans were abandoned with the cessation of hostilities.

The squadrons in the South-west Pacific Area were retained there for the next two or three months to assist in the rounding-up of the enemy Forces within the area. They were then withdrawn from the area, aircraft and crews being ferried back to New Zealand for demobilization.

By 31st March, 1946, the R.N.Z.A.F. had been reduced to a skeleton basis. The operational organization consists of four units—a fighter squadron for Japan equipped with Corsairs; a bomber and a fighter unit at Ohakea with Venturas and Corsairs respectively; and a flying-boat unit at Lauthala Bay, Fiji. The latter three units were maintained on a nucleus basis. In addition, the elements of a training organization were retained at Wigram Aerodrome, and an Instrument Flying School at Whenuapai.

ORGANIZATION

The organization of the R.N.Z.A.F. in the South Pacific had been designed to maintain a practically self-contained Force of twenty squadrons operating under United States command. United States advances elsewhere in the Pacific made it impracticable to continue the employment of this Force, and a number of operational and ancillary units were disbanded early in 1945. These included the disbandment of three bomber reconnaissance squadrons, one fighter squadron, and one flying-boat squadron, two B.R. operational training units, the gunnery training schools, fighter leaders' school, and a servicing unit. In addition, the following stations were closed: Taieri, Harewood, New Plymouth, Swanson, Central Flying School at Woodbourne, Nelson, Convalescent Depot, Rotorua.

During this period also responsibility for the administration of R.N.Z.A.F. units in the Pacific was divided between Air Department and New Zealand Air Task Force, thus enabling the disbandment of No. 1 (Islands) Group.

While the overall policy provided for a steady reduction in activities throughout the R.N.Z.A.F. during this first phase, it was necessary to form a few small units in New Zealand to meet certain specific requirements. These included a Technical Training Pool for Wireless Operators, Hobsonville Maintenance Wing, a Transport Operational Training Unit, and a Fighter Pilots' Pool.

After August, 1945, the organization was reoriented to ensure the rapid demobilization of personnel and to meet commitments peculiar to the immediate post-war period. The first step was the disbandment of four more fighter squadrons, followed shortly afterwards by a further four. Its mission completed, the New Zealand Air Task Force was disbanded on 31st October, 1945, and in its place a small administrative headquarters, known as Islands Group, was set up in Fiji. This was necessary to administer and ensure the welfare of those personnel left behind at various Pacific bases engaged in the guarding and disposal of equipment. The disbandment of field headquarters at Bougainville, Guadalcanal, Jacquinot Bay, Los Negros, Emirau, and Green Island was effected, and finally the evacuation of disposal parties from these bases enabled the disbandment of Islands Group on 1st March, 1946.

In New Zealand the following units were disbanded in succession: No. 1 Transport Operational Training Unit, Marine Training School, R.N.Z.A.F. Band, Nos. 4, 5, 6, and 7 Radar Units, Aircrew Pool, Non-effective Pools, Corsair Assembly Unit, and ten servicing units.

In order to consolidate commitments and thus reduce overhead in administrative personnel, the following transfers of activities to permanent stations were effected, and the original stations closed: Services W/T Station from Waiouru to Ohakea, Engineering and General Repair Unit and Aircraft Repair Unit from Hamilton to Ohakea, Technical Training School from Nelson to Hobsonville, Armament School from Woodbourne to Hobsonville, and Central Fighter Establishment from Ardmore to Ohakea.

In addition to the above, Remuera was transferred to Mechanics Bay, and Anderson Park to Shelly Bay, to facilitate civilian housing problems. Waipapakauri and Norfolk were reduced to a nucleus basis and placed under the administration of Whenuapai.

The whole of the responsibility for works services for the R.N.Z.A.F. was assumed by Public Works Department during September and October, 1945.

Work in connection with the compilation of war gratuities and recruiting for the Interim Air Force necessitated a temporary increase in the staffs of the Directorates of Accounts and Manning. At the same time, general reductions were made throughout the remaining directorates to the minimum staffs necessary to implement reorganization and demobilization activities already referred to, and to administer those post-war commitments approved by the Government.

The following new units were formed on the dates shown: Air Navigation School, Wigram, for training of navigators (Service and Civil), 9th November, 1945; School of Meteorology, Woodbourne, for training of personnel for Meteorological Service, 22nd March, 1946; and Canterbury Project Flight, Wigram, for meteorological research in conjunction with Department of Scientific and Industrial Research, 28th March, 1946; and, finally, recruit depots at Hobsonville and Wigram were opened for the reception of new enlistments.

PERSONNEL

The following personnel statistics show the growth of the Air Force during the war years and indicate the effect of major policy changes:—

PERSONNEL

(a) Total Personnel Strengths

Date.	In New Zealand and Pacific.				Attached to R.C.A.F. and R.A.F.	Total.
	Officers.	Airmen.	Under Training.	W.A.A.F.		
September, 1939	58	493	215	Nil	..	766
March, 1940	342	2,553	981	Nil	112	3,988
March, 1941	606	5,074	2,832	6	2,079	10,597
March, 1942	940	6,761	3,153	1,701	4,688	17,243
March, 1943	1,840	18,794	4,443	3,123	5,366	33,566
March, 1944	2,535	22,174	6,124	3,554	7,027	41,414
March, 1945	3,151	22,041	3,582	2,607	4,746	36,127
March, 1946	1,039	4,747	158	629	581	7,154

The peak strength of 42,488 was reached in May, 1944.

(b) Distribution of Personnel

Date.				New Zealand.	Pacific.	Attached to R.C.A.F. and R.A.F.	Total.
March, 1940	..	..	..	3,875	1	112	3,988
March, 1941	..	..	..	8,431	87	2,079	10,597
March, 1942	..	..	..	11,980	575	4,688	17,243
March, 1943	..	..	..	25,590	2,610	5,366	33,566
March, 1944	..	..	..	28,466	5,921	7,027	41,414
March, 1945	..	..	..	22,813	8,568	4,746	36,127
March, 1946	..	..	..	5,852	721	581	7,154

These figures do not include casualties as at those dates.

DEMobilIZATION

Plans for the dis-establishment of Pacific units were put into operation immediately upon the cessation of hostilities, and arrangements made to carry out large-scale repatriation by air and sea. The s.s. "Wahine" made three trips from New Zealand to Bougainville in rapid succession and repatriated a total of 1,716 personnel. The remainder of the personnel were returned by specially augmented R.N.Z.A.F. air transport services.

In addition, large drafts of aircrew personnel were arriving from England and the India-Burma theatre.

To carry out the processes of release in New Zealand, three Non-effective Pools were set up—one each in Auckland, Wellington, and Christchurch—with a capacity to release eighty to one hundred personnel per day each. These pools arranged final medical and x-ray action, made pay advances and mufiti grants, advised personnel on their rehabilitation prospects, issued travel warrants and final discharge papers. In addition to the release of ex-overseas personnel, the pools also handled large numbers of personnel from New Zealand units in those cases where speedier medical and other facilities could be obtained at the pools in preference to local stations. Between VJ Day and the end of March, 1946, 26,928 personnel were released from the Air Force.

In January, 1946, large-scale demobilization had ceased, and the Non-effective Pool organization was reduced in size to cope only with the small volume of overseas traffic from the United Kingdom and India-Burma theatres. The slowing-down of the demobilization rate had enabled units to carry out their own releases effectively.

The following is a summary of releases effected between VJ Day and the end of March, 1946:—

Month ending	Males.	Females.	Total.
31st August	1,203	156	1,359
30th September	6,791	661	7,452
31st October	3,073	318	3,391
30th November	4,436	287	4,723
31st December	3,052	97	3,149
31st January	2,163	99	2,262
28th February	2,856	107	2,963
31st March	1,557	72	1,629
	25,131	1,797	26,928

Of the above, 7,206 personnel were officers and aircrew, mainly from United Kingdom and India-Burma, whilst the balance were ground staff mainly from Pacific and New Zealand units.

Personnel have been released in accordance with a uniform system of priorities throughout the services which cannot give special consideration to the value of individuals to the Air Force. Consequently the loss of key personnel must be accepted even to the embarrassment of the Service in respect of its residual flying commitments.

A programme of enlistment into the Interim Air Force was approved early in 1946, and two recruit depots were set up. The first intakes commenced in March, 1946.

AWARDS

Details of awards to New Zealand air personnel granted annually during the period 1st April, 1940, to 31st March, 1946, are shown at Appendix B of this report.

CASUALTIES

Particulars of casualties to personnel both overseas and in New Zealand are tabulated at Appendix C of this report.

TRAINING ORGANIZATION

(a) *Flying Training*.—The termination of the Empire Training Scheme on the 31st March, 1945, and the consequent need to train only to meet Pacific requirements, resulted in the Flying Training Organization being greatly reduced prior to the cessation of hostilities in Europe. The Aircrew Grading School and the Initial Training Wing at Taieri, and the Elementary Flying Training School at Harewood, ceased training on the 21st July, 1945. These two stations finally closed on the 30th September, 1945. The Service Flying Training School at Wigram progressively reduced training until finally ceasing on the 24th November, 1945.

The Central Flying School moved from Woodbourne to Wigram on the 3rd September, 1945, thus consolidating all flying training activities at Wigram. Pending the recommencement of a Peacetime Flying Training Programme, the Central Flying School was reorganized to carry out short refresher flying courses for officers out of flying practice, including ex prisoners of war, and to rehabilitate other pilots prior to their discharge from the Service. During the war the R.N.Z.A.F. trained a total of 13,158 aircrew in New Zealand.

(b) *Technical Training*.—With the ending of hostilities it was decided to move the wartime Technical Training School at Nelson to its post-war home at Hobsonville, and to consolidate ground training at Hobsonville and Wigram, technical training being carried out at the former unit and electrical and wireless training at the latter. Nelson was finally closed in November, 1945. Electrical and wireless training ceased at Wigram with effect from 23rd February, 1946, and short courses for wireless operator aircrew were commenced for rehabilitation purposes.

The war called for a high technical standard in many different specialized fields in the Air Force, and during the war the R.N.Z.A.F. produced over 20,000 trained men in forty-eight different principal trades. Insistence on a high standard of training and rigid trade tests resulted in a high standard of technical maintenance, which was the subject of most favourable comment overseas.

(c) *General Service Training*.—Training to fit men for overseas service ceased on the Japanese surrender, and Swanson closed down on the 31st August, 1945; the training of recruits at Harewood also ceased on this date. Recruit training for the Interim Air Force commenced at Hobsonville and Wigram on the 25th March, 1946. Each depot is established to train recruits on a three weeks' general service course, the total weekly output being 134 men. The normal length of these courses has been reduced to meet the urgent need for replacements within the Service.

FLYING CONTROL

The system of communications built up by the R.N.Z.A.F. for the operational control of the Air Force has been partially handed over to a R.N.Z.A.F. Flying Control Service, which exercises control over all air movements in accordance with the procedure laid down by International Regulation. The Service operates from five control centres and seventeen control towers throughout New Zealand and the South Pacific, and employs ninety-seven R.N.Z.A.F. controllers and staff. This service is to be established on a civilian basis as soon as practicable.

Flying Control is also responsible for the co-ordination of the R.N.Z.A.F. Air Sea Rescue Organization, which has resulted in the saving of twenty-three lives at sea during the past year, and has participated in many search operations on behalf of the Marine Department for missing vessels.

R.N.Z.A.F. AIR TRANSPORT SERVICE

The success of the war effort of the R.N.Z.A.F. in the South Pacific theatre was largely due to the development of a R.N.Z.A.F. transport organization, which enabled supplies and reinforcements to be flown from the base area in New Zealand to the operational stations in the Pacific, some 2,500 miles distant. By this means also the R.N.Z.A.F. was enabled to develop a scheme of rotational relief whereby aircrew were flown into the operational area for a tour of duty for a period of approximately eight weeks only at a time, after which they were rested in New Zealand. This procedure maintained the operational efficiency of these aircrews at a very high standard. During its three years of operation this transport service flew over 10,000,000 miles and carried 132,000 passengers and 207,900,000 lb. of freight and mail.

Orders were placed on the United States in November, 1942, for lease-lend Dakotas (C47) and Lodestar (C60) aircraft. The first squadron (No. 40) was established in July, 1943, with six Dakota aircraft and the second transport squadron (No. 41) in August, 1944. By this date there were a total of 20 Dakotas and 9 Lodestars on the strength of these units. In December, 1944, four Sunderland flying-boats arrived from England. During this period the steady increase in the number and variety of radio aids for navigation and the development of a New Zealand Meteorological Organization in the South Pacific were a major factor in the efficiency and safety of the R.N.Z.A.F. air transport organization, and fully proved their worth, if only in terms of the resultant economy in flying-hours.

Period 1945-46

The activities of the R.N.Z.A.F. Air Transport Service during the past year may be divided into three phases:—

- (1) Active air transport support for the operational units in the Pacific;
- (2) Repatriation of personnel from Pacific and Far East;
- (3) Establishment of air support for J Force and the running of quasi civil services in New Zealand and the South Pacific pending the establishment of a civil operating agency.

Phase (1).—At the beginning of the year R.N.Z.A.F. operational units were supported by three transport agencies—namely, Nos. 40 and 41 Squadrons and the Flying-boat Transport Flight. On this date these squadrons were equipped with twenty-seven Dakotas, nine C60 Lodestars, twelve C63 Hudson troop carriers, and four Sunderland flying-boats. A number of C47 aircraft were ferried direct from the U.S.A. to New Zealand by R.N.Z.A.F. transport personnel, bringing the total number of C47 aircraft in service at the close of hostilities to forty.

During this period and 1944-45 services had been developed which included those being operated from New Zealand to Norfolk Island, New Caledonia, New Hebrides, the Solomons, and for considerable distances north and west of this area. Services, in addition, were being operated to Fiji, Tonga, the Ellice Group, Western Samoa, American Samoa, Hawaii, and were extended to include the Cook Islands and the Gilbert Group. In addition, many special flights were arranged between New Zealand and various points in the South Pacific Area. At the cessation of hostilities plans were well in hand for the extension of the service to Borneo to support the projected operations in that area.

Phase (2).—Immediately hostilities ceased, repatriation of personnel in the Pacific was commenced. In addition, a special Flight was organized to bring relief to, and repatriate all New Zealand prisoners of war and civilian internees held by the Japanese in Malaya, Thailand, Borneo, and the Netherlands East Indies.

A complete organization was set up in Singapore, staffed with an experienced Medical Officer, Nurses, dietary experts, public relations officers, &c. Altogether twelve flights were made, and some 150 evacuees were transported to New Zealand in a matter of a few weeks.

The repatriation of R.N.Z.A.F. personnel from the Pacific was carried out smoothly, the movement being completed by 31st December. In all, 8,300 personnel were repatriated, this figure representing over 85 per cent. of the total number in the area. The peak was reached in November, 1945, when an average of 450 personnel were being evacuated by air weekly. The first and only casualty involving loss of life on any aircraft of the R.N.Z.A.F. Air Transport Service occurred during this period on a flight between Espiritu Santo and New Zealand, when twenty-one lives were lost.

Special services were also inaugurated within New Zealand to transport Service personnel and next-of-kin between ports of disembarkation and their homes. C47 aircraft were used on these services.

Reduction in serving personnel was effected by the closing-down of the Transport Operational Training Unit at Ohakea, with reductions in establishment of the transport squadrons from time to time commensurate with their utilization.

Phase (3).—With the establishment of the New Zealand component of the joint occupation Forces in Japan, a request was made that this arm be supported by a transport squadron. Accordingly the existing squadrons were segregated, No. 40 Squadron being absorbed in the running of quasi civil services in New Zealand and the South Pacific pending the establishment of a civil operating agency, and No. 41 Squadron was organized on a basis of maintaining services to Japan as well as providing for special courier flights.

Courses of training were inaugurated at Wigram to enable those aircrew who were desirous of obtaining civil licenses to qualify.

At the close of the year internal daily services were being provided between Auckland-Wellington-Christchurch and Auckland-New Plymouth-Wellington.

The summary of statistics set out in Appendix D serves to illustrate the development of the R.N.Z.A.F. Air Transport Service.

EDUCATIONAL SERVICES

During the year the staff of education officers was reduced to a Staff Officer Education and one assistant at Air Department, six education officers on New Zealand stations, and four on overseas stations.

Pre-entry Training

At 1st April, 1945, the system of pre-entry training in secondary-school classes and by correspondence which had been used during 1940 and 1941 was again in operation, handling civilians who had been selected for aircrew. This was continued until August, 1945, when, with the cessation of hostilities, and a change in educational training policy in the A.T.C., the scheme became unnecessary, and by a gradual process all systems of pre-entry training were discontinued completely. By 31st March, 1946, this type of training was no longer a function of the Education Section. It is of interest to note that in the course of its history the R.N.Z.A.F. system of pre-entry training was copied by other Air Forces, and almost 20,000 personnel satisfactorily completed the various courses of study.

General Educational Welfare

This side of the activities of R.N.Z.A.F. Educational Services reached its greatest efficiency in the course of the year under review, when the extent of educational and recreational work reached a peak never before approached by any agency for adult education in this country. Nevertheless, the actual numbers engaged on general educational courses and attending classes and clubs decreased rapidly as the strength of R.N.Z.A.F. was reduced after the end of the war, but it is an interesting fact that the percentage of total personnel taking part in these activities continued to increase, and a very creditable level was maintained until the end of the present year. The general educational work of the R.N.Z.A.F. has most fully demonstrated its value during the war. It is hoped that it will be retained as an integral part of the organization of the Interim and Peacetime Air Forces.

The following is a summary of the various general educational activities:—

(i) *A.E.W.S. Study Courses*.—All stocks of these courses are being transferred from A.E.W.S. to the Education Department, but they will continue to be available for the use of servicemen.

(ii) *Other Study Courses*.—In addition to the study courses provided by A.E.W.S., courses are available from the following:—

(a) Education Department's Correspondence School:

(b) Wellington Technical College:

(c) Post and Telegraph Correspondence School:

(d) New Zealand Railways Correspondence School.

(iii) *Courses with Private Colleges*.—These are courses for which initially the students meet the full cost themselves. It is still the policy of the Rehabilitation Department that if such courses are not available under normal conditions from R.N.Z.A.F. Educational Services fees paid may be claimed as a refund from the Rehabilitation Department after discharge, and such application will be granted or not granted according to normal rehabilitation practice. Furthermore, it is now the policy of the Rehabilitation Department that all members of the permanent Forces are now regarded as having returned to a civilian occupation for the purposes of granting rehabilitation benefits.

(iv) *University and Professional Courses*.—The A.E.W.S. textbook service is still in full operation, and marking facilities are available to students reading for the Accountants' Professional Examination. Individual Professors and Lecturers have assisted personnel in many ways, including the supply of special notes and the marking of work.

(v) *Recreational Libraries*.—The recreational library service is still being organized through the A.E.W.S. Library Depots, but most of the books at present available will revert to the control of the National Library Service, where they will continue to be available to R.N.Z.A.F. station libraries. The stocks of books on stations are at present relatively greater in numbers than at any time since the library scheme was inaugurated.

(vi) *School Classes*.—Attendance at school classes reached its peak over the last year, and, although numbers are somewhat reduced, there is still appreciable class activity in a very wide range of subjects. It is again desired to place on record that the principals of the schools have co-operated wholeheartedly in arranging classes for service personnel.

(vii) *Rehabilitation and Vocational Guidance*.—The latest information regarding rehabilitation and prospects in trades and professions has continued to be distributed to all units. A publication which has recently been included is the Rehabilitation Department's newspaper *Change Step*.

(viii) *R.N.Z.A.F. Educational Certificate*.—By means of educational progress-cards a record is kept of courses completed while students are members of the R.N.Z.A.F. On application, personnel may receive a special certificate

setting out courses satisfactorily completed. The courses included on the certificate do not include those for which diplomas or certificates are normally issued by the examining bodies concerned. The details of the courses are not set out on the certificate, but reference is made to the R.N.Z.A.F. Educational Handbook, in which synopses of all such courses are published.

(ix) *Public Examinations*.—Facilities for the conduct of public examinations have continued to be available over the past year, both within New Zealand and overseas. Among those who sat overseas were candidates in Great Britain, India, and the Pacific. Approximately 400 Air Force candidates sat for the 1945 University Examinations.

(x) *General*.—The Advisory Sub-committee in London of the Education Committee of the Rehabilitation Board has now ceased operation, but there are still quite a large number of R.N.Z.A.F. personnel on short-term attachment to colleges and business houses in England as part of their pre-rehabilitation training.

AIR TRAINING CORPS

Authority to form the A.T.C. in New Zealand was received from War Cabinet in February, 1941. At this time New Zealand had very extensive commitments in so far as the number of aircrew required to meet the Empire Training Scheme, and it was considered that the formation of an A.T.C. in New Zealand would be of considerable help in meeting these commitments.

The first two squadrons were formed on the 15th September, 1941, both being squadrons in Wellington. A fortnight later three more squadrons were formed in Auckland. The A.T.C. was open for membership to lads between the ages of sixteen and eighteen years. By this time nearly two thousand lads had signified their willingness to join the A.T.C. on a voluntary basis.

By April, 1942, just seven months after the first squadron was formed, 140 Cadets had lodged war-service applications, and arrangements were made for the first intake of aircrew to be accepted by the R.N.Z.A.F.—this was for June, 1942.

By December, 1942, the strength of the A.T.C. had grown to 5,766 Cadets. Six hundred and sixty-one had been mobilized to the R.N.Z.A.F., and, in addition, there was also a list of 724 Cadets awaiting enlistment to the R.N.Z.A.F.

By May, 1943, 1,537 Cadets had been mobilized into the R.N.Z.A.F.

The peak strength of the A.T.C. was reached in May, 1944, with a strength of 9,244, which meant that one lad in every seven in the age-groups for A.T.C. belonged to the organization on a voluntary basis.

Up to VE Day, A.T.C. had mobilized approximately 3,500 Cadets to the R.N.Z.A.F.

The strength of the Air Training Corps during the period under review has decreased from 7,581 to 5,882. The loss of 1,698 Cadets was primarily due to the cessation of hostilities and to the fact that the R.N.Z.A.F. would require no further intakes for aircrew meantime. The Correspondence Section of the Air Training Corps was disbanded, as there was no further need for aircrew Cadets. A total of 131 aircrew and 233 non-flying Cadets were mobilized to the R.N.Z.A.F. for the period.

With the closing-down of many R.N.Z.A.F. stations, ample surplus training equipment has been made available to all units.

WOMEN'S AUXILIARY AIR FORCE

The New Zealand Women's Auxiliary Air Force was established in January, 1941, for the purpose of filling certain clerical, administrative, and domestic posts in the R.N.Z.A.F., and thus releasing fit male personnel for active service. The scheme was an unqualified success, and it can safely

be said that they carried out these duties as efficiently as their male predecessors. The peak strength of the W.A.A.F. was 3,652 in July, 1943.

The year under review has seen many changes in policy and administration, resulting in reduction in strength from 2,607 to 629. These releases represent those airwomen who applied for discharge for various reasons.

One W.A.A.F. officer and four senior N.C.O.s are on special duties with Historical Records Branch of R.N.Z.A.F. Headquarters, London.

MEDICAL BRANCH

During the war the Medical Branch of the R.N.Z.A.F. continued to expand its organization to a size commensurate with medical requirements of the Service, and reached its peak in June, 1944, with a total of 778 personnel. With the cessation of hostilities, the Branch was steadily reduced to 149 personnel as at 31st March, 1946.

Activities during the latter half of the year under review were concerned chiefly with demobilization, those connected with flying and research problems having practically ceased. This resulted in a considerable increase in Medical Boards during the period, the total number held being 35,347. The policy of carrying out a chest x-ray on all personnel at demobilization was put fully into effect, and 29,096 x-ray films and reports were received.

EQUIPMENT

The year under review ended the responsibility for the logistic support of an active fighting Service and ushered in a period in which the primary responsibility changed to the custody and the salvage of equipment and stores.

On the cessation of hostilities, the task of the final closing-down of bases in six separate areas in the South Pacific commenced. All equipment, stores, vehicles, &c., were thoroughly examined, and every item of value was packed and made ready for transportation back to New Zealand. In this respect many difficulties were experienced, but with the chartering of the G.S.S. "Matai" all stores required were returned, some 324 vehicles and some 4,100 tons of stores being shipped.

With the reduction of activities of the R.N.Z.A.F. since VE day it was necessary to establish storage units to prevent undue deterioration of surplus aircraft. Two such units have therefore been established, one at Rukuhia for storage of metal-type aircraft and the other at Woodbourne for storage of composite type. Some 1,000 aircraft are now stored at these units, consisting of Venturas, Corsairs, Kittyhawks, Avengers, Hudsons, Harvards, Oxfords, and Tiger Moths.

Much radio and radar equipment formerly used as part of Air Force combat equipment has been transferred to the Civil Aviation Branch for use in Civil Aviation.

As an unavoidable aftermath of war, the main activity was the disposal of surplus stores and equipment. Through the offices of the War Assets Realization Board, surplus stores to the value of £684,176 have already been disposed of to both Government Departments and the public.

MAINTENANCE

Up till the cessation of hostilities in the Pacific the maintenance organization followed that of the previous year. Since VJ Day disbandment of units and changing commitments necessitated considerable reorganization. These commitments included the increased activity of transport squadrons engaged in repatriating personnel from the Pacific and the ferrying back from the Pacific to New Zealand of 203 Corsair aircraft. Prior to this latter flight, it was necessary to carry out in the field a major modification to the engines of 130 of these aircraft.

The despatch of No. 14 Fighter Squadron to Japan required the taking from storage of 24 of the latest type Corsair aircraft and preparing them for service.

During December, 1945, a Gloster Meteor jet-propelled aircraft arrived on loan from the R.A.F., and was assembled and flown by trained personnel who had recently returned from England.

SUPPLY

The termination of lease-end procurement resulted in slight reorganization of procedure, but, coming as it did long after peak requirements, the change-over was made smoothly. Provisioning in general has been suspended, and practically all requisitions are confined to short-term requirements.

No change of supply procedure has been introduced. Aging of stocks, evaporation, and the consequent increase in lead content has necessitated the relegation of aviation spirit to motor spirit.

SIGNALS

With the cessation of hostilities in the Pacific during the year under review the communication organization for the New Zealand Air Task Force and R.N.Z.A.F. rear bases was gradually reduced with the withdrawal of operational units from the area. Full facilities remain at Lauthala Bay (Fiji).

Within New Zealand, communications have been reorganized to meet the reduced administrative and operational requirements. Extensive facilities and long-distance circuits for the exclusive use of the air traffic and meteorological organizations have been provided.

The development of regular R.N.Z.A.F. Air Transport Services, both within the Dominion and to Norfolk Island, Fiji, Tonga, Samoa, and the Cook Group, necessitated considerable effort towards the establishment of reliable communications and radio navigational aids over these routes. Negotiations for the acquisition of surplus United States military radio equipment for permanent installation have been instituted.

METEOROLOGICAL

The Meteorological Branch has continued to provide all weather information required for the Armed Services, for other Government Departments, for civil aviation, and for the civil community generally. At the cessation of hostilities the full-time staff numbered 365 personnel at thirty-two locations in New Zealand and the Pacific.

Government approval has been given for the reversion of the Meteorological Service from R.N.Z.A.F. to civil status, and the necessary reorganization was in progress at the close of the period under review.

PUBLIC RELATIONS

Throughout the year Public Relations Section has continued to be responsible for matters affecting public relations generally, including the issue of R.N.Z.A.F. news and publicity, advertising, sale of photographs, casualty records, and notification to next-of-kin.

CONCLUSION

I desire to record my appreciation of the services given by all ranks of the Royal New Zealand Air Force and civilian staff during the past year.

I have, &c.,

A. DE T. NEVILL, Air Vice-Marshal,
Chief of the Air Staff.

APPENDIX A.—OPERATIONAL STATISTICS: PACIFIC AREA
(From Commencement of Operations until VJ Day, 15th August, 1945)

	Operational Sorties.		Operational Hours.	
	Squadron Total.	Total for Type.	Squadron Total.	Total for Type.
No. 1 Bomber Reconnaissance Squadron	1,817	..	6,115	..
No. 2 Bomber Reconnaissance Squadron	1,837	..	6,387	..
No. 3 Bomber Reconnaissance Squadron	2,308	..	9,187	..
No. 4 Bomber Reconnaissance Squadron	3,223	..	15,124	..
No. 8 Bomber Reconnaissance Squadron	509	..	1,437	..
No. 9 Bomber Reconnaissance Squadron	1,756	..	5,465	..
Total for Bomber Reconnaissance Squadrons ..		11,450		43,715
No. 5 Flying-boat Squadron	687	..	4,577	..
No. 6 Flying-boat Squadron	1,974	..	15,413	..
Total for Flying-boat Squadrons		2,661		19,990
No. 14 Fighter Squadron	3,368	..	11,731	..
No. 15 Fighter Squadron	4,939	..	14,383	..
No. 16 Fighter Squadron	4,279	..	10,025	..
No. 17 Fighter Squadron	3,081	..	8,503	..
No. 18 Fighter Squadron	4,840	..	10,037	..
No. 19 Fighter Squadron	2,702	..	5,999	..
No. 20 Fighter Squadron	3,539	..	6,560	..
No. 21 Fighter Squadron	1,339	..	3,738	..
No. 22 Fighter Squadron	2,958	..	6,038	..
No. 23 Fighter Squadron	2,587	..	4,233	..
No. 24 Fighter Squadron	1,778	..	3,441	..
No. 25 Fighter Squadron	1,461	..	3,819	..
No. 26 Fighter Squadron	1,241	..	1,708	..
Total for Fighter Squadrons		38,712		90,265
No. 30 Torpedo Bomber Squadron	540	..	1,455	..
No. 31 Torpedo Bomber Squadron	728	..	1,752	..
Total for Torpedo Bomber Squadron		1,268		3,207
No. 25 Dive Bomber Squadron	581	581	1,654	1,654
Grand total for duration.. ..	54,672	54,672	158,831	158,831

The records available do not show the tonnage of bombs dropped by individual squadrons, but give the figures for the types of aircraft used.

The following shows the tonnage (in U.S. tons) dropped on targets during the period of operations in the Pacific: medium bomber, 3,057; fighter, 6,428; torpedo dive bomber, 1,241: total, 10,726.

APPENDIX B.—AWARDS

Awards.	Twelve Months ending—						Total.
	31st March, 1941.	31st March, 1942.	31st March, 1943.	31st March, 1944.	31st March, 1945.	31st March, 1946.	
Victoria Cross	..	1	..	1	..	1	3
Bar to Distinguished Service Order	..	..	..	..	4	1	4
Distinguished Service Order	..	6	9	19	30	7	71
Conspicuous Gallantry Medal	..	..	1	2	2	..	5
Military Cross	..	..	1	..	1	..	2
Second Bar to Distinguished Flying Cross	..	..	..	1	2	1	4
Bar to Distinguished Flying Cross	2	5	13	16	29	14	79
Distinguished Flying Cross	62	53	98	202	299	294	1,008
Bar to Distinguished Flying Medal	..	..	1	..	..	..	1
Distinguished Flying Medal	5	28	45	70	23	8	179
George Medal	3	..	..	1	1	1	6
Bar to Air Force Cross	..	1	..	1	..	..	2
Air Force Cross	8	11	8	10	24	31	92
Air Force Medal	..	2	2	..	1	..	5
British Empire Medal	1	1	2	5	8	25	42
Military Medal	..	..	..	..	2	1	3
American Distinguished Flying Cross	..	..	..	5	9	2	16
U.S. Air Medal	..	..	..	5	6	7	18
U.S. Legion of Merit	..	..	..	..	2	3	5
Polish Virtute Militari	..	..	..	..	2	..	2
Croix de Guerre (French)	1	..	..	2	1	1	5
Croix de Guerre (Belgian)	..	..	..	1	..	..	1
Order of Lenin	..	..	1	..	..	..	1
Order of Crown of Yugoslavia	..	..	2	..	..	..	2
White Eagle of Yugoslavia	..	..	1	..	..	..	1
Czech War Cross	..	..	..	1	..	..	1
Norwegian War Cross	..	..	..	..	1	..	1
	82	108	184	342	447	396	1,559*

* Of this total, 1,317 awards have been won by personnel of the R.N.Z.A.F. and 242 by New Zealanders serving as members of the R.A.F. In addition, 248 have been Mentioned in Despatches and 26 have been commended.

A total of 81 honours has been granted to R.N.Z.A.F. personnel since the outbreak of war to 31st March, 1946. This total consists of:—

Knight Commander of the Order of the British Empire	1
Companion of the Order of the Bath	1
Commander of the Order of the British Empire	8
Officer of the Order of the British Empire	25
Member of the Order of the British Empire	46

APPENDIX C—CASUALTIES

(a) OVERSEAS

From the outbreak of war to 31st March, 1945, 3,998 personnel were reported as casualties. During the past year 388 personnel have been reclassified as non-casualties, reducing the total casualties as at 31st March, 1946, to 3,610.

The analysis for each year is as follows:—

—	Total to 31st March, 1941.	Total to 31st March, 1942.	Increase or Decrease for Year.	Total to 31st March, 1943.	Increase or Decrease for Year.
Killed or presumed dead	156	529	+373	1,206	+677
* Missing, believed killed	20	51	+ 31	175	+124
* Missing	59	135	+ 76	307	+172
* Prisoner of war or interned	50	132	+ 82	287	+155
* Missing, believed prisoner of war	..	6	+ 6	26	+ 20
Total from outbreak of war	285	853	..	2,001	..
Increase for year	..	..	568	..	1,148
Decrease for year	..	..	..	..	..

—	Total to 31st March, 1944.	Increase or Decrease for Year.	Total to 31st March, 1945.	Increase or Decrease for Year.	Total to 31st March, 1946.	Increase or Decrease for Year.
Killed or presumed dead	2,210	+1,004	2,875	+665	3,534	+659
* Missing, believed killed	93	— 82	138	+ 45	5	—133
* Missing	314	+ 7	476	+162	71	—405
* Prisoner of war or interned	445	+ 158	509	+ 64	Nil	—509
* Missing, believed prisoner of war	..	— 26	..	..	..	..
Total from outbreak of war	3,062	..	3,998	..	3,610	..
Increase for year	..	1,061	..	936	..	..
Decrease for year	..	..	..	..	..	—388

* Figures in these categories fluctuate from time to time as personnel are reclassified on receipt of additional information.

Analysis of total casualties from outbreak of war to 31st March, 1946:—

Killed or presumed dead	3,534
Missing, believed killed	5
Missing	71
Prisoner of war or interned	Nil
Total	3,610†

† Of this total, 3,293 casualties have been reported to R.N.Z.A.F. personnel and 317 to New Zealanders serving with the R.A.F. at the outbreak of war.

In addition, 14 have been reported seriously ill/injured, one of whom remained on the list at 31st March, 1946. The comparative total last year was 91.

(b) NEW ZEALAND

Fatal accidents in New Zealand since the outbreak of war to 31st March, 1946, are as follows:—

	Total to 31st March, 1941.	Increase for Year.	Total to 31st March, 1942.	Increase for Year.	Total to 31st March, 1943.	Increase for Year.
Aircraft accidents	25	32	57	39	96	39
Motor and other non-flying accidents	7	4	11	11	22	11
Total from outbreak of war ..	32	..	68	..	118	..
Increase for year	..	36	..	50	..	41

	Total to 31st March, 1944.	Increase for Year.	Total to 31st March, 1945.	Increase for Year.	Total to 31st March, 1946.
Aircraft accidents	126	32	158	9	167
Motor and other non-flying accidents	33	11	44	9	53
Total from outbreak of war ..	159	..	202	..	220
Increase for year	..	43	..	18	..

Number of Deaths from Outbreak of War

	Total to 31st March, 1941.	Increase for Year.	Total to 31st March, 1942.	Increase for Year.	Total to 31st March, 1943.	Increase for Year.
Aircraft accidents	37	57	94	75	169	52
Motor and other non-flying accidents	7	4	11	11	22	11
Natural causes	5	2	7	14	21	30
Total from outbreak of war ..	49	..	112*	..	212	..
Increase for year	..	63	..	100	..	93

	Total to 31st March, 1944.	Increase for Year.	Total to 31st March, 1945.	Increase for Year.	Total to 31st March, 1946.
Aircraft accidents	221	44	265†	7	272†
Motor and other non-flying accidents	33	13	46	7	53‡
Natural causes	51	22	73‡	28	101§
Total from outbreak of war ..	305	..	384	..	426
Increase for year	..	79	..	42	..

*Amended.

† Includes 1 W.A.A.F.

‡ Includes 1 W.A.A.F.

§ Includes 8 W.A.A.F.s.

**APPENDIX D.—STATISTICAL SUMMARY FOR PERIOD JUNE, 1943,
TO MARCH, 1946, INCLUSIVE OF R.N.Z.A.F. AIR TRANSPORT
SERVICES, PACIFIC AND NEW ZEALAND**

Period.	Hours flown.	Ton/Miles Capacity created.	Ton/Miles Capacity used.	Load Factor.
1943.				Per Cent.
June–September	2,200	440,000	250,000	67·5
October–December	2,210	680,000	625,000	88·0
1944.				
January–March	4,950	1,380,000	1,500,000	76·0
April–June	6,450	1,680,000	1,225,000	73·0
July–September	7,550	2,040,000	1,475,000	72·5
October–December	10,000	2,780,000	1,825,000	61·5
1945.				
January–March	10,700	3,510,000	1,925,000	68·0
April–June	10,270	3,380,000	2,000,000	69·5
July–September	10,000	3,397,000	2,789,790	82·0
October–December	10,850	3,580,000	2,650,000	74·0
1946.				
January–March	2,800	940,000	662,000	73·0
Grand totals	77,980	23,807,000	16,926,790	73·0

Period.	Passenger-miles.	Passengers, in Ton/Miles.	Freight, in Ton/Miles.	Mail, in Ton/Miles.
1943.				
June–September	2,000,000	200,000	102,500	35,000
October–December	3,100,000	300,000	155,000	90,000
1944.				
January–March	6,300,000	600,000	200,000	100,250
April–June	6,400,000	600,000	325,000	150,000
July–September	6,700,000	680,000	400,000	146,000
October–December	9,800,000	950,000	362,500	250,000
1945.				
January–March	13,850,000	1,400,000	335,000	205,000
April–June	8,800,000	900,000	662,500	310,000
July–September	12,050,000	1,370,000	1,112,500	280,000
October–December	16,050,000	1,700,000	815,000	145,000
1946.				
January–March	5,900,000	550,000	117,500	17,000
Grand totals	90,950,000	9,250,000	4,587,500	1,728,250

Internal Services since Inception on 1st October, 1945

Passengers carried.	Hours flown.	Ton/Miles Capacity created.	Ton/Miles Capacity used.	Load Factor.	Passenger- miles.	Passengers, in Ton/Miles.	Freight, in Ton/Miles.	Mail, in Ton/Miles.
40,966	3,422	1,327,987	1,093,280	Per Cent. 86·1	11,830,107	1,079,562	3,487	2,229

REPORT OF THE ACTING CONTROLLER OF CIVIL AVIATION FOR THE YEAR ENDED 31ST MARCH, 1946

The Hon. the MINISTER OF DEFENCE.

I HAVE the honour to submit the following report on civil aviation for the year ended 31st March, 1946.

SECTION I.—ADMINISTRATION

1. ORGANIZATION

On 31st March, 1946, the staff of the Branch numbered 46, mostly comprised of personnel seconded from the Royal New Zealand Air Force.

One of the primary functions of the Civil Aviation Branch will be the study of practices and techniques developed during six years of war. Many of these will find ready application to civil operations, and consideration will be given to those which will aid the safety of aerial navigation both on domestic and international air routes. One wartime feature which will remain is the Air Traffic Control Organization, which as a service responsibility has become well established throughout New Zealand and the more important Pacific Islands. Prior to the war the only control organization was that provided at Auckland (Mechanics Bay) for the Trans-Tasman and the Pan-American Airways Pacific services. With the increase in commercial, club, and private flying which can be anticipated, an efficient air Traffic Control service constitutes an essential step in the safety of the air lanes. Advances which must be further studied are those made in communications and radio aids to navigation, and planning in these matters is already well under way.

New conceptions in operational procedures have also resulted from the intensive flying carried out by the Allied Air Forces Transport Commands, and operators are fully alive to the advantages to be gained in adopting those suitable to local conditions.

One of the problems which will require early attention is the training of civilian personnel in modern techniques, particularly instrument flying and navigation. It would obviously be impracticable to provide a purely civilian organization to handle such work, and the only workable scheme would appear to be a combined school charged with the responsibility of training both civilian and R.N.Z.A.F. personnel.

2. LEGISLATION

At the twenty-eighth session of the International Commission for Air Navigation the provisions of Annex D to the Convention were modified to include modern conceptions of aerodrome and air route traffic control, and the Annex was made obligatory in respect of all States signatory to the Convention. The new Annex was examined by the Branch's technical Officers, and, after minor modification, it was adopted in amended form for incorporation in the Air Navigation Regulations 1933, in substitution of the existing Schedule IV.

An amendment has also been prepared to cover the new requirements for the issue of Aircraft Engineers' Licences. Both amendments will be promulgated during 1946.

Air Navigation Directions (A.N.D. 4) were issued on 31st October, 1945, setting out the conditions and requirements for the construction, overhaul, repair, maintenance, and supply of civil aircraft, parts, and materials.

A step in the centralizing of air legislation was the amendment of the Transport Licensing (Commercial Aircraft Services) Act, 1934, to provide for the transfer of the authorities conferred in the Act from the Minister of Transport to the Minister in Charge of Air Department.

The New Zealand National Airways Act, 1945, makes provision for the setting-up of the New Zealand National Airways Corporation which is empowered to establish and operate national air transport services to meet the needs of the public and to encourage generally the use of air transport. The Corporation will comprise five directors appointed by the Governor-General.

3. PROHIBITION ON CIVIL FLYING

The prohibition on civil flying issued by the Governor-General on 22nd December, 1941, was rescinded on 24th December, 1945. Scheduled transport services were not affected by the prohibition, but all club, charter, and private flying ceased, and were recommencing only slowly during February and March of 1946. It is not expected that these activities will reach their pre-war peak for at least another twelve months.

4. TEST-HOUSE

The test-house, to which reference was made in last year's report, was closed in December, 1945. During the war years a considerable amount of material testing was carried out on behalf of the R.N.Z.A.F. and contractors to the Air Force. With the cessation of hostilities this work was reduced to such an extent that there was no longer justification for retention of the section. Arrangements were accordingly made for the Dominion Physical Laboratory to undertake tests of materials. In December, 1945, the Instrument Section of the test-house was also closed, and in the meantime the Department of Scientific and Industrial Research has accepted responsibility for calibration of instruments and sub-standards for aircraft firms and operators.

5. WELLINGTON CIVIL AVIATION CONFERENCE

Between 28th February and 3rd March, 1946, representatives of the United Kingdom, Australian, Fijian, and New Zealand Governments met in Wellington to discuss matters of Commonwealth importance relating to aviation in the Pacific Area. A Canadian observer was present at the meetings wherein matters affecting his Government were discussed. The Conference considered in detail the following:—

- (i) The establishment of regional services in the Pacific:
- (ii) The establishment of ground organization and other facilities:
- (iii) The inauguration, operation, and administration of the trans-Pacific service:
- (iv) The appointment of a regional committee of the Commonwealth Air Transport Council:
- (v) The format of bi-lateral agreements.

The questions involved under these headings were carefully examined in Committee and plenary sessions, and decisions were unanimously arrived at which enabled the Conference to prepare a series of conclusions for submission to the respective Governments represented.

The Conference recommended that there should be established a South Pacific Air Transport Council with headquarters in Melbourne, and representative of United Kingdom, Canadian, Australian, New Zealand, and Fiji Governments and the Western Pacific High Commission. The main functions of this body will be to keep under review and promote the progress of air transport in the Pacific area, to serve as a medium for the exchange of information between member States on air transport matters, and to advise the Governments concerned on policy matters. There were established under the aegis of the Council a Committee for Air Navigation and Ground Organization and a Committee of Meteorologists to advise on technical matters within their purview.

The present rate of capital contributions towards the cost of operation of Tasman Empire Airways was also examined. It was decided that a modification of the present arrangement should be effected and that in future capital requirements should be allocated on the basis of New Zealand, 50 per cent.; Australia, 30 per cent.; and United Kingdom, 20 per cent.

A third recommendation of importance was that there should be established and registered forthwith a tripartite organization representative of the United Kingdom, Australian, and New Zealand Governments, charged with the responsibility of operating a Pacific trunk service between Australia and Canada. The organization, which will be known as British Commonwealth Pacific Airlines, will have its headquarters in Australia and will operate in parallel with similar services to be established by trans-Canada Airlines. Decisions were arrived at as to the type of aircraft to be used and apportionment of capital requirements between the three Governments concerned. While it is possible that B.C.P.A. may shortly be in a position to inaugurate regular schedules under a charter arrangement, it is not expected that the organization will be able to commence operation with its own equipment and personnel before June, 1947.

It was also decided that Australia and New Zealand should each provide local and regional services within their defined areas of responsibility in the South Pacific and that the two Governments should accept responsibility within such areas for the provision of ground facilities and meteorological services for both regional and trunk air services.

Decisions were also reached on questions relating to bi-lateral agreements in which Australia and New Zealand might be concerned; and the employment of technical personnel of these two countries for the investigation of accidents to civil aircraft in British territories in the South Pacific.

The Conference was very successful, and, apart from the importance of the conclusions arrived at, it afforded an excellent opportunity for the technical personnel on the various delegations to confer on matters of mutual interest in their respective departments. The presence of B.O.A.C. officials with the United Kingdom delegation also assisted considerably in the preparation of technical data of an operational nature.

SECTION II.—AIR TRANSPORT OPERATIONS

The organization of the internal Air Transport Services has remained relatively unchanged, and the facilities provided by Union Airways and Air Travel (N.Z.), Ltd., have continued except for the augmenting of the former company's services by the addition of a further Lockheed Lodestar aircraft, which is employed on the Auckland-Invercargill route. In order to cope with the popular demand for air travel the R.N.Z.A.F. transport command has

operated services with Douglas Dakota aircraft between Auckland and Christchurch, with an intermediate stop at Paraparaumu, while subsidiary services have been provided on the route Auckland—New Plymouth—Wellington using Dominie aircraft.

Details of the civil services operated by Union Airways and Air Travel (N.Z.), Ltd., are given in the following paragraphs:—

(a) INTERNAL AIR SERVICES

(1) *Union Airways of New Zealand, Ltd.*

Services were operated by Union Airways of New Zealand, Ltd., over the following routes:—

Route.	Route-miles.	Frequency.
Auckland-Dunedin (via Palmerston North, Wellington, and Christchurch)	720	Once daily in each direction except Sunday, with additional return trips Wellington-Christchurch.
Dunedin-Invercargill	105	Once daily in each direction.
Palmerston North - Gisborne	180	Thrice weekly in each direction.
Gisborne-Auckland	209	Thrice weekly in each direction.
Total route miles	1,214	

Traffic statistics for these routes for year ended 31st March, 1946, were—

Route.	Hours flown.	Miles flown.	Passengers.	Freight.	Mail.	Passenger-miles.	Freight Ton-miles.	Mail Ton-miles.
				lb.	lb.			
Auckland-Dunedin ..	4,014	580,007	21,811	99,123	315,112	6,753,112	13,330	47,491
Dunedin-Invercargill ..	319	42,840	3,026	3,920	10,608	317,730	184	486
Palmerston North-Gisborne ..	496	56,127	3,662	5,093	8,221	519,005	344	533
Gisborne-Auckland ..	413	48,070	2,690	3,064	1,990	562,210	286	186
Total ..	5,242	727,044	31,189	111,200	336,256	8,152,057	14,144	48,696

The following is a summary of traffic statistics for Union Airways of New Zealand, Ltd., for the years 1936-46:—

Year ended,	Hours flown.	Miles flown.	Passengers.	Freight.	Mail.	Passenger-miles.	Freight Ton-miles.	Mail Ton-miles.
				lb.	lb.			
31st March, 1936 ..	562	71,575	1,212	861	1,055	278,970	119	108
31st March, 1937 ..	3,000	360,140	7,192	7,160	44,184	1,623,545	772	6,394
31st March, 1938 ..	5,219	648,688	15,909	19,189	108,148	3,603,747	2,156	14,222
31st March, 1939 ..	7,364	922,475	25,119	40,366	190,397	4,907,471	4,505	23,316
31st March, 1940 ..	5,821	766,740	22,113	48,508	141,136	4,515,606	5,990	16,797
31st March, 1941 ..	2,271	322,249	10,370	23,176	73,455	2,638,580	2,728	9,574
31st March, 1942 ..	2,711	394,520	12,035	28,059	109,158	3,363,320	3,339	14,960
31st March, 1943 ..	2,737	387,500	11,990	42,504	163,703	3,351,675	4,596	21,244
31st March, 1944 ..	3,140	461,509	15,213	50,852	172,002	4,815,115	6,278	26,482
31st March, 1945 ..	3,942	609,475	23,501	92,269	225,327	7,368,383	12,492	40,155
31st March, 1946 ..	5,242	727,044	31,189	111,200	336,256	8,152,057	14,144	48,696

Aircraft used for the operation of services on these routes were—

Lockheed Lodestar	..	..	..	1
Lockheed Electra	..	..	..	3
D.H. 86 Express Liner	..	..	..	1

(One additional Lockheed Lodestar and a Hudson were in use for training purposes.)

On 13th May, 1945, Lockheed Lodestar ZK-AHU was destroyed by fire. A replacement Lodestar Aircraft was in service in August, 1945.

The following licenses were held at 31st March, 1946, by Union Airways staff:—

Pilot's "B" Licence	..	..	..	28
Second-class Navigator's Licence	..	..	..	7
Radio Operator's Licence—				
First Class	..	..	..	1
Second Class	..	..	..	2
Third Class	..	..	..	21
Temporary	..	..	..	2
Aircraft Engineer's Licence..	..	..	..	34

(2) Cook Strait Airways, Ltd.

The arrangement whereby Union Airways of New Zealand, Ltd., and Air Travel (N.Z.), Ltd., had operated the services of Cook Strait Airways, Ltd., under charter since the taking over of that company's equipment after the outbreak of war was continued during the year ended 31st March, 1946.

Route frequencies were as follows:—

(a) Operated by Union Airways of New Zealand, Ltd.:—

Route	..	..	..	Nelson—Wellington—Blenheim.
Route-miles	..	..	..	132.
Frequency	..	..	..	Wellington—Blenheim thrice daily in each direction, except Sundays. Wellington—Nelson twice daily in each direction, except Sundays.

Aircraft employed on these routes were Lockheed Electras.

Traffic statistics for year ended 31st March, 1946:—

Hours flown	..	..	..	..	1,490
Miles flown	..	..	..	..	175,104
Passengers	..	..	..	..	25,782
Freight (lb.)	..	..	..	..	164,818
Mail (lb.)	..	..	..	..	46,079
Passenger-miles	..	..	..	..	1,652,618
Freight ton-miles	..	..	..	..	4,902
Mail ton-miles	..	..	..	..	1,460

(b) Operated by Air Travel (N.Z.), Ltd.:—

Route	..	..	..	Nelson—Hokitika.
Route-miles	..	..	..	163.
Frequency	..	..	..	Once daily in each direction (except Sunday).

Traffic statistics for year ended 31st March, 1946:—

Hours flown	955
Miles flown	117,410
Passengers	2,296
Freight (lb.)	17,409
Mail (lb.)	11,876
Passenger-miles	247,526
Freight ton-miles	831
Mail ton-miles	658

The following is a summary of traffic statistics for Cook Strait Airways, Ltd., for the years 1936 to 1946:—

Year ended,	Hours flown,	Miles flown,	Passengers,	Freight,	Mail,	Passenger-miles,	Freight Ton-miles,	Mail Ton-miles,
				lb.	lb.			
31st March, 1936 ..	464	58,000	3,046	3,981	710	178,487	113	36
31st March, 1937 ..	2,120	271,926	14,353	22,706	20,355	831,377	613	488
31st March, 1938 ..	3,270	409,600	20,954	40,603	38,245	1,251,379	1,238	1,043
31st March, 1939 ..	4,191	520,326	24,318	85,633	43,562	1,495,206	2,539	1,278
31st March, 1940 ..	4,087	511,723	29,072	137,615	41,756	1,899,652	4,401	1,472
31st March, 1941 ..	2,376	283,563	26,365	146,968	24,996	1,903,132	4,958	797
31st March, 1942 ..	2,191	261,831	25,707	134,507	25,743	1,663,216	4,213	754
31st March, 1943 ..	2,113	224,062	18,026	101,665	30,985	1,237,589	3,209	989
31st March, 1944 ..	2,285	267,955	21,184	115,299	44,661	1,448,227	3,649	1,423
31st March, 1945 ..	2,160	254,005	27,109	142,260	51,101	1,807,710	4,254	1,630
31st March, 1946 ..	2,445	292,514	28,078	182,227	57,955	1,900,144	5,733	248

(3) *Air Travel (N.Z.), Ltd.*

Apart from the Nelson-Hokitika service operated under charter for Cook Strait Airways, Ltd., Air Travel (N.Z.), Ltd., operated the following services:—

Route.	Route-miles.	Frequency.
Hokitika-Jackson's Bay (service terminated at Okuru from 1st January, 1946)	149	Once weekly in each direction.
Hokitika-Weheka	84	Five times weekly in each direction.
Total	233	

The public licence held by Air Travel (N.Z.), Ltd., for Jackson's Bay Airfield expired on 31st December, 1945, and was not renewed on account of the airfield being closed.

Traffic statistics for the year ended 31st March, 1946, were—

Route.	Hours flown.	Miles flown.	Passengers.	Freight.	Mail.	Passenger-miles.	Freight Ton-miles.	Mail Ton-miles.
				lb.	lb.			
Hokitika-Jackson's Bay	694	72,350	614	45,142	34,498	83,121	2,698	2,121
Hokitika-Weheka ..	160	16,226	321	381	..	22,899	12	..
Total ..	854	58,576	926	45,523	34,498	106,020	2,710	2,121

The following is a summary of traffic statistics for Air Travel (N.Z.), Ltd., for the years 1935–1946:—

Year ended,	Hours flown.	Miles flown.	Passengers.	Freight.	Mail.	Passenger-miles.	Freight Ton-miles.	Mail Ton-miles.
31st March, 1935 ..	315	31,500	595	lb. 2,637	lb. 1,841	10,000 (approx.)	120	75 (approx.)
31st March, 1936 ..	872	87,233	1,030	10,774	17,568	37,270	638	809
31st March, 1937 ..	1,018	101,800	948	13,621	45,417	54,010	638	2,438
31st March, 1938 ..	1,010	102,262	978	20,331	60,524	53,055	800	2,415
31st March, 1939 ..	672	71,177	662	28,346	75,014	67,084	1,476	4,201
31st March, 1940 ..	633	66,095	617	36,895	52,097	63,272	1,846	3,460
31st March, 1941 ..	389	39,890	288	36,792	32,355	32,110	1,899	2,184
31st March, 1942 ..	304	32,372	316	32,292	30,769	36,402	1,882	1,902
31st March, 1943 ..	726	74,391	618	30,588	25,839	66,510	1,618	1,654
31st March, 1944 ..	996	103,502	1,038	24,962	27,951	107,665	1,499	1,772
31st March, 1945 ..	1,027	102,307	1,144	37,722	36,585	123,886	2,078	2,255
31st March, 1946 ..	854	88,576	926	45,523	34,498	106,020	2,710	2,121

Aircraft operated by Air Travel (N.Z.), Ltd., were—

D.H. 83 (Fox Moth)	..	..	..	2
D.H. 89 (Rapide)	..	..	..	1
D.H. 90 (Dragonfly)	..	..	..	1

Licences held by the company's staff as at 31st March, 1946:—

Pilot's "B" Licence	..	..	..	3
Radio Operator's Licence: Third Class	..	..	..	2
Radio Telephone Licence	..	..	..	2
Aircraft Engineer's Licence	..	..	..	3

(b) OVERSEAS AIR SERVICES

Tasman Empire Airways, Ltd.

The only air carrier operating scheduled air services overseas from New Zealand during the year was Tasman Empire Airways, Ltd., on the route from Auckland to Sydney. Route details are—

Route	..	..	..	Auckland–Sydney.
Route-miles	..	..	..	1,340.
Frequency	..	..	..	Thrice weekly in each direction.

Traffic statistics for the year ended 31st March, 1946, were—

Hours flown	..	..	..	..	3,270
Miles flown	..	..	..	..	493,764
Passengers	..	..	..	..	6,100
Freight (lb.)	..	..	..	..	99,584
Mail (lb.)	..	..	..	..	214,792
Passenger-miles	..	..	..	..	8,174,000
Freight ton-miles	..	..	..	..	60,019
Mail ton-miles	..	..	..	..	128,492

The following is a summary of traffic statistics for Tasman Empire Airways, Ltd., for the years 1941–46:—

Year ended,	Hours flown.	Miles flown.	Passengers.	Freight.	Mail.	Passenger-miles.	Freight Ton-miles.	Mail Ton-miles.
31st March, 1941 ..	1,181	174,200	1,507	lb. 18,800	lb. 78,179	2,019,380	11,246	46,768
31st March, 1942 ..	1,382	211,920	1,959	32,230	167,275	2,625,060	19,280	100,066
31st March, 1943 ..	1,265	192,960	2,256	35,195	101,741	3,023,040	21,054	60,863
31st March, 1944 ..	1,502	229,140	2,924	40,024	94,106	3,918,160	23,943	56,296
31st March, 1945 ..	2,798	427,460	5,803	84,189	142,812	7,796,020	50,363	85,432
31st March, 1946 ..	3,270	293,764	6,100	99,584	214,792	8,174,000	60,019	128,492

Aircraft employed on this service were three Short S. 30 (Empire) flying-boats.

Licences held by the company's staff at 31st March, 1946, were—

Pilot's "B" Licence	13
Navigator's Licence—	
First Class	7
Second Class	7
Radio Operator's Licence—	
First Class	7
Second Class	1
Third Class	1
Aircraft Engineer's Licence	24

SECTION III.—AERO CLUBS

The majority of aero clubs operating during 1939 ceased activities shortly after the outbreak of war, when their aircraft were commandeered for R.N.Z.A.F. training and communication purposes. Three clubs, however, continued their operations on a restricted scale until December, 1941, when, after the Japanese entry into the war, all civil flying, with the exception of commercial scheduled services, was prohibited under Proclamation issued by the Governor-General. This prohibition was lifted on 24th December, 1945. An immediate resumption of club activities was not possible, chiefly due to the lack of airworthy aircraft, non-availability of accommodation at aerodromes, and the shortage of certificated instructors. However, by 31st March, 1946, the following clubs were again operating: Auckland Aero Club, Hawke's Bay and East Coast Aero Club, Middle Districts Aero Club, and New Plymouth Aero Club.

The operations of these organizations from the commencement of post-war activities to 31st March may be summarized in the following table:—

Aircraft in use	13
Pupils under instruction	80
Hours flown	676
Joy-riding trips	127
Passengers carried	127
Membership—	
Associate	562
Flying	1,138

It is expected that the number of ex-service personnel who can readily qualify for private pilots' licences will greatly augment the amount of flying which would normally be carried out by clubs during the next twelve months, while the availability of aircraft surplus to R.N.Z.A.F. requirements should assist clubs to build up fleets capable of coping with the increased demand for solo hire and for meeting the expected requirements for *ab initio* training.

OTHER FLYING

(1) *Air Mapping*

Only one company (N.Z. Aerial Mapping, Ltd., with headquarters at Hastings) has been engaged solely on aerial photograph and survey during the year. The company operates two aircraft—a Beech A.T.-11 and a Monospar S.T.-11.

(2) *Privately-owned Aircraft*

Although there are nine privately-owned aircraft on the Civil Register, only two of these were in operation during the period under review. No accurate record of flying-hours is available in respect of these aircraft.

SECTION IV.—AERADIO SERVICES

While it is recognized that the wartime arrangements were of an interim nature, it has not yet been possible to develop and implement a complete peacetime organization. At present, therefore, the operation of the ground facilities is shared by the Post and Telegraph Department and the Royal New Zealand Air Force, and most of the construction and maintenance work continues to be performed by the Post Office. The Aeradio Committee has continued its function of co-ordinating the various interests concerned, and has also effected a collaboration, where necessary, with the Island Territories Department in regard to radio facilities required for air services in Rarotonga and Western Samoa. Within the structure of the existing organization certain improvements and extensions to radio facilities have been planned and carried out. These are referred to under separate headings below :—

RECONSTRUCTION OF EXISTING RADIO STATIONS

To meet the greater demands being placed on aeradio services, it has been necessary to extend the building accommodation and the plant facilities at the civil aerodromes throughout the country. The first station to be reconstructed was that of Taieri, and during the present year New Plymouth aeradio was similarly reconstructed. Plans are at present well advanced for the reconstruction of an additional seven stations.

NAVIGATIONAL AIDS FOR INTERNAL AIR ROUTES

After considerable study, it was decided in June last to proceed with a limited programme for the equipment of New Zealand's internal air routes for radio navigation by means of medium-frequency radio ranges. This is a standard and well-tried system used extensively in other countries, and while it is recognized that post-war developments may eventually supersede it, it is nevertheless considered a highly desirable acquisition for use in the immediate future. Equipment for three stations has been purchased from the United States, and arrangements for an initial installation at Christchurch are well advanced. Similar installations near Wellington and at New Plymouth will complete the initial construction programme. It is anticipated that this chain of three stations, together with an existing similar installation at Whenuapai, will provide a definite advance in the provision of radio-navigational facilities for civil airlines in New Zealand.

DIRECTION-FINDING SERVICES

Pending the availability of more modern systems of air navigation, the fourteen medium-frequency direction-finders installed throughout New Zealand continue to fulfil a useful function. By collaboration between the Post and Telegraph Department and the Royal New Zealand Air Force, they have been maintained at a high standard of accuracy. In view of past difficulties due to site irregularities with the high-frequency direction-finders at Musick Aeradio, Auckland, an additional installation has been made at Waiuku. This location has been chosen in order to obtain high soil conductivity, which should permit of more stable operation and more reliable results than have been available from Musick Aeradio.

The Royal New Zealand Navy has now relinquished the use of their high-frequency and medium-frequency direction-finders at Waipapakauri. These installations have been handed over to this Department, and their availability will permit of a more continuous service and greater reliability for direction-finding in connection with overseas aircraft near the northern portion of New Zealand. The naval high-frequency direction-finder at Awarua has similarly

been made available for air-navigation purposes, thereby increasing the aeradio resources in the southern area and allowing a more continuous service, interruptions for maintenance being avoided.

FANZARO ORGANIZATION

The Fanzaro organization details the radio and meteorological arrangements for overseas flying to the north and west of New Zealand. It was brought into effect in July last. In general, the organization embraces and extends a somewhat similar organization set up some years ago to cover trans-Tasman flights. It is functioning very satisfactorily, and has been the basis of further plans which are expected to develop in regard to overseas flying in the future.

RADIO LICENSING AND AIRWORTHINESS

The policy previously established in regard to the control of aircraft has been continued during the year, and it appears that the organization will meet the growing requirements of the industry.

Nine inspections of aircraft radio installations were carried out during the year, and, in general, the standard of workmanship was good. In some cases slight modifications were necessary, but in all cases certificates of airworthiness were granted.

There were thirty cases of the failure of aircraft radio equipment, and, where necessary, steps were taken to ensure that the contributory causes were eliminated.

Four candidates offered themselves for examination for Aircraft Engineers' Licences in Category X, Section VII, and in all cases were successful. During the year the Class II Licence relating to inspection during manufacture of aircraft radio equipment was abolished in order to conform with current overseas practice.

Visits were made to Auckland, Palmerston North, and Hokitika for the purpose of checking up on the maintenance facilities provided by the three operating companies.

SECTION V.—AERODROMES AND RELATED GROUND FACILITIES

During the war period 1939 to 1945, when civil flying was suspended entirely except for severely reduced commercial air services between main centres, all civil aerodromes were taken over temporarily by the Government, and the responsibility for their upkeep and functioning assumed by Air Department. This position continued throughout the financial year 1945-46 now under review. The following aerodromes were used as temporary Air Force stations: Waipapakauri, Onerahi (Whangarei), Mangere, Rukuhia (Hamilton), Tauranga, Rongotai (Wellington), Nelson, Omaka (Blenheim), Harewood (Christchurch), Gisborne, New Plymouth, Milson (Palmerston North), Masterton, Levin, Ashburton, Taieri (Dunedin).

A number of smaller fields were also used as satellite airfields by R.N.Z.A.F.

All the above fields had reverted to civil aviation control and responsibility before 31st March, 1946, with the exception of Rukuhia, New Plymouth, Nelson, Harewood, and Taieri, which will revert during 1946. The following aerodromes were used by commercial services during the same period: Mangere, Milson, Rongotai, Gisborne, Napier, Omaka, Nelson, Harewood, Taieri, Westport, Greymouth, Hokitika, Waiho, Weheka, Haast, Mussel Point, Jackson's Bay, and Invercargill.

Jackson's Bay aerodrome was closed and abandoned during the course of the year.

Although all regular peacetime aerodromes were kept open and were available for use for purposes of R.N.Z.A.F. or in emergency, the majority were virtually on a care and maintenance basis with expenditure on maintenance kept to a minimum consistent with the use made of them or to prevent deterioration of the surface and established turf. Opportunity was taken, however, to proceed with the improvement and establishment of a satisfactory hard-wearing turf on those aerodromes known to have post-war value for commercial air services. The Public Works Department undertook and carried full responsibility for the administration and maintenance of all aerodromes not under direct R.N.Z.A.F. control.

Due to wartime Air Force requirements, quite a number of normal civil aerodromes were extended and improved. These improvements will be of considerable future value for civil aviation purposes, and the extensions will, in practically every case, be incorporated and retained in the aerodrome concerned. The following airfields were extended during the war period: Mangere, Tauranga, Milson, Rongotai, Harewood, Taieri, Westport, Rukuhia, Gisborne, Masterton, Nelson, Ashburton, and Haast.

The following new airfields, constructed during the war period, are being retained for future civil aviation purposes: Kaitaia, Kaikohe, and Waharoa.

During the financial year under review, 1945-46, no developmental works were in hand on civil aerodromes. Planning and the preparation of proposals for the improvement of civil aerodromes to modern standards was commenced as soon as the war situation ceased. Little progress is expected in actual construction until after the newly-constituted New Zealand National Airways Corporation has been formed, is functioning, and has recommended and received approval as to the future internal air services it is to operate throughout New Zealand. It is apparent that there is much work to be done to bring civil aerodromes to the standard required for the types of modern aircraft that it is anticipated will operate on these routes.

Government having decided that the R.N.Z.A.F. station, Whenuapai, is to be utilized in the interim period as the International Overseas Airport of New Zealand for overseas commercial air services operated with land based aircraft, arrangements to that end have already been made with Air Force. Temporary accommodation has been provided for the handling of civil airline passengers, and is to be erected for the technical and administrative staffs. Further development is necessary to provide adequately for the efficient functioning of airport terminal facilities. The flying-boat base at Mechanics Bay, which functioned throughout the war period, continues to handle the commercial air services to Australia, conducted by Tasman Empire Airways, as well as serving a similar function for marine aircraft of the R.N.Z.A.F. and allied naval services.

Although the newly-constructed airstrip at Rarotonga, Cook Islands, was the only aerodrome in the Pacific operated and maintained by New Zealand on a civil basis during the period, much preparatory work has been undertaken toward the taking-over from the United States Occupation Forces of airfields developed during the war at Faleolo, Western Samoa, and at Aitutaki, Cook Group. Similarly arrangements are in train to assume the responsibilities and commitments agreed to at the Civil Aviation Conference, Wellington (1946), whereby New Zealand undertook to provide in the Colony of Fiji the technical advice, direction, and development and maintenance of civil aerodromes and related facilities to be utilized on International trans-Pacific and South Pacific Regional Air Services.

The number of aerodromes licensed on 31st March, 1946, was less than on the corresponding date in 1939 prior to the outbreak of war. This is due to the fact that the majority of airfields in use by civil operators have not yet been returned to the original owners, and as they are directly under the control of the Civil Aviation Branch they have been made available for use by special permission of the Minister of Defence in terms of Regulation 7 (i) of the Air Navigation Regulations 1933. The total number of licensed fields at 31st March, 1946, was sixteen; twenty-three airfields were available under Ministerial approval, and two R.N.Z.A.F. stations, which have been designated as Customs aerodromes—Whenuapai and Mechanics Bay—are used by overseas civil aircraft.

SECTION VI.—AIRCRAFT

There has been an appreciable increase in the number of aircraft on the Civil Register during the year, due, in the main, to the disposal of surplus Service aircraft. Additions to the Register comprised two Lockheed Lodestar (C. 60), one Lockheed Hudson, one Rearwin, one Miles Whitney Straight, and twenty-one Tiger Moths.

The three Lockheed aircraft were purchased by Union Airways of New Zealand, Ltd., the Lodestars for use on the Main Trunk routes, and the Hudson for training.

On the 31st March, 1946, there were fifty-four aircraft on the Civil Register, comprising the following types:—

D.H. 82 Tiger Moth	..	18	Beechcraft A.T. 11	..	1
D.H. 60 Moth	..	3	Rearwin	..	1
D.H. 90 Dragonfly	..	1	Short S. 30 flying-boats	..	2
D.H. 89 Rapide	..	1	Percival Proctor	..	1
D.H. 86 Express Airliner	1		Tui (locally built)	..	1
D.H. 82 Fox Moth	..	2	Heath Parasol (locally built)	1	
Lockheed 10A	..	3	Fleet 7B	..	1
Lockheed Lodestar	..	2	Avro Avian	..	2
Lockheed Hudson	..	1	Pour de Ciel	..	3
Miles Whitney Straight	..	2	Monocoupe	..	1
Monospar S.T. 25	..	1	Desoutter	..	1
Piper Cub	..	4			

Of the total fifty-four shown, thirty-two were in possession of current Certificates of Airworthiness, the remainder being stored pending the resumption of activities by aero clubs.

The cessation of hostilities rendered surplus to Royal New Zealand Air Force requirements a number of Tiger Moth aircraft, as well as a number of other civil-type aircraft which had been acquired from aero clubs and private owners on the outbreak of hostilities. In accordance with the procedure for disposal of surplus war assets, these aircraft were declared to the War Assets Realization Board for disposal. It was agreed that previous owners should be given the opportunity of first refusal on their respective aircraft.

After the cessation of hostilities attention was directed to the resumption of aero club flying activities, a pre-requisite being the replacement of club aircraft taken over for war purposes. The immediate requirement was for training aircraft, and the surplus Tiger Moth aircraft, which type was the

standard elementary trainer used by the Royal New Zealand Air Force, provided the only suitable source of supply. In recognition of the value of aero clubs as a national asset, the Government agreed to recondition a number of these aircraft for sale to aero clubs at the price of £450 each, as well as to provide aircraft to discharge the Government's obligation to replace fifteen gift aircraft which had been taken over from clubs.

The following is a summary of aircraft disposed of up to 31st March, 1946:—

Tiger Moth aircraft—	
Sales to aero clubs	15
Supplies in replacement of gift aircraft ..	6
Rearwin aircraft—	
Sale to private owner	1
Whitney Straight—	
Sale to aero club	1
Total disposals	
	23

It is expected that more than 100 aircraft, mostly Tiger Moths, will be released by the R.N.Z.A.F. for sale through the War Assets Realization Board to aero clubs and private purchasers.

SECTION VII.—AERONAUTICAL ENGINEERING SECTION

SURVEY OF AIRCRAFT FOR CERTIFICATES OF AIRWORTHINESS

During the period under review the volume of work has increased considerably, due to transfer of military aircraft to civil registration. In this connection twenty-five aircraft were reconditioned to civil airworthiness standards. A further twenty-one aircraft were surveyed and certificates of airworthiness renewed.

AIRCRAFT ENGINEERS

The syllabus for aircraft engineers' licences has been modified to conform more closely to Air Registration Board standards, and the examinations, which in the past have been wholly oral, are, under the new requirements, both written and oral.

TECHNICAL INVESTIGATIONS

In conjunction with the technical adviser to the acting Controller of Civil Aviation and the Director of Air Transport, R.N.Z.A.F., investigations were made into the connected take-off and landing-runs for D.H. 89 aircraft, and data was obtained from which the usability of airfields for this type could be determined. Questions relating to the approval of modifications associated with the conversion of Dominie aircraft from service to civil category were also examined in detail.

Twenty miscellaneous technical investigations were carried out in connection with civil aircraft and other aeronautical equipment.

“APPROVED” FIRM SYSTEM

To provide that basic requirements for safety will be satisfied, the approved-firm system has been continued. This, in effect, means that, to ensure the use of correct materials and to establish that all aeronautical work complies with the standards of quality and accuracy, firms engaged in such work must employ an approved system of storage, recording, and inspection. The conditions laid down in this respect by Civil Aviation Branch are

contained in "New Zealand Civil Airworthiness Requirements," leaflet P. 22. With the operation of the scheme it is anticipated that the rate of serviceability of civil aircraft will be increased.

MODIFICATIONS AND REPAIR SCHEMES

Sixty-five Modification and Repair Schemes submitted by operators and other aeronautical organizations were inspected and approved.

EXAMINATION OF LICENSED AIRCRAFT ENGINEERS

During the period under review thirty-three examinations were carried out.

STAFF

The staff of the section comprised a Chief Aeronautical Engineer, Administration Engineers, and Aeronautical Engineer at headquarters, while District Surveyors were established at Auckland and Palmerston North. The balance of work with which the Aeronautical Engineering Section has had to deal since the cessation of hostilities has increased very considerably, and additional Surveyors and Assistant Surveyors will shortly be required to cope with field surveys and inspections, while Engineering Officers will be needed at headquarters to handle the associated technical problems.

SECTION VIII—ACCIDENTS

Investigation of accidents for both the Civil Aviation Branch and the R.N.Z.A.F. is undertaken by an officer specially appointed to the staff of the Air Department for these duties.

No major accidents were reported during the year, although minor mishaps were suffered by three commercial and one club aircraft. No personnel were injured in any of these incidents.

A further machine was destroyed when a Lockheed Lodestar aircraft from Union Airways hangar at Mangere Aerodrome was removed after activities for the day had ceased and an endeavour was made to take-off. The aircraft crashed and was totally destroyed by fire.

SECTION IX.—AIR TRAFFIC CONTROL AND AIR SEA RESCUE

The Air Traffic Control and Air Sea Rescue Service is operated and manned by the R.N.Z.A.F., but the organization also functions on behalf of civil aviation and covers all aircraft, whether civil or Service, and irrespective of nationality.

A comprehensive and detailed report, which included proposals for administration, organization, staffing, and salaries, &c., was prepared and submitted in February, 1946.

With the cessation of hostilities flying for a period decreased, but as conditions have become more stabilized general traffic figures show a gradual increase. The cessation of hostilities has, on the whole, had little effect on air traffic control requirements such as staffing, training, &c., due in part to the fact that, with the withdrawal of American military Forces from the South Pacific, much of the control exercised by those Forces has been taken over by the New Zealand organization.

Control centres operate at Auckland and Wellington, and a new Control Centre has been established at Christchurch.

The Control Centre at Norfolk has been reduced to an emergency basis, while that at Fiji has had added to its area of responsibility New Caledonia and north to Canton Island.

Control at airfields has remained substantially the same, with the exception that on most fields only daylight hours are worked.

The Air Sea Rescue organization was last year called upon to search for a number of small surface vessels in distress. It also provided assistance to one transport aircraft *en route* to Australia, and searched for a number of missing aircraft.

With the reduction of activities in the R.N.Z.A.F. since the cessation of hostilities, the availability of aircraft for rescue purposes has been more limited. The present equipment comprises one Catalina at Lauthala Bay, Fiji, and one at Hobsonville, and airborne lifeboats at Whenuapai, Ohakea, and Norfolk Island.

It is expected that during the forthcoming year approval will be obtained in respect of proposals for a control organization on a civil basis which will serve the needs of all traffic in New Zealand and in the Pacific Islands, while there will also need to be provided search and air rescue facilities based on the international scheme proposed by the Provisional International Civil Aviation organization. The functions of both control and search and air rescue sections will form part of the basic organizations governing these activities ultimately prescribed by P.I.C.A.O. for the South Pacific regional route services.

SECTION X.—LICENSING

The Licensing Division is responsible for the issue and renewal of the following licences under the provisions of Air Navigation Regulations 1933, and where applicable, in the form and manner prescribed by the Convention for the Regulation of Aerial Navigation:—

Aircrew—

Pilots' "A" (Private) Licences.

Pilots' "B" (Commercial) Licences.

Navigators' (1st and 2nd Class) Licences.

Aircraft Radio Telegraph (1st, 2nd, 3rd Class, and Temporary) Licences.

Aircraft Radio Telephone Licences.

Flying Instructors Authorities.

Engineers: Aircraft Engineers' Licences (in five Categories—"A," "B," "C," "D," and "X" in seven subdivisions).

Equipment—

Certificates of Registration.

Certificates of Airworthiness.

Aerodrome Licences (Public and Temporary).

During the war period and in the first six months of the current year the number of licences issued was restricted, as would be expected, but on the termination of hostilities there was a considerable demand, particularly for "A" Licences and "B" Licences from recently demobilized aircrew personnel. The resumption of aero-club activities also contributed a large quota of applications for renewal.

Licences issued annually during the period 1938–1946 are shown in the following table, while those current at 31st March, 1946, are shown in parentheses:—

Licence or Certificate.	1938–39.	1939–40.	1940–41.	1941–42.	1942–43.	1943–44.	1944–45.	1945–46.
PERSONNEL								
Pilot's "A" Licence	205	86	30	30	3	..	1	224 (264)
Pilot's "B" Licence	26	20	4	2	4	5	3	44 (91)
Navigator's Licence	2	9	6	4	..	8	5	14 (26)
Radio Telegraph Licence	..	..	..	..	..	17	9	30 (41)
Radio Telephone Licence	..	..	..	..	..	5	4	1 (3)
Aircraft Engineer's Licence	16	11	8	9	5	19	19	9 (86)
AIRCRAFT								
Certificates of Airworthiness	9	5	3	2	1	3	3	13 (28)
Certificates of Registration	22	5	9	2	3	3	3	26 (54)
AERODROME LICENCES								
Public	5	1	..	..	..	1	..	15 (15)
Temporary	12	4	5	..	6	1	2	1 (1)

EXAMINATIONS

The following examinations were conducted during the year:—

(a) *Pilot's "B" Licence*—

Number of examinations	..	..	..	5
Number of candidates	..	..	..	184
Passed	..	..	..	123
Failed	..	..	..	61

(b) *Second-class Navigator's Licence*—

Number of examinations	..	..	..	2
Number of candidates	..	..	..	7
Passed	..	..	..	4
Failed	..	..	..	3

(c) *First-class Navigator's Licence*—

Number of examinations	..	..	..	2
Number of candidates	..	..	..	8
Passed	..	..	..	6
Failed	..	..	..	2

The number of licences issued to successful examination candidates is detailed hereunder:—

Pilot's "B" Licence	..	..	..	40
Second-class Navigators	..	..	..	4
First-class Navigators	..	..	..	6

(d) *Aircraft Engineers Examinations*.—The following examinations were conducted in Palmerston North, Auckland and Wellington:—

Category "A"	..	..	..	15
Category "B"	..	..	..	1
Category "C"	..	..	..	10
Category "D"	..	..	..	1
Category "X"	..	..	..	6

As a result of the examinations which were held during the year 11 candidates were successful in obtaining new licences, while 16 obtained extensions to existing licences.

(e) *Aircraft Radio Operators' Licences*.—Aircraft Radio Telephone and Telegraph Licences are granted on production of evidence from the Post and Telegraph Department of technical and theoretical qualification to standards laid down by the International Convention for Aerial Navigation and the Telecommunication Convention, and on applicants submitting satisfactory proof of having completed the requisite air experience.

During the year opportunity was taken to amend the examination syllabus and general requirements for the issue of First- and Second-class Navigators' Licences and Aircraft Engineers' Licences. The standard of these licences now conforms to that in force in other Commonwealth countries. Consideration was also given to the question of devising instrument-flying standards for pilots engaged in commercial aircraft services, and, although no definite requirements have yet been laid down, it is anticipated that syllabi for Category "A" and "B" instrument ratings will be promulgated before the end of 1946.

During the twenty-eighth session of the International Commission for Air Navigation held during August, 1945, Annex E to the Convention, which prescribes the requirements for aircrew personnel, was suppressed and was not replaced. However, the Commission drew up a draft Annex E, which, although not obligatory, was recommended for adoption by contracting States. It is not proposed to translate the recommendations into the Air Navigation Regulations because of the short time which will elapse before the acceptance of P.I.C.A.O. standards. Consideration is, however, being given to the advisability of modifying the present Pilot's "B" Licence to provide for a higher standard of technical and operational qualification in the case of pilots engaged on scheduled air services. Such modification would follow the general requirements prescribed for the Air Transport Pilot's Licence provided for in the new draft Annex E.

SECTION XI.—METEOROLOGICAL SERVICES

Meteorological services for civil aviation continued to be provided by the Directorate of Meteorological Services under the arrangement established during the war period. The facilities which will be necessary to meet internal and overseas requirements are at present under consideration.

I have, &c.,

J. M. BUCKERIDGE,

Acting Controller of Civil Aviation.

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