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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA.

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REPORT

FROM THE

JOINT COMMITTEE OF PUBLIC  
ACCOUNTS

ON THE

EXPENDITURE UPON AIR SERVICES.

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JOINT COMMITTEE OF PUBLIC ACCOUNTS.

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R E P O R T

ON THE

EXPENDITURE UPON AIR SERVICES.

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INTRODUCTORY.

In view of the large amounts of public money voted annually by Parliament towards Air Services, and the important position which aviation now occupies, both in defence and civil circles in Australia, the Joint Committee of Public Accounts undertook an investigation into the expenditure upon these activities—Naval, Military, and Civil.

COMMITTEE'S PROCEEDINGS.

The Committee commenced the taking of evidence on this subject on the 5th April, 1923, and concluded on the 26th June, 1923. During the investigation the following witnesses were examined :—

- Adams, Alfred Barton, Director of William Adams and Co. Ltd., Engineers, Melbourne, and ex-President of the Aero Club, New South Wales section.
- Anderson, Squadron-Leader William Hopton, D.F.C., Chief of the Administrative Staff, R.A.A.F., member of the Air Council, and Second Member of the Air Board.
- Brearley, Norman, D.S.O., M.C., Managing Director, Western Australian Airways Ltd., Perth, W.A.
- Brinsmead, Lieut.-Colonel Horace Clowes, O.B.E., M.C., Controller of Civil Aviation, and Member of the Air Council.
- Broadsmith, Harry Edgar, Technical Director of the Australian Aircraft and Engineering Co. Ltd., Sydney.
- Campbell, Brigadier-General Gerald Ross, V.D., President of the Australian National Defence League, Sydney.
- Coleman, Major Patrick Eugene, O.B.E., Secretary to the Air Council and the Air Board, Department of Defence.
- Dam, William Valdemar, General Manager of Thompson and Co. Pty. Ltd., Engineers, Castlemaine.
- Everett, Vice-Admiral Sir Allan Frederic, K.C.M.G., K.C.V.O., C.B., First Naval Member, Commonwealth Naval Board, and Member of the Air Council.
- Fysh, Hudson, Managing Director, Queensland and Northern Territory Aerial Services Ltd., Longreach, Queensland.
- Goble, Wing-Commander Stanley James, D.S.O., O.B.E., D.S.C., Chief of the Air Staff, Member of the Air Council, and First Member of the Air Board, Department of Defence.
- Joyce, Albert Charles, Finance Member of the Air Board, Department of Defence.
- Larkin, Herbert Joseph, Managing Director, Larkin Aircraft Supply Co. Ltd., Melbourne.
- Leighton, Arthur Edgar, Controller-General of Munitions Supply, and Chairman of Munitions Supply Board, Department of Defence.
- Love, Nigel Borland, Managing Director of the Australian Aircraft and Engineering Co. Ltd., Sydney.

- McBain, Squadron-Leader Percival Alexander, M.B.E., Director of Equipment, Royal Australian Air Force.
- Owen, Percy Thomas, Director-General of Works, Department of Works and Railways, Melbourne.
- Shaw, Harry Turner, O.B.E., A.M.I.Aë.E., Proprietor of the Shaw-Ross Engineering and Aviation Co., Port Melbourne.
- White, Major-General Sir Cyril Brudenell Bingham, K.C.M.G., K.C.V.O., C.B., D.S.O., Chief of the General Staff, Commonwealth Military Forces, and Member of the Air Council, Department of Defence.
- Woodrow, Edward, Chief Inspector, Postmaster-General's Department.

The Committee inspected the Air Force establishment at Point Cook, the site of the proposed depôt at Laverton, and the temporary stores at Spotswood. A visit was also paid to the works of the Australian Aircraft and Engineering Co. Ltd. at Mascot, Sydney.

#### PRELIMINARY.

Having regard to the development which was taking place in aircraft, the Australian military authorities, as early as 1911, were considering the question of providing for air defence in the Commonwealth. In 1912 approval was given for the establishment, as part of the army organization, of a Central Flying School for the training of aeroplane pilots. An area of land was acquired at Point Cook, Victoria; hangars and workshops were erected, and two flying instructors, four mechanics, and five aeroplanes were obtained from England. By June, 1914, the work at Point Cook was sufficiently advanced to permit of training being commenced, and the first course was arranged to begin on 14th August, 1914. The training of pilots at the School continued actively throughout the War, but after the cessation of hostilities the staff was reduced to a small nucleus.

No steps were taken towards the establishment of a Naval Air Service beyond the appointment, in 1918, of an Air Service Adviser to the Navy Department.

In 1920 it was resolved to establish an Australian Air Force. Guided by Great Britain's experience, the Force was to be administered as a separate service by officers with flying experience to provide for the air defence requirements of the Commonwealth, both naval and military. Pending the passing of an Air Defence Bill, the Australian Air Force was constituted by proclamation issued under the powers contained in the *Defence Act 1903-1918*, as part of the Australian Military Forces. This was effected as from 31st March, 1921, and from the 13th August, 1921, the Force was designated the Royal Australian Air Force. The Air Defence Bill was passed by the Senate in May of that year, but lapsed on the prorogation of Parliament.

To control and administer the Air Force upon the policy laid down by the Minister, an Air Board was created. This Board was originally constituted as from 9th November, 1920, and comprised four members, viz. :—

- The Director of Intelligence and Organization,
- The Director of Personnel and Training,
- The Director of Equipment,
- The Finance Member,

who were allotted specific duties and responsibilities.

In October, 1922, new Air Board Regulations were issued. Under these the number of members of the Board was reduced to three, the designations of the positions were altered, and the duties were re-arranged. The Members of the present Board and the general allotment of duties between them are as follows :—

*The First Air Member—*

- Wing Commander S. J. Goble, D.S.O., O.B.E., D.S.C., Chief of the Air Staff—Preparations for war; air organization, training, intelligence, co-operation with Navy and Army; works, services, buildings, &c.

*The Second Air Member—*

- Squadron-Leader W. H. Anderson, D.F.C., Chief of the Administrative Staff—Supply, general control, records and distribution of all *personnel*; provision storage, accounting, and issue of all equipment; supervision of technical work, ordnance services, feeding, housing, and clothing of *personnel*, &c.

*The Finance Member—*

- A. C. Joyce, Esq.—All Air Force finance and accounting.

Under this arrangement the Director of Equipment ceased to be a member of the Board, and questions affecting his branch have to be submitted to the Board through the Second Air Member. It was stated that, as equipment is a complicated and technical subject in itself, more has been lost than gained by the change. The re-organization was stated in evidence to have been made for reasons of economy. Inquiry elicited that whilst Members of the Board received £100 per annum each for this service, they did not draw staff pay of £75 per annum to which their rank entitled them, consequently the actual annual saving amounted to £25.

All conclusions or decisions of the Board, which involve an increase in expenditure or any new principle affecting expenditure, and the Board's recommendations upon the following subjects, and upon such other matters as it deems necessary are submitted for the approval of the Air Council :—

- (a) Principles of organization of the Air Force ;
- (b) The distribution of the Air Force ;
- (c) The demands for aircraft of the Naval and Military Departments and the allocation of the Air Force to meet them ;
- (d) Selections of air stations and aerodromes ;
- (e) Schemes for Air Force development ;
- (f) Works and buildings not part of approved policy ;
- (g) Training policy ; the selection and distribution of schools and training establishments ; and
- (h) The selection of the Air Staff of and above such ranks as the Air Council may determine.

To advise the Minister upon the Air Force provision necessary for the defence of Australia and upon the general control of Commonwealth air policy in its naval and military aspects, and to co-ordinate civil aviation, &c., the Air Council was constituted at the same time as the Air Board—9th November, 1920. This Council comprises—

- The Minister of State for Defence—President ;
- A Naval Member, who is the Chief of the Naval Staff ;
- A Military Member, who is the Chief of the General Staff ;
- Two Members of the Air Board, who are the Chief of the Air Staff and the Chief of the Administrative Staff ; and
- The Controller of Civil Aviation.

The Air Council is called together whenever required, and its functions are laid down in the Air Council Regulations as follows :—

- (1) To advise the Minister upon the Air Force provision necessary from time to time for the defence of Australia ;
- (2) To co-ordinate the Air Force requirements of the Naval and Military Forces respectively, and to advise upon questions of principle affecting command and administration resulting from the distribution of the Air Force ;
- (3) To advise the Minister upon all matters of policy or principle affecting the organization, distribution, and preparation for war of such Air Forces as may be established ;
- (4) To allocate the funds made available for air defence ;
- (5) To advise upon the general control of Commonwealth air policy in its Naval and Military aspects, and to co-ordinate civil aviation therewith ;
- (6) To advise and make recommendations upon such matters as the Council may direct shall be referred to it from the Air Board.

The Air Council has delegated to the Air Board authority to incur expenditure on any one service to an amount not exceeding £100 providing that there is nothing irregular in the character of the expenditure, and the Finance Member has certified that funds are available. All proposals involving an expenditure in excess of that amount are ordinarily submitted for the approval of the Air Council. In cases, however, where the service required is of a routine nature or forms part of policy previously approved by the Council, the Board's recommendation is made direct to the Minister. The Council has also delegated to the Director of Equipment authority to spend up to £20 on any one service for the local purchase of stores. As the Director of Equipment is not a member of the re-constituted Board, an amendment to the regulations has been submitted transferring the delegation to the Second Air Member.

## ROYAL AUSTRALIAN AIR FORCE.

In order that the Royal Australian Air Force may be able, in case of war, to take its place as a part of the Air Forces of the Empire without alteration or dislocation of its peace-time principles of organization, administration, training, and equipment, it is the policy to adopt in such matters the principles laid down by the Royal Air Force with only such modifications as are dictated by local conditions. To insure this co-operation, an officer of the Royal Australian Air Force is located at the Air Ministry in London as a liaison officer. This officer keeps the Air Board up to date on all matters affecting the Air Forces, and also furnishes the British authorities with information relating to Australian activities. He is also responsible for placing contracts through the British Air Ministry for any material required by the Commonwealth.

Various programmes for the development of the Air Force have been submitted from time to time, but have necessarily been altered according to the funds made available. The Washington Conference has also affected the development.

The organization of the Force adopted for the current year comprises—

Head-Quarters, R.A.A.F.—Located at Victoria Barracks, Melbourne.

1 Station located at Point Cook, Victoria, consisting of—

- 1 Station Head-Quarters for administrative purposes ;
- 1 Flying Training School for the training of pilots, observers, aerial gunners, and wireless operators ;
- 1 Aircraft Depôt for the handling, storage, overhaul and repair of aircraft equipment ;
- 1 Mixed Landplane Squadron for collective training of units by co-operation with the Naval and Military Forces.

Up to the present the sites, buildings, &c., in use by or acquired for Air Force purposes comprise—

*Point Cook, Victoria*, where 817 acres have been acquired at a total cost of £10,396. The area is situated on the western shore of Port Phillip Bay, and is 5 miles from the Laverton Railway Station on the Melbourne-Geelong line. Workshops, offices, quarters, and other buildings, together with the necessary accessory services, have been erected from time to time according to the developmental plans and lay-out drawn up some years ago. The total expenditure on this site up to the present for buildings and other works amounts to approximately £180,000.

All existing Air Force units comprising No. 1 Station are at present located at Point Cook. The aircraft and equipment are provided for in seven permanent hangars and ten temporary canvas hangars. *Personnel* are housed partly in permanent buildings, consisting of 12 married quarters, 2 blocks of single officers' quarters accommodating 45 officers, and 2 blocks of single airmen's quarters accommodating 66 airmen ; whilst 200 airmen are accommodated in iron huts similar to those used in camps during the war. Tenders are now being called for additional accommodation to provide for 56 mechanics in single quarters, and 6 married non-commissioned officers. The estimated cost of these buildings, together with dining and recreation rooms and necessary accessory services, is set down at £31,500.

*Laverton, Victoria*.—An area of 160 acres adjoining the railway was acquired in September, 1921, at a cost of £3,528. This site is to be developed, as funds permit, as an Aircraft Depôt, where aircraft and equipment may be mobilized, and modifications and repairs effected. The eventual cost of the establishment of this Depôt is estimated to be about £300,000. Proposals and plans for the first instalment of this work are now with the Parliamentary Standing Committee on Public Works.

*Corio Bay, Victoria*.—An area of 125 acres on the north-west shore of Corio Bay was acquired in October, 1921, for the sum of £4,824. This site was intended for use as a base for flying boats and torpedo-carrying craft, and for training purposes. No other expenditure has been incurred on this site, which, in exchange for agistment purposes, is being kept free from noxious weeds and vermin without cost to the Department. From the evidence given there does not appear to be any intention to develop this site at present.

*Richmond Aerodrome, New South Wales*.—An area of 175 acres, together with a large hangar, quarters, and other buildings, situated at Richmond, about 40 miles from Sydney, is being acquired from the New South Wales Government. This aerodrome was established by the State Government during the War to assist in the training of pilots. As the price agreed upon, £9,318, was satisfactory to the Commonwealth Government, it was considered that the possession of this aerodrome in the vicinity of Sydney would enable the Air Force to co-operate with the Military Forces near that city, and provide the necessary facilities for the future Citizen Air Force in New South Wales.

## PERSONNEL.

The officers are divided into two groups—General List, comprising Flying, Technical, and Medical Branches; and Quartermaster's List, consisting of stores' officers.

Until such legislation as the Air Defence Bill becomes law all officers in the Air Force, except officers of the Permanent Naval and Military Forces appointed thereto, can hold only temporary positions, because the Defence Act permits only graduates of the Duntroon Military College to hold permanent commissions. The absence of permanency is a source of discontent, and, when a favourable opportunity occurs, officers do not hesitate to leave the Service.

In addition to their ordinary rates of pay, there is a deferred pay scheme in operation for officers, the accrued sum being paid on retirement from the Service. In the case of a Squadron Leader, for instance, this amounts to £82 for each year of service.

Airmen are enlisted for six years, and for purposes of pay are classified in five groups. Rates of pay for similar ranks vary in each group according to the value of the duties performed, and are said to have been based on the ruling rates being paid in similar trades outside the Service. Owing to outside rates in some occupations now being higher than those offered in the Force, difficulty has been experienced in obtaining sufficient skilled workmen in some trades.

Officers and airmen not provided with quarters receive lodging, fuel, and light allowances, and married airmen draw a separation allowance of 1s. 6d. per day. These allowances at present involve an annual expenditure of nearly £6,000. It was stated in evidence that many more highly skilled men would avail themselves of the opportunity of employment in the Air Force if more housing accommodation were available.

Owing to the particular nature of the work the age of retirement in the Air Force is much earlier than in other Services. The age limit for flying *personnel* is 40 years for flight officers or flight lieutenants, 45 for squadron leaders, and 48 for wing commanders; for the ground *personnel* the age is 55, and for non-commissioned officers 60.

Pending the passing of the Air Defence Bill and the making of regulations thereunder, the Australian Military Regulations and the Financial and Allowance Regulations for the Australian Military Forces apply generally to the Air Force. Under these Regulations provision is made to meet cases of injuries received on duty, and rates of compensation are laid down for cases of death or total incapacity.

In the Air Defence Bill, which has already been referred to as having passed the Senate, provision was made for the establishment of funds to provide for the payment of annuities or gratuities to members of the Air Force permanently injured in the performance of their duties, and for the payment of annuities or gratuities to members of the Permanent Air Force who are retired on account of age or infirmity. It was also provided that when any member of the Air Force is killed on active service or on duty, or dies or becomes incapacitated from earning his living, from wounds or disease contracted on active service or on duty, provision shall be made for his widow and family, or for himself, as the case requires, out of the Consolidated Revenue Fund at the prescribed rates.

## ESTABLISHMENT.

The approved establishment of the Permanent Air Force comprises 53 officers and 300 airmen, whilst the present strength is 49 officers and 296 airmen.

It was pointed out in evidence that it has never been intended to set up an entirely Permanent Air Force in Australia, or one that could act quite independently of the Navy and Army. The Australian Army is essentially a citizen army, and it is proposed to develop the Air Force as far as possible on the same lines by forming a nucleus which can be extended in case of need. The creation of a Citizen Air Force is in contemplation. The object of this will be to provide a Force trained to a certain degree which can be readily developed in time of emergency.

It is estimated that there are in Australia about 500 officers who received training as pilots during the War. With as many of these men as are available it is proposed, on the passing of the Air Defence Bill, to establish an Air Force Reserve. In this Reserve there will also be enlisted *all pilots and mechanics* engaged on civil aviation work throughout the Commonwealth.

It was stated in evidence that the present *administrative staff* is quite capable of meeting a considerable degree of expansion in the establishment.

## EQUIPMENT.

Following upon the outbreak of War in 1914, additions of various types of aircraft and a corresponding extension of workshop facilities, were secured from time to time, until at the conclusion of hostilities the Central Flying School equipment included 20 Avro machines and 11 Sopwith Scout aeroplanes.

On the termination of the War, the Imperial Government generously presented to the Commonwealth aerial equipment comprising 128 aeroplanes of various types, their appropriate engines, mechanical transport of various kinds, and a very large assortment of spares, stores, tools, workshop machinery, and accessories of all descriptions, to the value of £1,000,000. The number of aeroplanes so presented was for the proposed equipment of four service squadrons and one training squadron—100 machines—together with the replacement of 28 machines which had been donated during the War by various citizens and patriotic bodies in Australia. This vast quantity of material, comprising approximately 19,000 cases—many weighing 2 or 3 tons each—although it arrived over a period of twelve months, presented a problem in storage. At present all equipment, excepting ammunition and bombs, is housed either in the wheat sheds at Spotswood or in hangars and buildings at Point Cook, but in neither case is the accommodation satisfactory. The wheat sheds at Spotswood, which involve an expenditure of £800 per annum, are merely temporary structures of timber and iron with malthoid roofing. The sum of £150 is now being spent on each shed to make the roofs rainproof. These sheds are stated to have been the only suitable storage space around Melbourne available for the purpose. There are no mechanical facilities, all cases having to be man-handled into position.

It is expected that the equipment will remain in store until the proposed aircraft depôt at Laverton is ready to receive it. Whilst remaining in the cases the machines are not only deteriorating, but both engines and machines are becoming obsolescent, although similar machines are still being used in England. This matter is one of serious concern to the Air Force authorities. Technical modifications of aircraft and engines designed to ensure greater safety and efficiency are issued from time to time. Many of these modifications would have to be incorporated in the machines in store before they could be used. But neither the *personnel* nor the hangars are available for this work and the necessary general overhaul to be effectively and economically carried out.

Twenty-seven aeroplanes are at present in commission. It was stated in evidence that 24 additional machines could, if necessary, be put into use in a month, and given sufficient *personnel* all the machines in store could be brought into commission in about four months.

To keep a check on the equipment, a complete accounting system is in operation; carefully is kept of all the articles in use, and stocktaking is a continuous process. Special attention is paid to unserviceable items and to the question of salvage. All articles returned to store through the exigencies of the service are subjected to a technical examination by a "Board of Survey," and classified as repairable, suitable for conversion to components as spare parts, and so on.

Mechanical transport is an essential item in Air Force equipment. Heavy and light motor lorries and numerous trailers are necessary for each squadron. In order to provide against excessive deterioration, the Air Board has suggested that an outlet for these vehicles might be found in other Government Departments, such as the Postmaster-General's. It is proposed to supply Departments' requirements from Air Force stocks, which would be replenished by more modern vehicles of a standardized type. In anticipation of approval, a number of heavy lorries have been handed over to the Postmaster-General's Department.

#### LOCAL PRODUCTION.

Recognising the necessity for Australia to be self-contained to the greatest degree, it is the aim of the Air Board to get as many items of Air Force equipment manufactured in Australia as possible, and it has endeavoured to interest local firms in its requirements. Examples of equipment locally manufactured or for which contracts have been let, comprise floats and wings for seaplanes, radiators, propellers, dope, shock absorbers, turnbuckles, and numerous spare parts of engines and aircraft general stores—the manufacture of which had never previously been attempted in this country.

In August, 1921, the Australian Aircraft and Engineering Co. Ltd., of Mascot, Sydney, was given an order by the Department of Defence for the manufacture of six Avro training machines—two aeroplanes to have metal fittings of English manufacture, and four to have metal parts manufactured locally from imported material, Australian-grown timber to be used throughout. Although machines of this type were not required at the time, the order was placed with a view to encouraging manufacture in Australia. The Company was assisted in its undertaking by being advanced at the outset of its contract a sum equivalent to one-third of the total contract price, and later by extensions of the date of delivery. The machines were eventually completed and passed all tests satisfactorily. The engines installed in these machines were supplied to the contractor from Air Force stocks.

In anticipation of a demand for commercial machines, the Company undertook the designing of a suitable type of aeroplane, having particular regard to Australian conditions. The construction of such a machine was commenced, and in order to further assist the Company the then Minister for Defence agreed to the purchase of this machine for the Controller of Civil Aviation. The Company has since gone into liquidation, but arrangements have been made for the completion of the machine.



Evidence tendered to the Committee showed that the manufacture of engines themselves might be undertaken in the Commonwealth fairly economically, provided the necessary material could be obtained. For some years to come, however, it was considered that the demand in this country for such engines would not justify the establishment of a local factory as a commercial concern.

It was considered that no difficulty would be met in securing the necessary skilled labour, because, in addition to the men who have received training in the Small Arms Ammunition Factory, there are now in Australia many artisans who, as munition workers, gained valuable experience abroad during the War.

As an instance of what can be accomplished, it was pointed out that six aeroplane engines of the "Renault" type were manufactured in 1915 by Messrs. Kelly and Lewis and the Tarrant Motors Pty. Ltd., of Melbourne.

#### TRAINING ACTIVITIES.

One Naval officer, five Army officers, five civilians, and two officers and two airmen of the Royal Australian Air Force are now receiving flying training at Point Cook with a view to qualifying as pilots. After completing their training the Navy and Army officers will remain with the Air Force for one and two years respectively, and will then return to their units, but a few may be transferred to the Air Force. The civilians, who are nominated by the Controller of Civil Aviation, are graded as cadet officers, and receive pay whilst undergoing training for a period of about eleven months. When qualified, they will be available for employment as pilots with companies engaged in civil aviation in Australia. Their pay, cost of training, &c., is borne from Air Force Funds as one of the means of assisting civil aviation. It is proposed to train a similar number each year, thus creating, in time, a valuable reserve of pilots to be available should occasion arise.

Qualified pilots who are employed or about to be employed in commercial aviation enterprises are accepted on the recommendation of the Controller of Civil Aviation for short refresher courses of flying instruction at the Flying Training School, Point Cook. No charge is made for this refresher instruction, the cost of which is also borne by Air Force Funds.

Training in co-operation with the Military Forces has been carried out in Victoria, particularly with artillery and signal units during periods of continuous training. Considerable instruction in aerial fighting, bombing, photography, &c., has also been given to the flying officers at Point Cook.

Although six Fairey seaplanes were purchased at a cost of £23,000, little use has been made of them. Four of the machines have been used, but word has recently been received from the British authorities that until certain alterations have been effected, these planes should not be flown. Further, it was explained to the Committee that Point Cook is by no means suitable for seaplane work; the position is too exposed; there are no facilities for handling the planes, and owing to its geographical location no opportunity is afforded for co-operation with the Navy.

#### AERIAL ROUTES.

The aerial routes necessary for defence purposes are organized by the Royal Australian Air Force, thus enabling those engaged to acquire a knowledge of the country. Landing grounds on such routes may be used by civil aircraft, but should additional landing grounds along these routes be considered necessary for civil aviation purposes, such grounds are provided from civil aviation funds.

The aerial route from Geraldton to Derby in Western Australia was organized by the Royal Australian Air Force in 1921 to enable the aerial service to be operated. Several areas of land were acquired and prepared for landing grounds.

A preliminary survey has been made of a proposed aerial route for strategical purposes connecting Brisbane, Sydney, Melbourne, Adelaide, and Perth.

#### CIVIL AVIATION.

During the War great progress was made in military aviation. When hostilities ceased it was the popular idea that civil aviation could continue from the stage reached by war aviation. But it has taken time to produce the true commercial machine both for passenger and freight carrying, and firms that tried in various countries to convert war craft for civil purposes had to abandon the effort, remodel the machines completely, and re-arrange the engine power. It was not until the beginning of 1920 that any real progress in civil aviation was evident. The practical utility of aircraft has now been demonstrated in every civilized country, and though the general public may not yet have become sufficiently acquainted with the improved machines to gain complete confidence, there is ample evidence that the use of aircraft is becoming more widespread and more regular.

Australia, with its vast resources and big open spaces, is particularly adapted for the extensive use of aircraft. This was recognised by the Commonwealth Government, and in September, 1920, the then Prime Minister, when speaking in the House of Representatives upon the Australian Defence Policy, stated:—"It is proposed to place such a sum on the Estimates as will encourage civil aviation . . . to afford such inducements as are hoped will encourage the manufacturers to make engines and aeroplanes in this country, and the Government will not hesitate to give a very substantial bonus for that purpose. . . . We believe that commercial aviation will afford us that reserve of *personnel* and machines which in an emergency will be necessary to our fighting forces."

In December, 1920, the Commonwealth Parliament passed the Air Navigation Act, the objects of which were—

- (a) To enable effect to be given to the Convention on Air Navigation signed in Paris on 13th October, 1919.
- (b) To apply the principles of the Convention not only to international flying, but also to internal flying in the Commonwealth, and generally to legislate by regulation on the subject matter.

Regulations were drawn up under this Act to provide, *inter alia*, for the registration and periodical inspection of aircraft to ensure their safety and air worthiness, licensing of aerodromes, examination and licensing of *personnel* engaged in flying, and in the technical upkeep of machines, prohibition of trick flying, rules of the air, &c. Penalties are provided for breaches of the regulations.

The date of commencement of the Act was fixed by proclamation as 28th March, 1921, and the Regulations, issued in the previous month, came into force on the same date.

On the 16th December, 1920, Lieut.-Col. H. C. Brinsmead, O.B.E., M.C., was appointed under a five years' contract, as Controller of Civil Aviation, his duties being to advise the Minister generally on civil aviation, and in the disposal of the funds made available by Parliament for its development, and to administer the Air Navigation Act and Regulations. In the latter he is assisted by a small technical staff—the principal officers being three superintendants—all qualified pilots—one being responsible for the examination of pilots and their work; another for aircraft and everything connected therewith; whilst the third is responsible for aerodromes and all ground work.

#### ACTIVITIES.

Amongst the earliest activities of the Controller of Civil Aviation were the acquisition and preparation of civil aviation landing grounds—it being the policy to prepare landing grounds over approved routes—so that an aeroplane flying at a reasonable height should in the event of engine failure always be within gliding distance of a reasonably safe landing ground. The sum of £13,694 has been expended in the acquisition of civil aviation grounds; aerodromes have also been compulsorily acquired in Sydney and Brisbane at an estimated cost of £20,000, but no money has yet been paid over as the prices are still in dispute. An amount of £21,036 has been expended in the preparation of landing grounds under civil aviation control. Landing grounds have been organized over the following approved routes:—

- (1) Adelaide to Sydney;
- (2) Sydney to Brisbane;
- (3) Charleville to Cloncurry (Queensland).

Preliminary surveys of the following routes have also been carried out, but no expenditure has been incurred in the preparation of landing grounds over these routes:—

- (1) Melbourne to Charleville (Queensland) *via* Cootamundra, Narromine, Bourke and Cunnamulla;
- (2) Melbourne to Perth;
- (3) Adelaide to Port Lincoln (for seaplanes);
- (4) Melbourne to Hay (New South Wales).

Altogether up to the present 55 landing grounds have been acquired or leased, and prepared for civil aviation purposes.

#### AERIAL SERVICES.

Apart from the provision of landing grounds, it was considered that the granting of contracts for the carrying out of aerial services over approved routes was likely to afford the greatest assistance towards developing civil aviation at this stage. By this means it was hoped to introduce post-war types of machines into Australia, and in the flying and ground *personnel* necessary for the maintenance of such services to create a technical reserve that would be available for the air

defence of the Commonwealth. The services over the routes at present in operation affording a regular and speedy means of transport and delivery of mails have been much appreciated by the residents of the districts served, which had hitherto suffered considerable inconvenience in this respect.

The conditions of tender for these services specified the maximum sum to which consideration would be given, but tenderers were permitted to submit proposals to maintain a service differing from that advertised. The maximum subsidy offered amounted in each instance to approximately what had been calculated as sufficient to cover the actual running costs of the service. The time table and landing places to be observed, and the scale of charges for passengers and freight are subject to the Minister's approval.

The Department provides properly prepared landing grounds over the subsidized routes, but the contractor must provide hangars and workshops along the route as specified in the contract. Such buildings may be erected on the landing grounds, only a nominal rental being payable to the Department for land so used. In all contracts that have been let the service has to be performed once weekly in each direction. Provision is made for the deduction of a proportion of the subsidy in the event of failure to complete any trips. The contractor must carry free up to 100 lbs. of mail on each trip. Letters for transmission by aerial mail are charged an extra 3d. per  $\frac{1}{2}$  ounce. The extra amount so received by the Postmaster-General's Department, less any additional expenditure incurred by that Department in the handling of the aerial mails, is paid to the Defence Department as a credit to revenue. All pilots and mechanics employed on these services will be required to join the Air Force Reserve when the Reserve is constituted.

Up to the present tenders have been accepted for the following aerial mail routes :—

#### GERALDTON TO DERBY, WESTERN AUSTRALIA.

The successful tenderer for this service, a distance of 1,195 miles, was Western Australian Airways Ltd. The landing places for mails on this route are Geraldton, Carnarvon, Onslow, Roebourne, Port Hedland, Broome, and Derby. The first contract was for a period of twelve months from 5th December, 1921, and the amount of subsidy £25,000. With the approval of the Treasury, the Company was granted additional financial assistance in the form of a Government guaranteed overdraft at the Commonwealth Bank to the amount of £8,000, which was secured on the Company's assets. This money was expended in the purchase of initial equipment, and was repaid in eight monthly instalments.

A fresh contract has been let to the same Company for the maintenance of the service for a further twelve months to 5th December, 1923, with a similar subsidy. In the light of the experience gained in the first year certain amendments were made in the fresh contract. These related mainly to the cessation of the service during periods of official " storm warnings " along the north-west coast.

With the exception of a serious accident at its inception, this service has been carried on successfully, and the facilities it has provided have been readily availed of by the residents. For example, the number of letters carried during the first month the service was in operation, January, 1922, was 577 ; this has now increased to about 9,000.

#### CHARLEVILLE TO CLONCURRY, QUEENSLAND.

This service is carried on by the Queensland and Northern Territory Aerial Services Ltd., which has a twelve months' contract from 2nd November, 1922, with a subsidy of £12,000. The route covers 560 miles, and links up the western terminals of three main railway lines in Western Queensland, viz., Charleville, Longreach, and Cloncurry. The landing places for mails are—Charleville, Tambo, Blackall, Longreach, Winton, McKinlay and Cloncurry.

During its period of operation this service has shown 100 per cent. efficiency—a result achieved during the summer, which is the worst time of the year in that part of Australia for flying.

#### ADELAIDE—SYDNEY AND SYDNEY—BRISBANE.

Contracts were accepted in 1921 for the maintenance of weekly return aerial services between Adelaide and Sydney, 760 miles, and Sydney and Brisbane, 550 miles, for a period of twelve months, with subsidies of £17,500 and £11,000 respectively. The successful tenderers were the Larkin Aircraft Supply Co. Ltd., for the former service, and Mr. F. L. Roberts for the latter. The 18th April, 1922, was fixed as the latest date for commencing these services. A company formed for the purpose of taking over, with the Minister's approval, the two contracts, and running a through service connecting Adelaide, Sydney and Brisbane, was not floated to the satisfaction of the Department. Approval was subsequently given for the assignment of Mr. Roberts' contract to the Larkin Aircraft Supply Co. Ltd. With the sanction of the Treasury financial assistance to the extent of £15,000, in the same form as that granted to Western

Australian Airways Ltd., was made available to the Larkin Aircraft Supply Company at the beginning of this year for the purchase of equipment, &c. The amount is secured over the whole of the assets of the company, including its uncalled capital, and is repayable to the bank in eleven payments over the period of the contract. Owing to various causes delays have taken place in the commencement of the services, and the period covered in the original contract has expired. Action is now being taken to prepare a fresh contract between the Commonwealth and the Larkin Aircraft Supply Company for the maintenance of the two services for a period of twelve months from 1st July, 1923, or from such earlier date as the company is ready to commence operations. The proposed landing places for mails will be—Adelaide, Mildura, Hay, Narandera, Cootamundra, Sydney, Newcastle, Kempsey, Grafton, Ballina and Brisbane.

#### FUTURE SERVICES.

Attention is now being directed to routes linking up isolated communities, and to districts which have inadequate mail and passenger services. It is proposed later to conduct a service between Oodnadatta and Alice Springs, and a seaplane service between Adelaide and Port Lincoln on Eyre's Peninsula, South Australia, is contemplated. The Controller of Civil Aviation has also in view the establishment of a trans-continental service between Adelaide and Perth, which distance should be covered in about eighteen hours. He anticipates no difficulty in arranging for night flights on this route provided the right type of machine can be secured. Night flying has not yet been seriously undertaken in Australia, but in the United States of America night flying is conducted in the service between New York and San Francisco where three mountain ranges and a desert have to be crossed. Congress has recently granted one million dollars to assist night flying.

#### EXPENDITURE.

Provision for aviation was first made on the Estimates for the financial year 1913-14, when the sum of £3,012 was provided to meet preliminary expenditure at Point Cook. As the work proceeded and aviation developed increased amounts were voted under the Departments concerned—Defence and Works and Railways.

For a few years nominal amounts towards the establishment of a Royal Australian Naval Air Service were provided on the Estimates, but the expenditure was small, viz. :—

Year.	Appropriation.	Expenditure.
	£	£
1917-18 ..	5,000	320
1918-19 ..	4,000	1,976
1919-20 ..	2,000	1,413

In 1920-21 special provision for the Air Services, apart from the Departments, was made for the first time, when an amount of £500,000 was provided for expenditure upon the Air Force, and £100,000 for the development of civil aviation.

The following tables show the appropriation and the principal items of expenditure upon Air Services during the past three years :—

#### AIR SERVICES.—APPROPRIATION AND EXPENDITURE.

Financial Year, 1920-21.	R.A.A.F.		Civil Aviation Branch.		Total Air Services.	
	Appropriation.	Expenditure.	Appropriation.	Expenditure.	Appropriation.	Expenditure.
	£	£	£	£	£	£
Pay .. .. .	..	38,945	..	1,389	..	..
Contingencies .. .. .	..	19,210	..	3,344	..	..
Total Ordinary Services .. .. .	205,800	58,155	100,000	4,733	305,800	62,888
Additions, New Works, Buildings, &c.—						
Towards acquisition of sites and construction of hangars, workshops, barracks, &c., provision of equipment, plant, spare parts, &c. .. .. .	294,200	..	..	..	294,200	..
Reconditioning gift motor transport in U.K. ..	£50,240	..	..	..	..	..
Purchase of aircraft stores in America ..	3,600	..	..	..	..	..
Purchase of aerial bombs .. .. .	5,600	..	..	..	..	..
Aircraft equipment, tools, spare parts, &c. ..	10,200	..	..	..	..	..
Buildings at Point Cook .. .. .	7,400	..	..	..	..	..
	..	77,040	..	..	..	77,040
Grand Total, 1920-21 .. .. .	500,000	135,195	100,000	4,733	600,000	139,928

AIR SERVICES.—APPROPRIATION AND EXPENDITURE—*continued.*

Financial Year, 1921-22.	R.A.A.F.		Civil Aviation Branch.		Total Air Services.	
	Appropriation.	Expenditure.	Appropriation.	Expenditure.	Appropriation.	Expenditure.
Pay .. .. .	£ 79,745	£ 70,565	£ 4,034	£ 3,873	£ 83,779	£ 74,438
Contingencies—						
Issues to <i>personnel</i> , allowances, rations, fares and freight, &c. .. .. .	30,000	46,189	3,140	2,646	33,140	48,835
General Stores and Maintenance of Aircraft, Petrol, Oil, &c. .. .. .	10,000	8,164	3,200	854	13,200	9,018
Repairs and Maintenance of Aerodromes, Hangars, Workshops, &c., and Rent of Land and Buildings .. .. .	6,000	4,640	1,000	320	7,000	4,960
Development of Civil Aviation—						
Subsidy to W.A. contractors .. .. . £15,920						
Grant to Melbourne University towards purchase of wind tunnel for aerodynamic laboratory .. .. . 1,500						
Less amount estimated to remain unexpended at close of year .. .. .	..	..	17,420	14,529	17,420	14,529
Total Ordinary Services .. .. .	125,745	129,558	28,794	22,222	100,000*	151,780
Additions, New Works, and Buildings—						
Under control of Defence Department .. .. .	191,170	..	34,830	..	226,000	97,688
Acquisition of sites .. .. .	..	7,420	..	8,333	..	..
Purchase of seaplanes, aeroplanes, and equipment .. .. .	..	79,975	..	..	..	..
Purchase of aeroplane .. .. .	..	..	..	1,960	..	..
Under control of Works and Railways Department .. .. .	65,636	..	8,364	..	74,000	32,916
Buildings and installation water, lighting, &c., Point Cook .. .. .	..	28,526	..	..	..	..
Preparation of aerodromes and aerial routes .. .. .	..	..	..	4,390	..	..
Total New Works .. .. .	256,806	115,921	45,194	14,683	300,000	130,604
Grand Total, 1921-22 .. .. .	382,551	245,479	71,988	36,905	400,000	282,384

\* Excess expenditure of £53,464 Ordinary Services met by corresponding saving in New Works Vote on Treasurer's approval.

Financial Year, 1922-23.	R.A.A.F.		Civil Aviation Branch.		Total Air Services.	
	Appropriation.	Expenditure.	Appropriation.	Expenditure.	Appropriation.	Expenditure.
Pay .. .. .	£ 93,215	£ 78,906	£ 4,737	£ 4,399	£ 97,952	£ 83,305
General Contingencies .. .. .	46,700	33,612	5,390	3,600	52,090	37,212
General Stores and Maintenance of Aircraft and Equipment, Petrol, and Oil .. .. .	12,000	8,342	1,000	907	13,000	9,249
Rent of Buildings .. .. .	1,000	114	1,100	21	2,100	135
Repairs and Maintenance .. .. .	6,000	3,333	2,700	1,002	8,700	4,335
Development of Civil Aviation—						
Subsidy to Western Australia contractors .. .. . £26,128						
Subsidy to Queensland contractors .. .. . 7,939						
Towards purchase of commercial machine and engine .. .. . 2,800						
Miscellaneous and Meteorological Equipment .. .. . 1,334						
Miscellaneous—payment to widow of officer killed on duty .. .. .	..	..	88,000	38,201	88,000	38,201
Total Ordinary Services .. .. .	158,915	124,307	102,927	49,330	261,842	173,637
Additions, New Works, and Buildings—						
Under control Defence Department .. .. .	32,750	..	4,000	..	36,750	30,597
Purchase aircraft equipment, spares, &c. .. .. .	..	30,208	..	389	..	..
Under control Works and Railways Department .. .. .	56,715	..	22,000	..	78,715	45,665
Buildings at Point Cook .. .. .	..	24,165	..	..	..	..
Preparation of aerodromes and aerial routes (estimated) .. .. .	..	..	..	21,500	..	..
Total New Works .. .. .	89,465	54,373	26,000	21,889	115,465	76,262
From Loan Funds for Works—						
Under control Home and Territories Department—						
Purchase of properties and sites .. .. .	1,620	10,275	30,500	7,371	32,120	17,646
Grand Total, 1922-23 .. .. .	250,000	188,955	159,427	78,590	409,427	267,545

The small expenditure in comparison to the appropriation for the year 1920-21 is due to the fact that it was not until towards the end of the year 1920 that the Air Board was constituted, and the Controller of Civil Aviation appointed, and that the creation of the Royal Australian Air Force was not authorized until March, 1921.

It is contended by the Air Force authorities that the large amounts voted for "New Works" remaining unexpended each year are due to the delays in having the works carried out. There is attached to the Air Force, a Works Officer who, subject to the First Air Member, drafts proposals for works and buildings required by the Air Board. These are submitted to the Minister for Defence through the Works Branch of the Defence Department, and when approved are transmitted to the Works and Railways Department for execution. In the case of works, the estimated cost of which exceeds £25,000, reference is made to the Parliamentary Standing Committee on Public Works, and its report has to be adopted by Parliament before a commencement can be made.

The proposals for additional quarters at Point Cook were first tentatively approved in March, 1921. Further consultations between officers of the Works and Defence Departments produced a definite scheme, which was referred by Parliament to the Public Works Committee in December, 1921. As there had been an increased vote for works generally, the Committee had a large number of investigations on hand, and its report on this project was not presented until October, 1922. It was adopted by Parliament a few days later. The Works and Railways Department then proceeded with the preparation of the working drawings and the specifications upon which tenders are now being called.

In the case of the Aircraft Depôt at Laverton, a sum of money for this project was placed on the Estimates before any drawings were in existence.

The Director-General of Works in the Works and Railways Department pointed out that his Department is greatly hampered in its work by Departments failing to submit their proposals early in the year. In consequence, when the Works Estimates are passed by Parliament a peak load of work falls on his drafting office, and some delay is inevitable. His suggested remedy is, that Departments forward their proposals at least six months before the end of the financial year for the preparation of preliminary drawings and estimates. When the Estimates are passed only working drawings would then be necessary. It is not considered economical to prepare elaborate and expensive working drawings for projects which may never eventuate. The witness added, that it has been the practice in some instances to place a sum of money on the Estimates for proposed works before any drawings have been prepared. In consequence, when the Estimates are passed the works cannot possibly be completed, and in some cases not even commenced, before the close of the financial year.

#### ADVISORY BOARD.

The establishment of an Advisory Board in connexion with civil aviation was suggested to the Committee, but, apart from the proposer, none of the witnesses examined by the Committee saw any great advantage to be derived from the creation of such a body. They were satisfied with the present administration and the treatment accorded them. They were of opinion that the Controller was doing good work in the advancement of civil aviation:

#### INVESTIGATION OF ACCIDENTS.

A public inquiry into all aviation accidents was another suggestion placed before the Committee. All accidents to machines are closely investigated by the authorities concerned—the Air Board in the case of Air Force machines, and the Civil Aviation Branch in the case of civil machines. In the event of a fatality there is also an inquiry by a coroner. This question has been raised in England where accidents are investigated by an accident investigation committee of the Air Ministry. The findings are not made public, and, moreover, are not supplied to the aviation authorities of this country.

#### COMMITTEE'S FINDINGS AND RECOMMENDATIONS.

The Committee is satisfied from the evidence placed before it that the development of the Air Force is essential for the safety of Australia. Considerations of finance have, however, prevented its greater expansion, and have restricted its utility particularly in relation to co-operation with the Naval Forces. The Committee is of opinion that the money provided for Air Services has been, on the whole, wisely expended, but the present Air Force cannot be regarded as by any means sufficient for the needs of this island continent. It is recognised, however, that the whole question of Air Defence must be considered in conjunction with, and in relation to, the naval and military requirements of Australia.

As a result of the Imperial Government's generosity and Australia's own purchases, much valuable Air Force equipment has been accumulated, but if full and proper use is to be made of this, it is imperative that adequate housing should be provided at an early date.

The system of making available certain items of general utility included in this equipment, such as motor lorries, for the use of other Government Departments commends itself to the Committee. Such a system will permit of stocks being "turned over," and their replacement effected by more modern equipment of a standardized type.

Throughout its investigations the Committee has been impressed with the keenness and earnestness displayed by all those connected with the Air Services of Australia. The present system provides for the effective co-ordination of the three branches—Naval, Military, and Civil—but the administration is hampered by the absence of an Air Defence Act framed to provide the necessary power to constitute an Air Force as distinct from the Naval and Military Forces, and to facilitate its effective conduct. The Committee recommends the early enactment of such a measure.

The question of utilizing Air Force officers and machines for purposes of civil aviation—an idea which readily appeals to the lay mind—has been fully considered in all its aspects. War machines have reached an advanced stage, but they are neither economical nor suitable for civil work. Though a man may learn to fly in a few weeks, the defence pilot must undergo an intensive course of training. He must master highly technical subjects, such as the detailed working of engines, aerial gunnery, aero-dynamics, photography, wireless, meteorology, naval and military co-operation, &c., and would have little time to devote to commercial undertakings.

It is realized that civil aviation is nevertheless a valuable factor in defence, and, although commercial machines would have but little value for general offensive or defensive purposes, they could render, in a crisis, much assistance as troop carriers, ambulance machines, and means of rapid communication. Civil aviation should be looked upon as an auxiliary service in just the same way as the mercantile marine to the Navy.

Civil aviation in Australia has not reached that stage when it can be regarded as an entirely commercial proposition. Much experimental and developmental work still remains to be done. The possibilities of aviation in this country are indefinite, and few countries afford greater scope for its development. The aerial services already instituted are proving of great benefit to the districts served, and valuable pioneering work is being performed. The initial cost of the machines, their maintenance and depreciation, make the business an expensive one, and capital is difficult to secure. It is considered that the machines engaged in the various services could not be kept in commission without financial assistance in some form. The present system of inviting tenders for proposed services over approved routes, and requiring the tenderers to indicate the amount of subsidy expected, is regarded by the Committee as the best means of affording assistance at this stage. Current contracts are for a period of twelve months. A longer period would, it is considered, be more encouraging to contractors and would offer greater inducements to them to extend their activities. The Committee recognises that the effective spending of Government subsidies cannot be secured in any undertaking unless the recipients themselves are prepared to risk their own resources, and make every endeavour to become self-supporting. The evidence throughout was emphatically in favour of the conduct of subsidized aerial mail services by private enterprise.

With the rapid development of aviation it is quite within the realms of possibility that the Air Force may become Australia's first line of defence. It is essential, therefore, that in this regard Australia should be prepared and as far as possible become self-contained. Serious consideration was, in consequence, given by the Committee to the question of the manufacture in the Commonwealth of aeroplanes.

Evidence showed that whilst initial difficulties would be encountered, the manufacture of aircraft, as distinct from the engines, might be successfully accomplished, but not for some time on a payable basis.

Though the manufacture of the engines is at present possible in this country, it cannot be regarded as a commercial undertaking. Even with the development of the motor and other engineering industries the demand would be insufficient to induce local manufacturers to instal expensive plant, and compete against massed production overseas.

Large numbers of engines might be imported and stored for future use by the Air Services, but such action would involve heavy expenditure of an unknown quantity, whilst there would be serious risks from deterioration and obsolescence. It would mean a tremendous amount of money, which had been spent abroad, lying idle for an indefinite period.

As essentially Defence requirements, the engines should be made within Australia, but for the reasons enumerated, private companies cannot be expected to undertake their manufacture unless assisted substantially by the Government. This assistance might be rendered by the Government installing, in private workshops, machinery capable in time of emergency of being immediately utilized for the production of aircraft engines—the men meanwhile having been afforded opportunities to become proficient in its working. Such a system would necessarily presuppose the employment by the Government of a technical and inspection staff to insure the machinery being kept up to date, and maintained in a high state of efficiency. On the other hand the Government might establish its own factory. This would involve considerable outlay on buildings and plant, which would be comparatively idle for long periods and be concentrated in one locality. To hold the men, whose services would be of value in time of need, continuous employment would have to be found. To be able to take full advantage of the ability to manufacture our own requirements, the supply of materials must be assured. Already many of the necessaries are obtainable in Australia, but much has yet to be accomplished. Research into the possibility of Australia providing the metals, alloys, and other materials, is eminently a Governmental responsibility, and one which, in the opinion of the Committee, should receive immediate and serious consideration.

Experience has shown that even in countries where the technical control of production is well understood and highly developed, difficulties were encountered in the initial manufacture of aircraft and engines. Large sums of money have been spent in experimental and developmental work in Great Britain and in the United States of America. Australia should benefit by their example and concentrate upon a limited number of types of aeroplanes and engines selected by experts as the most suitable for adaptation to the particular conditions existing in this country.

Having regard, therefore, to all the circumstances, the Committee is of opinion that the best results will be obtained by setting up, in conjunction with a research establishment, a parent Government factory, well stocked with the necessary raw materials pending their ultimate local production, which would be responsible for experimental and developmental work, and for the organization of engineering works throughout the country, so that in time of emergency the whole strength of Australia's engineering capacity could be readily turned to the efficient production of Defence requirements.

The Committee was impressed by the evidence heard concerning the delays in having public works put in hand. The remedy, to some degree, rests with the Departments requiring the works. The early submission of proposals to the Works and Railways Department would enable the Works Officers to proceed with the preparation of the necessary drawings and specifications, thus relieving the pressure by effecting a more even distribution of work throughout the year.

#### ADDENDUM.

The following is recorded, as provided in sub-section 2, section 2B, of the *Committee of Public Accounts Act 1913-1920* :—

In the course of the consideration of the draft Report, Senator Buzacott moved :—

That the words "The present system of inviting tenders for proposed services over approved routes and requiring the tenderers to indicate the amount of subsidy expected is regarded by the Committee as the best means of affording assistance at this stage. Current contracts are for a period of twelve months. A longer period would, it is considered, be more encouraging to contractors, and would offer greater inducements to them to extend their activities," stand part of the Report.

Seconded by Mr. Paterson.

The Committee divided on the motion—

Ayes (6).  
 Senator Bolton,  
 Senator Buzacott,  
 Senator J. D. Millen,  
 Mr. Hunter,  
 Mr. Marks,  
 Mr. Paterson.

Noes (3).  
 Mr. Fenton,  
 Mr. Makin,  
 Mr. West.

And so it was resolved in the affirmative.

J. G. BAYLEY,  
 Chairman.

Office of the Joint Committee of Public Accounts,  
 Federal Parliament House, Melbourne,  
 28th June, 1923.



## RECOMMENDATIONS OF MINORITY.

We are of opinion that, as the Commonwealth Government maintains at considerable expense a Civil Aviation department, surveys all mail routes, purchases or leases landing grounds, and pays large subsidies to contractors, aerial services should be carried out by the Government and the contractor eliminated. Private capital available for the extension of civil aviation is very limited, and if aerial mail services are to be increased from point to point in Australia, especially to remote parts at present poorly served, it is essential that vigorous Government action should be taken. The initiation and extension of these services have already been seriously delayed owing to reliance being placed on private capitalists. In the two contracts now running, the Government subsidy provides practically the whole of the income. In fact, in one contract the subsidy alone shows, according to evidence, £5,000 per annum over expenditure when the maximum distances are covered.

While co-operation in the Naval, Military, and Civil branches exists, there is still need for extension in this regard. To become an expert aviator in naval and military work pilots and mechanics have to undergo severe, varied, and continuous training, and, as part of this training is to become acquainted with the air routes of Australia and varying climatic conditions, their services could be used in a Government mail-carrying scheme with advantage to Government and pilots. Aviators, who will enter the service of mail contractors, are now being trained at Point Cook at Government expense.

For the manufacture of aeroplanes and aeroplane engines, sections in Government workshops in various parts of Australia should be organized and equipped to provide for an emergency.

Motor lorries, ambulance waggons, and much of the equipment now stored at Spotswood (the gift of the British Government) should be disposed of to other Government Departments or sold to the public, otherwise there will be considerable loss through depreciation.

J. E. FENTON.  
N. J. O. MAKIN.  
J. E. WEST.

Melbourne, 3rd July, 1923.