

1937.
NEW ZEALAND.

DEFENCE FORCES OF NEW ZEALAND.

ANNUAL REPORT OF THE GENERAL OFFICER COMMANDING NEW ZEALAND
MILITARY FORCES.

Presented to both Houses of the General Assembly by Command of His Excellency.

REPORT.

The Hon. the MINISTER OF DEFENCE.

Wellington, 31st July, 1937.

SIR,—

I have the honour to submit the following report on the New Zealand Military Forces for the period 1st June, 1936, to 31st May, 1937. During this period I have been only two months in command, but it has become even more apparent to me that the success of a voluntary system of defence depends largely on the support and encouragement it receives from the Government, the employers, and the general public. Without this support it can never reach a high standard of efficiency, and unless this standard is attained uneconomic expenditure is involved.

1. ARMY REORGANIZATION.

On assuming command of the New Zealand Military Forces on the 1st April, 1937, I was instructed to prepare a comprehensive report for their reorganization. This report was placed before the Government on the 8th May, 1937. It is designed to bring the organization of the Territorial Force in line with the numbers likely to be available under voluntary enlistment.

Since the introduction of voluntary service in 1930, there has been difficulty in finding adequate numbers to fill the establishment. The organization then in force was on a divisional basis. There was a complete Infantry Division, together with three brigades of Mounted Rifles.

When compulsory military training was in force there was no difficulty in filling these establishments, and there was always an ample number of officers, N.C.O.s, and men to enable units to carry out their training at full strength.

The strength of the Territorial Force is 7,900, and the attempt to carry out realistic training with such small numbers in a divisional organization has led to unreal situations, and has been discouraging to the officers and N.C.O.s with so few men to lead. It is also discouraging to the men themselves.

To sum up, the Mounted Rifles Regiments, with a full strength of officers and N.C.O.s, have only a strength in rank and file equivalent to squadrons, and the Infantry Battalions are equivalent only to companies, in some cases less.

I have therefore recommended that establishments be reduced from a divisional to a brigade basis as far as the Field Force is concerned.

Fortress Troops, however, will remain with a full establishment as at present. The difficulty of obtaining sufficient numbers to complete the establishments of such units will be overcome by enlisting men at each of the defended ports for a three months' period of regular service, followed by attendance at three successive annual camps of ten days' duration.

As the Territorial Force must be prepared in an emergency to expand rapidly to its original divisional establishments, the identity of all units has been preserved although their establishments have been reduced to squadrons, companies, &c. I intend to concentrate in peace on the training of the necessary number of leaders to enable this expansion to take place in the event of a national emergency. All officers and N.C.O.s surplus to the reduced establishments will be given annual courses of instruction.

Other proposals include —

- (a) Twenty days' annual training with pay, against the present twelve days :
- (b) Establishment of an Army School of Instruction for training of regular personnel, and a School of Instruction in each Command for the training of Territorials of all ranks :
- (c) Provision of a pool of M.T. in each Command to facilitate field training in suitable areas :
- (d) Motorization of all units (except Mounted Rifles) for annual camps :
- (e) Provision of a motorized cavalry regiment :
- (f) Modification of the system of cadet training.

2. REGULAR FORCES.

(a) STRENGTH.

The strength of the Regular Forces is shown in Appendix I (a).

(b) COMMANDS.

Major-General Sir William L. H. Sinclair-Burgess, K.B.E., C.B., C.M.G., D.S.O., relinquished the appointment of G.O.C. on 31st March, 1937, and was succeeded on 1st April, 1937, by Major-General J. E. Duigan, C.B., D.S.O., Officer Commanding, Northern Command.

Lieut.-Colonel (temporary Colonel) R. Miles, D.S.O., M.C., R.N.Z.A., was appointed Officer Commanding, Northern Command, on 1st April, 1937.

(c) MILITARY EDUCATION.

In future it is the intention to take advantage of vacancies allotted to New Zealand at the Staff Colleges. Colonel E. Puttick, D.S.O., N.Z.S.C., is attending this year's course at the Imperial Defence College, but at present there are no New Zealand Officers at either Camberley or Quetta.

The question of the reintroduction of exchanges with Australia is under consideration.

There are many short courses affecting the various arms of the Service which it would be impossible to hold in New Zealand with the small numbers involved. To overcome this, representations have been made to Australia, and arrangements are in train for Officers and N.C.O.s to attend suitable courses in the Commonwealth.

It has been the policy for some years now to train the future Officers of the Regular Forces at the Royal Military College of Australia. Five cadets were entered this year making, at the College, a total of twenty New Zealand cadets.

Squadron Leader S. Wallingford, R.N.Z.A.F., is now attending the Royal Air Force Staff College, Andover, and Squadron Leader A. de T. Nevill, R.N.Z.A.F., after completing the 1935 course at Andover and a series of attachments to Royal Air Force Units, returned to the Dominion at the end of last year.

(d) CASUALTIES.

During the year forty "other ranks" left the Regular Forces. Of these no less than twenty-eight purchased their discharge, and another six were discharged at their own request on completion of their term of enlistment. This wastage is attributable to the more attractive conditions of employment in civil life. For this reason four of these men left to join the Police Department, where the rates of pay are considerably higher.

It is obviously uneconomic to train men as soldiers only to lose them almost immediately. The solution to this problem lies in improving the rates of pay and conditions of service in the Regular Forces. This matter, however, is under consideration.

Normal casualties consisted only of two retired on superannuation, two transferred to the Civil Staff, and two recruits discharged as not likely to become efficient.

3. TERRITORIAL FORCE.

(a) COMMANDS.

To those Officers who have handed over command during the past year, I take this opportunity of expressing my appreciation of the work they have done.

(b) STRENGTHS OF UNITS.

The figures are given in Appendix I (b), and show a definite decrease. This is not surprising, and until it is publicly recognized that the work of the Territorials is of national importance, it is unlikely that any improvement will take place.

The postings to the Reserve during the year were approximately 3,000, but many of these men have attended few parades and no annual camps. They are, therefore, quite untrained and have no potential value in an emergency. This wastage is a serious factor in lowering the efficiency of the Forces generally. Although the volunteer on joining up signs a contract to serve for three years, he has little inducement except personal enthusiasm to fulfil this agreement, and the machinery to enforce it has not been used.

Proposals have been put forward in my reorganization scheme to cope with this difficulty.

(c) CADETS.

The Cadet units at secondary schools continue to show commendable enthusiasm, and have maintained the improvement reported last year. The strength of the Cadet Force is over 15,000. The 376 schoolmasters who hold commissions in the Territorial Force give valuable assistance in training the Cadets at their respective schools.

I am not in favour of Cadets carrying out specialist work, such as artillery or machine-gun training, and I propose that, in future, Cadet training should be concentrated on physical culture and drill, first-aid, and rifle-shooting for boys over fifteen years of age. Senior boys will also be taught such useful subjects as the use of the magnetic compass and map-reading.

The New Zealand results for the Imperial Challenge Shield Competition were once again very satisfactory, and reflect great credit on both the Instructors and the Cadets who took part. With South Africa, New Zealand leads the Empire in the proportion of entries to population.

The trophy presented by the late Admiral of the Fleet, Earl Jellicoe, was won by St. Patrick's College, Silverstream.

4. TRAINING.

(a) REGULAR FORCES.

Training at General Headquarters Training Depot has been continuous throughout the year. This depot is a school of instruction for regular personnel.

A draft of fifty-seven recruits for the Royal New Zealand Air Force carried out elementary training from November to March, followed by a month's instruction in aero engines and rigging.

Thirteen Non-commissioned Officers and Gunners of the R.N.Z.A. entered the depot in May to undergo a qualifying course for transfer to the N.Z. Permanent Staff as instructors.

During the year twenty-one Regular Force recruits, who had completed training, were posted to the R.N.Z.A., and nine to the New Zealand Permanent Staff. The latter have been employed as assistant instructors with Air Force recruits and with the present draft of Army recruits.

Apart from short courses, financial restrictions have limited combined instruction for the Regular Forces to the annual fourteen days' refresher course held in each Command. Attention was concentrated on the problems of local defence, particularly of the fortress areas. All tactical exercises studied dealt with this subject. The results were valuable, and will be used for wider study during the ensuing year.

Tactical instruction included a "telephone battle" employing radio telephony. This advanced training was followed with great interest, particularly as it can be applied locally for winter exercises with Territorial Force Officers and N.C.O.s.

(b) TERRITORIAL FORCE.

There is little to add to the remarks of last year on this subject.

Again, with few exceptions, attendances at annual camps were disappointing, and, while there were local difficulties due to the infantile-paralysis epidemic, the basic reasons for the small numbers undergoing annual training remain unchanged.

In many cases shorter working-hours have made it more difficult for employers to release their staffs, and increased wages have widened the gap between the average man's civilian pay and the remuneration he receives while undergoing military training.

Despite the handicaps of small numbers and limited training-equipment, valuable work was done by most units. This often dealt with actual problems which the unit might be called upon to carry out in war.

The employment of motor transport in various trials is referred to elsewhere. It added an invigorating influence and a modern aspect to the training.

In the Northern Command a brigade camp was held at Rotorua for the four infantry battalions. Although interrupted by bad weather, several brigade exercises were carried out, to the benefit of the commanders, staffs, and troops concerned.

Both in preliminary instruction and during their annual camps, the majority of units in the Central Command concentrated on tactical exercises based on local defence. With the infantry, motor transport was utilized to advantage.

A successful combined camp was held by Southern Command in Dunedin in May, 1937, for the Otago Mounted Rifles, the 12th Field Battery, the 14th Medium Battery, the 1st Battalions of the Otago and the Southland Regiments, and a detachment of the New Zealand Army Service Corps.

During the camp tactical training was based on the defence of Dunedin against attack from the sea, culminating in a combined operation in which the R.N.V.R. (Otago Division) and the R.N.Z.A.F. participated.

The success of the exercise was partly due to the enthusiastic co-operation of radio amateur associations, broadcasting-stations, and post-offices, all of which assisted in providing a complete and efficient system of communication. The operation was followed with great interest by the general public, thus demonstrating the value of stimulating local interest in the practical work of the Territorial Force.

Courses of instruction for Officers and N.C.O.s were again held without pay. Attendance was therefore often a matter of considerable sacrifice, which Territorials should not be asked to make.

(c) CADET FORCES.

The infantile-paralysis epidemic led to the cancellation of most courses of instruction for Cadet units, and to the curtailing of the general-training programme.

New Zealand Cadets have always been noted for their rifle-shooting. Once again they performed well in the various competitions which are held throughout the Empire.

5. MECHANIZATION.

Successful transportation in war has always been based on the efficient employment of civil resources. To-day the Army is dependent on the motor industry for its mobility.

There is an ample supply of commercial vehicles in New Zealand to equip all units of the Territorial Force with the additional cars and lorries required on mobilization. Some of these will need slight modification, which can be carried out locally.

(a) ARTILLERY MECHANIZATION.

During the year trials have been carried out with a view to solving the problems attendant on the mechanization of field and medium artillery. Three aspects have to be considered :—

- (1) Gun-wheels intended for traction by horse teams will not stand up to the hammering effect of travelling along a road at high speed behind a lorry.
- (2) A lorry towing a gun has only a limited cross-country capacity.
- (3) A commercial tractor which has good cross-country capacity is slow, and wears rapidly on a road.

Abroad the first problem is being solved by fitting pneumatic-tired wheels to the gun. This solution has the great advantage of allowing men and ammunition to be carried on the lorry, but the cost of conversion is high owing to necessity for a new gun-axle.

In peace-time a more economical solution is to place a gun on a lorry for road movement which will give it the requisite speed and, in addition, to carry a tractor on the same lorry for hauling the gun into battery positions which are inaccessible to the lorry. Suitable commercial vehicles can be hired when required for camp training, and sufficient are available in the country for mobilization requirements.

Trials at the artillery ranges at Waiouru and Sutton have shown that commercial six-wheeled lorries and tractors in general use throughout New Zealand are quite capable of dealing with light and field artillery in this manner.

Experiments have also been made with the carriage of ammunition in standard artillery wagons fitted with commercial lorry wheels. Although this has the disadvantage of depending on grease-lubricated direct bearings, road tests have proved satisfactory.

In carrying out these trials the motor firms concerned have placed their experience and technical knowledge at the disposal of my staff and spared no effort to make the tests as thorough as possible. I take this opportunity of expressing my appreciation of their ready co-operation.

(b) INFANTRY TRIALS.

The 1st Battalions of the Canterbury and the Taranaki Regiments carried out their annual camps this year on a fully motorized basis. Vehicles were hired locally and utilized to carry the troops to and from camp, thereby saving a substantial sum in transportation costs.

For training, all men and weapons were moved in motor transport to the most suitable ground for training within a radius of twenty-five miles of the camp. Field firing with ball ammunition was practised, and the tactical training had an atmosphere of realism, which greatly stimulated the interest of all ranks.

Speedy movement of riflemen and machine-gunners in motor transport is an important factor in our local defence, and every opportunity will be taken to exercise units in this work.

The use of motor transport instead of horse-drawn vehicles for all unit transport has been tried out successfully, and will be universally adopted in future.

It is hoped to provide in each Command a pool of lorries which will be available not only for all units but also for the normal transport work of the Army.

These vehicles will be augmented when necessary by hiring extra lorries and tractors.

(c) MOTOR-CYCLIST PLATOONS.

These sub-units were formed during the year on a scale of one to each infantry battalion.

The personnel provide their own motor-cycles for training in peace, and receive petrol and oil when engaged on military duty.

Local motor-cycle clubs have been most helpful and assisted with recruiting. So far the results have been very encouraging.

For local defence, the combination of mobility and fire-power assist greatly to meet the danger of landings on our long coast-line. For this purpose motor-cycle platoons have proved particularly useful in combination with troops moving in motor transport.

6. COAST DEFENCES.

The works for the new batteries at Wellington and at Auckland, which were sanctioned under the 1933 programme of expansion, will be ready by the end of July. The installation of the armament will then proceed, and is not a lengthy task.

7. CORONATION CONTINGENT.

The New Zealand Contingent consisted of nine officers and forty-one other ranks, selected from the Regular and Territorial Forces and from the Returned Soldiers' Association.

It left New Zealand on the 16th March by the R.M.M.V. " Rangitiki " and arrived in England on the 19th April, after an excellent voyage. Lavish entertainment was provided in the Panama Canal Zone by the American Army, and by the British Minister for Panama and Costa Rica. This hospitality was much appreciated by all ranks.

The Contingent was met at St. Pancras Station by the High Commissioner for New Zealand, and, headed by the Band of His Majesty's Grenadier Guards, marched through London to Wellington Barracks. It received a very warm welcome from the people of London. Headquarters were established at the Brigade of Guards Camp at Pirbright, where training was carried on prior to the Coronation.

On Anzac Day the Contingent paraded with the Imperial and the Australian troops at St. Paul's Cathedral for Divine Service, which was followed by the Memorial Service at the Cenotaph.

The New Zealand representatives had the privilege and honour of providing His Majesty's Guard at Buckingham and at St. James Palaces on the 11th May.

On the following day, in addition to taking part in the march, three officers were included in His Majesty's Dominion Officers' Mounted Escort, and four other ranks supplied the Mounted Escort for the Right Honourable the Prime Minister for New Zealand.

The ceremony of presenting Coronation Medals took place at Buckingham Palace on the Friday following the Coronation: the presentation was made individually by members of the Royal Family, a gracious gesture which was deeply appreciated by the recipients.

The Contingent sailed from London on the return journey on the 27th May, after a unique and impressive experience.

The unstinted and varied hospitality which was continuously shown to the New Zealand representatives was thoroughly enjoyed, although it became almost embarrassing in extent. This warm welcome is largely due to the indelible impression left on the British people by the soldiers of our Expeditionary Force, who, to quote a British newspaper commenting on the Coronation, were "first-class fighting troops in battle and gentlemen out of it."

Many of our Territorial units are allied to regiments of the British Army, and a close liaison is maintained. The Coronation was the first occasion on which Territorial representatives have been officially in the United Kingdom and their allied regiments took every opportunity to entertain them and make them feel at home.

I wish to take this opportunity of expressing my deep appreciation of the unfailing hospitality and ready co-operation shown to the New Zealand Contingent by all ranks of the British Army, and particularly His Majesty's Brigade of Guards.

8. AIR SERVICES.

(a) ROYAL NEW ZEALAND AIR FORCE.

The strength of the Royal New Zealand Air Force at 31st March, 1937, was twenty-one officers and 164 airmen, new enlistments during the period under review being seventy-three airmen. During the period eleven airmen obtained their discharge, with the object in most cases of accepting more lucrative appointments as ground engineers in civil aviation.

Air co-operation with Naval and Land Forces was provided by both Air Force Stations during the year, the flying-times involved in these exercises being twenty-two hours and 126 hours respectively. As regards co-operation with the New Zealand Division of the Royal Navy, the provision of ship-borne aircraft with the cruisers on the New Zealand Station has considerably reduced the demands for this type of work on the Air Base at Hobsonville.

At the beginning of the New Year steps were taken to implement the plan of reorganization recommended by Group Captain Cochrane and approved by the Government. The R.N.Z.A.F. Station at Christchurch was reorganized as a flying-training school to undertake the training of pilots for the Royal New Zealand Air Force and, under arrangements which were made with the Air Ministry, for the Royal Air Force.

(b) NEW ZEALAND AIR FORCE.

The strength of the New Zealand Air Force (Territorial) has remained at seventy-one officers (exclusive of the four attached officers of the N.Z. Medical Corps), which is the maximum number of pilots who can obtain a reasonable amount of annual training on the equipment available. The training consisted of a ten days' annual camp and a six days' refresher course, which were carried out by the four squadrons in rotation at Wigram Aerodrome, Christchurch, between October, 1936, and March, 1937. The attendance and flying times were as follows:—

	Officers attending.			Hours flown.
Refresher courses	44			522
Annual camp	47			798

The syllabus of training included air gunnery, photography, navigation, wireless, and bombing with 8½ lb. practice bombs.

The Air Force Band, mentioned in my previous report, has now been formed and equipped. The strength is one officer and thirty-two airmen. The band carries out weekly practices, and has performed with credit at various ceremonial parades.

(c) AIRCRAFT AND EQUIPMENT.

An additional four Avro 626 training aircraft were ordered last year, but have not yet been delivered, the delay being partly due to the inability of aircraft firms in Great Britain to meet demands.

(d) ROYAL NEW ZEALAND AIR FORCE AERODROMES.

A further 55 acres was acquired at the R.N.Z.A.F. Base, Auckland, with the object of increasing the available landing-area and of providing suitable sites for the additional technical buildings and residences. At Wigram Aerodrome, Christchurch, the two hangars, workshop block, and barracks for eighty airmen, referred to in my previous report, were completed.

(e) FORMATION OF AIR DEPARTMENT.

On the 4th November, 1936, Group Captain the Hon. R. A. Cochrane, A.F.C., R.A.F., arrived in New Zealand to advise the Government on the development of aviation. His initial report advocated a thorough reorganization and recommended that the Air Force should be organized and administered as a separate Department. This action was approved by the Government, and on the 1st April, 1937, an Air Department was formed, responsible to the Minister both for service and civil aviation.

The foregoing report on the Air Services covers the period from 1st June, 1936, to 31st March, 1937, only, after which date they ceased to be under the control of the Defence Department.

A report on civil aviation as far as it affected the activities of the Defence Department is attached as Appendix III.

I wish to express to the Director of Air Services and all ranks of the Air Force my appreciation of the efficient and willing co-operation given in the past; I feel sure that it will be equally close and cordial in the future.

ADMINISTRATIVE SERVICES.

9. ORDNANCE.

(i) CHIEF ACTIVITIES.

The personnel has been engaged throughout the year in the following activities:—

- (a) Care, preservation, turnover, and accounting for all stores, arms, equipment, and clothing held in Ordnance Depots.
- (b) Receipt and classification of clothing returned from Territorials and Cadets. Allocation of clothing for dry-cleaning and renovation, and examination on return from dry-cleaning contractors.
- (c) Examination of new clothing supplied by contractors.
- (d) Annual inspection of rifles and light machine guns on charge to Territorial Units and Cadets, and half-yearly inspection of Vickers guns.
- (e) Issue of camp equipment and training stores for camps, bivouacs, and courses of instruction throughout the Dominion, also hire of stores to various organizations.
- (f) Sales of rifles and barrels to gunsmiths, to rifle clubs, and to general public, and sales of S.A.A. to rifle clubs.
- (g) Routine issues of clothing, arms, equipment, S.A.A. and expendable stores.

No progress has been made during the year with the stripping, cleaning, and preservation of the balance of the rifles, S.M.L.E. Mark III*, held in store, and which have not been examined since receipt from the United Kingdom in 1920. Authority has been obtained, however, for the engagement of four arms-cleaners, and the work has now started.

(ii) CREDITS.

The sum of £16,573 4s. 10d. has been received as credits for the sale of rifles, ammunition, and cordite; cloth and trimmings to contractors; waste products, &c. Of this sum, the amount of £4,751 5s. 11d. represents the proceeds of sales of cloth and trimmings to contractors for use in the manufacture of Territorial clothing.

(iii) ACCOMMODATION.

The accommodation for mobilization stores at Trentham is very unsatisfactory, and I propose to have the necessary plans and specifications prepared this year for a new building, and make provision in next year's estimates for its commencement.

(iv) ARMS.

Sales to rifle clubs and the general public have continued during the year. The total value of rifles, barrels, and components sold during the year ending 31st March, 1937 was £3,166 7s., which is about £1,000 more than any previous total during recent years. These sales involve a considerable amount of work for our Armourers, but this is counterbalanced by the returns.

Four Armourer recruits were enlisted during the year, have been undergoing training, and have made good progress. In addition, two Armourer recruits for the R.N.Z.A.F. have also made satisfactory progress.

In November last, a course of instruction for all Armourers was held. This course was very successful, and should help materially to co-ordinate the work of inspection of arms throughout the Dominion.

There is a large amount of Armourers' work in arrears, but, owing to the shortage of staff, it has not been possible to undertake it.

(v) VISIT TO AUSTRALIA BY DIRECTOR OF ORDNANCE SERVICES.

The Director of Ordnance Services paid a six weeks' visit to Australia at the end of last year, as the guest of the Commonwealth Government.

During this visit he inspected the munition establishments of the Commonwealth and visited the Ordnance establishments at Melbourne and Sydney. He also carried out an investigation into the accounting-system of the Royal Australian Air Force. Much of the information obtained will be of value in the future.

(vi) WORKSHOPS.

The new instrument workshop was occupied in August, 1936, and provides greatly increased facilities for repairs.

(vii) TRAINING OF ORDNANCE OFFICERS.

Lieutenant Wallace is in England, and has completed his Ordnance Mechanical Engineer's Course. Arrangements have been made for him to attend certain other courses and undergo various attachments. He will return to New Zealand in September, 1938.

(viii) DEFENCE BUILDINGS, OFFICES, DRILL-HALLS, BARRACKS, ETC.

Considerable expenditure on maintenance is essential at the earliest possible date. The necessary information has been collected, and the work will be put in hand as soon as money is available.

(ix) NEW WORK.

In addition to the proposed new mobilization store at Trentham, extra magazine accommodation is necessary. Preliminary work on this matter is now in hand and provision will be made in next year's Estimates for an amount to cover this item.

10. FINANCE.

For the financial year ended 31st March, 1937, a net sum of £631,336 was voted for Defence purposes, made up of £424,703 for the Land Forces, and £206,633 for Military and Civil Aviation.

The expenditure in the financial year amounted to £585,184, reduced by credits-in-aid to £560,017, apportioned as follows, the previous year's figures being shown in parentheses :—

	£	£
Land Forces	427,635	(378,181)
Military Aviation	110,808	(160,773)
Civil Aviation	21,574	(13,171)

It will be seen that the expenditure on the Land Forces was £3,032 in excess of the vote, due principally to the payments on account of gun ammunition exceeding the sum provided for the purpose. On the other hand, both Military and Civil Aviation absorbed less than was anticipated, the former service being under-expended in the sum of £77,914 and the latter in the sum of £140.

This under-expenditure was accounted for by the holding-up of the aviation building programme, and by the fact that orders for the purchase of aircraft were postponed, pending the report by Group Captain the Hon. R. A. Cochrane, A.F.C., R.A.F., which was not submitted until December, 1936.

The commitments brought forward on the 1st April, 1936, from the previous year, representing the value of contracts and orders for which financial provision was necessary, amounted to £201,134 (Land Forces, £149,528 : Military Aviation, £46,100 : Civil Aviation, £5,506).

On the 31st March, 1937, the commitments totalled £333,105 (Land Forces, £230,565 : Military and Civil Aviation, £102,540).

These heavy commitments with which the last two years have ended are due to substantial orders for gun ammunition and stores, the delivery of which has been delayed by the rearmament programme at Home.

In Appendix III of this report is shown the annual expenditure on the Land and Air Defences of the Dominion during the last six years.

I have the honour to be, Sir,

Your obedient servant,

J. E. DUGAN, Major-General,

Commanding N.Z. Military Forces.

APPENDICES.

APPENDIX I.—TABLES SHOWING STRENGTH OF THE N.Z. MILITARY FORCES AS AT 31ST MARCH, 1937.

(a) NEW ZEALAND REGULAR FORCES.

Unit.	Officers.	Officer Cadets.	Other Ranks.	Total.
N.Z. Staff Corps	62	..	..	62
N.Z. Permanent Staff .. .	..	..	116	116
Royal N.Z. Artillery .. .	16	..	160	176
Royal N.Z. Air Force .. .	21	..	164	185
N.Z. Permanent Army Service Corps .. .	..	..	6	6
N.Z. Army Medical Corps .. .	..	..	2	2
N.Z. Army Ordnance Corps .. .	6	..	28	34
General Duty Section .. .	..	..	4	4
Attached from British Army .. .	1	..	1	2
Officer Cadets (in Australia) .. .	..	20	..	20
Recruits	..	..	51	51
Totals	106	20	532	658

(b) TERRITORIAL FORCE (ACTIVE LIST ONLY).

Arm or Service.	Officers.	Warrant Officers and Non-Commissioned Officers.	Men.	Total.
Mounted Rifles	183	385	1,812	2,380
Artillery	112	342	886	1,340
Engineers	17	43	145	205
Signals	15	46	51	112
Infantry	332	572	2,514	3,418
N.Z. Air Force	71	..	..	71
Army Service Corps	19	52	69	140
Medical Corps	104	57	227	388
Veterinary Corps	31	..	..	31
Dental Corps				
Army Legal Department				
Totals	884	1,497	5,704	8,085

NOTE.—In addition to the above there are 880 bandsmen and 56 prospective recruits in regimental Cadet detachments.

(c) CADETS.

Command.	Officers.	Other Ranks.	Total.
Northern	118	4,734	4,852
Central	113	4,669	4,782
Southern	145	5,921	6,066
Totals	376	15,324	15,700

(d) RIFLE CLUBS.

Command.	Number of Clubs.	Membership
Northern	26	973
Central	60	2,110
Southern	68	2,232
Totals	154	5,315

APPENDIX II.—NET EXPENDITURE DURING LAST SIX YEARS.

DEFENCE VOTE.

Year.						Military Forces.	Aviation	Total.
						£	£	£
1931-32	..	..	..	..	..	156,311	26,663	182,974
1932-33	..	..	..	..	..	180,112	27,715	207,827
1933-34	..	..	..	..	..	215,950	48,773	264,723
1934-35	..	..	..	..	..	321,686	143,546	465,232
1935-36	..	..	..	..	..	378,181	173,944	552,125
1936-37	..	..	..	..	..	427,635	132,382	560,017

APPENDIX III.

1. GENERAL.

The amount voted for civil aviation for the financial year 1936-37 was £21,714, of which £21,646 was expended. In addition to this amount, £341,000 was placed on the estimates of the Public Works Department for the provision of landing-grounds and aerodromes.

During the year Mr. J. M. Buckeridge was appointed Senior Assistant to the Controller of Civil Aviation and attached to the Civil Aviation staff at Headquarters, Wellington.

Summary of Licences and Certificates current at 31st March, 1937.

Pilots' "A" licences	493
Pilots' "B" licences	77
Navigators' licences, second class	1
Ground engineers' licences	96
Registered aircraft	89
Certificates of airworthiness	63
Aerodrome licences	47

2. AERODROMES.

The number of licensed aerodromes at 31st March, 1937, was forty-seven (forty public and seven temporary). Although the total number of aerodromes at the same date last year was the same (forty-seven) only thirty of these were public, and seventeen were temporary.

In conjunction with the Aerodromes Branch of the Public Works Department, development-work has been carried out on a number of aerodromes already licensed, and on a number of new grounds, in order to provide the adequate landing and emergency-landing facilities necessitated by the development of internal air services and the general increase in the demand for air transport on the part of the public. Details of this development-work will be found under the appropriate headings in the report of the Minister of Public Works.

3. METEOROLOGICAL SERVICES.

The increase in the amount of civil flying has made it necessary to provide special aviation weather forecasts. This work is being carried out in conjunction with the Meteorological Branch of the Department of Scientific and Industrial Research, and it is hoped that a satisfactory system of distributing accurate aviation weather reports will be developed.

4. RADIO SERVICES.

The rapid development of civil air services has already created its own problems of radio communication and navigational assistance. In conjunction with the Post and Telegraph Department, consideration has been given to the provision of an organization to deal with these problems, and during the year an Aeradio Committee consisting of representatives of various technical departments was set up to advise on the establishment of an efficient aeronautical radio service.

5. AERO CLUB MOVEMENT.

In the twelve months ending 31st March, 1937, 178 pilots qualified for "A" licences, and of this number 110 were subsidized, the clubs receiving £3,550. In addition, a further sum of £1,446 10s. was paid on pilots renewing their licences, bringing the total subsidy to £4,996 10s. The amount voted was £5,000.

In November, 1936, four Miles Magister aircraft were ordered for distribution to the aero clubs as loan machines. At 31st March, 1937, the Department had on loan five aircraft, which were issued during 1935 to the following clubs: Hawke's Bay and East Coast, Wairarapa and Ruahine, Wellington,

Otago, and Southland. Of four aircraft loaned to clubs during 1935-36, two have been handed over to the clubs concerned, and the remaining two have been destroyed in accidents.

The following statement tabulates the activities of the clubs during the year ended 31st March, 1937.

Light Aero Clubs.

Aero Club.	Average Membership.		Aircraft in use at 31st March, 1937.	Average Number under instruction.		Hours flown during Year.		Pilots trained during Year.
	Associate.	Flying.		Dual.	Solo.	Dual.	Solo.	
Auckland	508	154	9	60	41	736	1,328	21
Western Federated	447	121	2	40	10	362	1,120	17
Middle Districts	144	71	2	24	6	412	559	10
Wellington	284	90	5	20	7	376	1,186	15
Wairarapa and Ruahine	259	68	3	5	3	224	491	11
Hawke's Bay and East Coast	146	118	3	20	8	487	894	12
Marlborough	136	35	2	6	2	182	383	12
Canterbury	94	121	4	26	9	584	1,494	27
Otago	169	64	2	8	4	265	619	13
Southland	97	49	5	9	3	219	659	11
West Coast United	173	38	2	7	2	132	447	9
Total	2,457	929	39	225	95	3,980	9,180	158

6. AERONAUTICAL INSPECTION.

During the year 261 inspections of aircraft were made. A number of special examinations and tests of components and materials were also carried out during this period. This work of checking materials and equipment for compliance with the regulations is increasing rapidly, and the Department has now on hand extensive equipment to enable these tests to be carried out.

An Assistant Aircraft Inspector was appointed at the end of the year, and is attached to the staff of the Controller of Civil Aviation.

7. CERTIFICATES OF REGISTRATION.

The number of certificates of registration issued during the ten months ending 31st March, 1937, was twelve.

Of the fifteen aircraft registered during the period, thirteen were aircraft registered for the first time, and two were aircraft which changed ownership and were registered anew. Of the thirteen machines registered for the first time, three were locally built experimental types for which no certificate of airworthiness is issued.

Changes of ownership, dismantling, crashes, &c., caused the cancellation of eighteen certificates during the year, leaving a total of eighty-nine aircraft registered on 31st March, 1937.

The following is an analysis according to types of the aircraft entered in the register as at 31st March, 1937:—

D.H. 60 ("Moth") (all types)	40
D.H. 80A ("Puss Moth")	5
D.H. 83 ("Fox Moth")	2*
D.H. 84 ("Dragon")	2*
D.H. 86 ("Express Air Liner")	3*
D.H. 87A ("Hornet Moth")	1
D.H. 89 ("Dragon Rapide")	4*
Miles "Hawk"	1
Percival "Gull"	1
Waco (American)	3
Monospar ST 25	2
Avro "Avian"	4
Avro 504k	2
Comper "Swift"	1
Klemm "Swallow"	1
Spartan	6
Boeing (American)	1
De Soutter	2
Pou-du-Ciel	3
Miscellaneous types	5

Of the above total of eighty-nine aircraft, seventy-eight are single-engined machines, eight are twin-engined, and three are fitted with four engines.

8. CERTIFICATES OF AIRWORTHINESS.

The number of aircraft possessing current certificates of airworthiness at the end of the period was sixty-three. The remaining twenty-six aircraft included in the total of eighty-nine aircraft recorded as registered in this country, but not certified as airworthy at the close of the year, comprised aircraft

* Operating in regular air services.

undergoing overhaul prior to the renewal of their certificates of airworthiness, aircraft temporarily out of commission for various reasons, in addition to three aircraft of the "Pou-du-Ciel" type, which are permitted to fly without a certificate of airworthiness.

The number of new certificates of airworthiness issued during the period under review was two. The number of Air Ministry certificates validated for flying in New Zealand was eight, and the number of certificates renewed was forty-four. The remaining nine certificates included in the total of sixty-three shown as current at the end of the year were renewed during the two months immediately preceding the period under review.

9. AIRCRAFT ACCIDENTS.

For the ten months under review three accidents, involving loss of life, occurred :—

- (1) On 30th December, 1936, aircraft ZK-ADC crashed into the sea at Big Bay, following a stall whilst the pilot was approaching to land. One of the four passengers was killed, and the remaining passengers and the pilot were severely injured.
- (2) A "Moth" aircraft, ZK-ACZ, was lost in Cook Strait on the 22nd March, 1937. Both pilot and passenger are presumed to have lost their lives as a result of this accident.
- (3) At Mosgiel on 25th March, 1937, a student pilot was killed as a result of the aircraft he was flying—ZK-ACI—getting out of control and crashing into the ground.

Besides the above fatal accidents, official investigation was made into ten other accidents involving major damage to the aircraft, but, with one exception, little or no injury was suffered by pilots or passengers.

There was no case of structural failure of an aircraft whilst in flight, and in all cases the accidents must be attributed to the personal element. No commercial aircraft operating on a regular air route was involved in any accident.

10. GROUND ENGINEERS.

New ground engineers' licences issued in the ten months ending 31st March, 1937, totalled thirteen, while three Air Ministry licences were validated, making the number of licences current at the end of the year ninety-six, an increase of eleven. This increase would have been greater but for the fact that a certain number of ground engineers allowed their licences to lapse on ceasing to be actively engaged in aviation.

Six examinations for ground engineers' licences, or extension of the categories covered by existing licences, were held during the period, and the candidates examined numbered twenty-three. The number of successful candidates was 56·5 per cent. The categories in which these candidates satisfied the examiners totalled seventeen. Six candidates who were already in possession of licences were recommended, after examination, for extension of the scope of their licence, while two extensions were granted without examination upon reports of satisfactory experience gained by the holders of the licences.

The system of examination of candidates for ground engineers' licences has been revised, and examinations are now carried out as in Great Britain.

11. REGULAR AIRCRAFT SERVICES.

During the year the following companies were operating under licences issued by the Transport Department for the routes indicated :—

Company.	Route.
Air Travel (N.Z.), Ltd.	(a) Hokitika, Haast, Okuru. (b) Incheonie, Hokitika, Fox and Franz Josef Glaciers.
East Coast Airways, Ltd.	Napier-Gisborne.
Cook Strait Airways, Ltd.	(a) Nelson, Blenheim, Wellington. (b) Nelson, Greymouth, Hokitika.
Union Airways of N.Z., Ltd.	Palmerston North—Dunedin, via Blenheim and Christchurch.

On these services eleven aircraft with a total passenger-capacity of seventy-three were available over a daily route distance of approximately three thousand miles. Statistics relating to Commercial services for the period ended 31st March, 1937, are as follows :—

(a) Regular Air Service Routes.

Company.	Route.	Airline-miles.	Number of Pilots.	Aircraft.		Frequency of Service.
				Number.	Types.	
Air Travel (N.Z.), Ltd.	(a) Hokitika—Haast—Okuru ..	145	2	2	D.H. 83	(a) Once weekly in each direction.
	(b) Incheonie—Hokitika—Fox and Franz Josef Glaciers ..	210				(b) Twice weekly in each direction.
East Coast Airways ..	Napier—Gisborne ..	96	2	2	D.H. 84	Twice daily in each direction
Cook Strait Airways, Ltd.	*(a) Nelson—Blenheim—Wellington	168	5	4	D.H. 89	A total of 10 trips daily.
	(b) Nelson—Greymouth—Hokitika	200				Thrice weekly in each direction.
Union Airways of N.Z., Ltd.	Palmerston North—Dunedin, via Blenheim and Christchurch	495	10	3	D.H. 86	Once daily in each direction.

* All trips do not include each point mentioned.

(b) Statistics of Regular Air Services.

Company.	Hours flown.	Miles flown.	Passengers.	Freight.	Mails.	Regularity.		Efficiency.
						Trips Scheduled.	Trips Completed.	
Air Travel (N.Z.), Ltd. ..	1,018	101,800	948	lb. 13,621	lb. 45,417	898	886	Per Cent. 98·6
*East Coast Airways, Ltd. ..	450	43,272	1,758	587	1,421	450	448	99·6
Cook Strait Airways, Ltd. ..	2,120	271,726	14,353	22,706	20,355	4,197	3,862	92·0
Union Airways of N.Z., Ltd. ..	3,000	360,140	7,192	7,160	44,124	734	729	99·3
Totals	6,588	776,938	24,251	44,074	111,317	6,279	5,925	..

* Service not operating between 18/3/36 and 6/12/36.

For the year under review the following figures indicate the extent to which air travel has been accepted :—

Total passenger-miles flown	..	..	..	..	..	2,673,860
Total freight ton-miles flown	..	..	..	..	..	2,047
Total mail ton-miles flown	..	..	..	..	..	8,288

Approximate Cost of Paper.—Preparation, not given ; printing (605 copies), £14 10s.