

1922.



THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

Laid on the Table by *Brought up*
by *Senator Newland*

Pursuant to Statute.

By Command

In return to Order

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

G. S. Morrison
Clerk of the Senate.

11-10-22

R E P O R T

Together with

MINUTES OF EVIDENCE

Relating to the proposed

PROVISION OF ADDITIONAL QUARTERS AT POINT COCK,

VICTORIA, FOR STAFF OF THE ROYAL AUSTRALIAN

AIR FORCE.

LIST OF WITNESSES.

Page.

Everett, Vice Admiral, Sir Allan, Frederic
K.C.M.G., K.C.V.O., C.B., First Naval
Member, Commonwealth Naval Board,
Melbourne.

Murdoch, John Smith, Chief Commonwealth
Architect, Department of Works and Railways,
Melbourne.

Owen, Percy Thomas, Director-General of Works,
Department of Works and Railways,
Melbourne.

White, Major General, Sir Cyril Brudenell
Bingham, K.C.M.G., K.C.V.O., C.B.,
Chief of the General Staff, Commonwealth
Military Forces, Melbourne.

Williams, Richard, Wing Commander and Senior
Member of the Air Board, Victoria Barracks,
Melbourne.

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EXTRACT FROM THE VOTES AND PROCEEDINGS OF THE
HOUSE OF REPRESENTATIVES.

No. 205 of 7th December, 1921.

32. PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - AIR FORCE, POINT COOK, ADDITIONAL QUARTERS - Mr Groom, moved, pursuant to notice, That, in accordance with the provisions of the Commonwealth Public Works Committee Act 1913-1914, the following work be referred to the Parliamentary Standing Committee on Public Works for its investigation and report thereon, viz - Provision of additional quarters at Point Cook, Victoria, for Staff of the Royal Australian Air Force. Mr Groom having laid on the Table plans, &c., in connexion with the proposed work.
Question - put and passed.

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ADDITIONAL QUARTERS AT POINT COOK, VICTORIA,
FOR STAFF OF THE ROYAL AUSTRALIAN AIR FORCE.

R E P O R T

The Parliamentary Standing Committee on Public Works to which the House of Representatives referred for investigation and report, the question of the provision of additional quarters at Point Cook, Victoria, for the staff of the Royal Australian Air Force, has the honour to report as follows :-

INTRODUCTORY.

1. As a preliminary towards the formation of an Australian Flying Service, the Commonwealth purchased an area of 640 acres at Point Cook in 1914. Subsequently, an additional 80 acres ~~was~~ ^{were} purchased in 1918 to permit of the proper planning and laying out of a residential area which would admit of expansion to meet ultimate needs ~~and~~ ^{including} the erection of quarters, etc.
2. Beginning in a very modest way, the establishment at Point Cook has grown ~~greatly~~ ^{gradually} by the addition of buildings as required, but the Department now claims that further accommodation is necessary for the personnel of the school, which has been increased as a result of the operation of the Defence scheme recently approved by Parliament.

PRESENT PROPOSAL /

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PRESENT PROPOSAL.

3. The proposal, as submitted to the Committee, involves the provision of additional mechanics quarters, dining room and recreation rooms, married N.C.O's quarters, and necessary accessory services.

ESTIMATED COST.

4. The estimated cost is set down at -

(a) Single mechanics quarters two storeys for 40 men.	£. 4,240.
(b) Single mechanics quarters one storey for 16 men.	2,025.
(c) Single mechanics, dining hall and kitchen building.	4,440.
(d) Single mechanics quarters and recreation rooms - removal, alteration and extension.	3,835.
(e) Married N.C.O's quarters (six houses)	6,240.
(f) Footpaths and fencing.	1,250.
(g) Access, roads, paths and stormwater	930.
(h) Water supply, hydrants and sewerage	2,200.
(i) Cooking and hotwater services.	2,200.
(j) Installation of electric light.	2,700.
Contingencies and supervision, etc.	<u>1,470.</u>
	<u>£31,500.</u>

DESCRIPTION OF THE BUILDING

5. In conformity with the structures already on the site all the buildings now proposed will be of timber construction with iron roofs. The central block of single mechanics quarters, which is to be removed from its present position and re-erected,

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will be of one storey with a recreation room in the centre 49' 6" by 30' with an annexe at each end of such room sufficiently large to each contain a full sized billiard table. A ten feet verandah extending over the whole length of the building will provide sitting accommodation for the men outside their recreation quarters. Bedrooms will be provided at each end of the building of a size 12 feet by 10 feet and designed to accommodate 2 men each. The total accommodation provided in this building is for 64 men. In addition to bedrooms, there will be lavatories, shower baths and plunge baths; hot water will be laid on.

Of the new buildings for single mechanics, one will be of two storeys to ~~hold~~ ^{accommodate} 40 men, and the other ~~to accommodate~~ ^{it} will be of one storey, ^{to accommodate} 16 men.

The six cottages for married non commissioned officers will be on somewhat similar lines to those at present at Point Cook and will be arranged in continuation of the existing group. Each will have a frontage of 66 feet, contain an area of a quarter of an acre and be separately fenced.

The accommodation to be provided in these cottages will consist of a living room 17 feet by 13 feet; two bedrooms, one 13' by 13' and the other 11' by 11'6"; a kitchen 11' by 11', bathroom and laundry. Each cottage has been so

Planned /

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planned, as to take a third bedroom, if necessary, and each will have a back and front verandah. The plans provide for two different types of houses which will make for a pleasing variation in the ultimate appearance of the village.

COMMITTEE'S INVESTIGATIONS.

6. The Committee visited Point Cook, inspected the areas allocated to the various types of buildings and examined the interiors of some of the existing quarters, and were pleased to learn that the occupants are satisfied with the accommodation provided for them. Evidence was obtained from the Senior Member of the Air Board, the Chief of the General Staff, the First Naval Member, and the Director-General of Works in regard to the general scheme of development of the air service, and the lay-out of the Station. Explanations were also given by the Chief Commonwealth Architect in respect of the plans of the building proposed to be erected. It was ascertained that, whereas accommodation will be required at Point Cook for about 200 "other ranks", the accommodation at present available is sufficient only for 26 officers and 76 other ranks. The men now at the Station, who cannot be housed in permanent buildings, are accommodated in iron huts similar to those used in camps during the war. These are practically long dormitories, and provide very little comfort for men living at Point Cook permanently, but will be available for the use of citizen

forces, or others attending the Station for short periods of training. 78.

The present policy for the development of the Royal Australian Air Forces, as approved by the Government, provides for a headquarters, a flying training school, and an air-craft depot, *the personnel of which will form portions of the* ~~who are to be~~ permanent forces, and for one mixed land-plane squadron, which will have a permanent nucleus, ~~and~~ the remainder consisting of citizen forces.

The whole of these units will, for the present, be located at Point Cook, but later, it is the intention to establish the air-craft depot near the Laverton Railway Station, where the Commonwealth is already in possession of the necessary land. The mixed land-plane squadron will be stationed in Victoria at either Point Cook or Laverton as may be later determined.

It was ascertained in evidence that the present strength of permanent units at Point Cook is 31 officers and 216 other ranks and it is in contemplation to increase that to 38 officers and 271 other ranks.

Inquiries were made as to whether it would not be more advantageous to locate the whole of the air forces at Point Cook, but it was explained that Point Cook will be primarily the School and Laverton is designed for a service unit, and it is more advantageous from all points of view especially in time of

time of emergency that these functions be separated.

From the opinion placed before ^{it.} the Committee is satisfied that the development of the air force is essential for the safety of Australia, and in the general progress being made in air matters ~~may quite~~ ^{come by} be regarded as our first line of defence.

It is gratifying, therefore, to the Committee to see that such foresight has been shown in the acquisition of land and the planning of a school such as Point Cook which will be capable of extension to practically the limit of development likely to be looked for in Victoria.

Inquiries were made by the Committee as to the possibility of utilizing defence officers ^{of} ~~in~~ machines in commercial aviation as some members of the Committee were particularly anxious that this should be brought about.

The Committee was assured, however, that, while facilities would be offered for the training of pilots and others who would be useful in commercial aviation, the training of a permanent defence officer was so intensive and would take up so much of his time that he would have very little chance of doing anything beyond it. Whilst realising that carriage of mails or ^{doctors} to outback settlements might tend to popularise the service, it was further pointed out that the military

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machines were not of the best or most economical type to do this work

RECOMMENDATION.

After giving the matter careful attention, the Committee is satisfied that the buildings asked for are necessary, have been designed with due regard to comfort and economy and that the land is being used to good advantage.

It is therefore, recommended that the erection of the buildings mentioned be put in hand as early as possible.

D E C I S I O N .

The decision arrived at in connection with this matter is shown in the following extract from the Minutes of Proceedings -

Mr Jackson moved that the proposal for the erection of Quarters, etc., at Point Cook, as submitted to the Committee be approved.
Seconded by Senator Fell.
Carried unanimously.



Vice-Chairman.

PUBLIC WORKS COMMITTEE.

MINUTES OF EVIDENCE.

(Taken at Melbourne.)

SATURDAY, 26TH AUGUST, 1922.

Present:

Senator NEWLAND, in the chair;	
Senator Foll,	Mr. Mackay,
Senator Plain,	Mr. Parker Moloney,
Mr. Bamford,	Mr. Jackson.

Richard Williams, Wing Commander and Senior Member of the Air Board, Point Cook, sworn and examined.

1. To Senator Newland.—I am not in command of the station, but I am responsible for recommending increases in connexion with works, &c. I have prepared a rough outline of the proposed scheme, which is as follows:—The present policy for the development of the Royal Australian Air Force, as approved by the Government, provides for:—

- Permanent Forces.—1 Head-quarters; 1 Flying Training School; 1 Aircraft Depot.
- Permanent Nucleus Remainder Citizen Forces.—1 Mixed Landplane Squadron.

It is the intention that the location of the Flying Training School shall be at Point Cook, where certain land and buildings are already in the possession of the Commonwealth. It is the intention that the Aircraft Depot shall be located near the Laverton Railway Station; the necessary land is already in our possession. If it were a question of land alone, we would have sufficient room at Point Cook to establish an aircraft depot, but it is really a financial matter. The Mixed Landplane Squadron will be stationed in Victoria, and will be at either Point Cook or Laverton. Until the necessary permanent buildings have been erected, both the Aircraft Depot and the Landplane Squadron will be temporarily located at Point Cook. In order to get on with the organization of these units, nine temporary hangars designed for field use have been erected at Point Cook, and are being used for the storage of aircraft and equipment. In addition, a quantity of aircraft in cases, and machinery which is not required at Point Cook at the moment, and which, in any case, could not be housed there, is stored pending erection of the necessary buildings at Laverton, in temporary buildings at Spotswood erected in the first instance by the Wool Commission. The total cost in connexion with these temporary buildings to us is about £800 per annum. The present establishment and strength of permanent personnel of units at Point Cook is as follows:—

	Establishment.	Present Strength.
	Officers. O. Ranks.	Officers. O. Ranks.
Station Head-Quarters	7 .. 49 ..	5 .. 48
No. 1 Flying Training School	14 .. 76 ..	16 .. 56
No. 1 Aircraft Depot	10 .. 107 ..	10 .. 95
No. 1 Squadron (permanent nucleus)	7 .. 39 17
Total	38 .. 271 ..	31 .. 216

This establishment cannot be completed until the Estimates for 1922-23 are passed. The bulk of the personnel of No. 1 Aircraft Depot are employed in the workshop section, which is at present mainly engaged in the overhaul and repair of gift equipment. Little flying training, other than refresher courses, has been done at No. 1 Flying Training School since its formation. When flying training commences, and the Citizen Force Squadron is formed, much additional work must be anticipated in the direction of repairs, &c., and even though No. 1 Aircraft Depot, with its stores, &c., be removed to Laverton, the bulk of the personnel now shown with No. 1 Aircraft Depot will be required in the workshop section of No. 1 Flying

Training School, and so will remain at Point Cook. It is considered that even after the transfer of No. 1 Aircraft Depot and No. 1 Squadron to Laverton, accommodation will still be required at Point Cook for about 200 other ranks, who will be permanently employed. At present, there is accommodation at Point Cook in permanent buildings for the following:— Officers, 36; other ranks, 76; or a total of 112. It is considered that the existing accommodation will be sufficient for officers, and the proposals now under consideration are intended to provide the necessary accommodation for the balance of other ranks, including living, recreational, cooking, and messing accommodation. The men now at the station who cannot be housed in permanent buildings are housed in iron huts similar to those used in camps during the war. It is proposed that when permanent buildings are provided for the permanent personnel, these huts shall be available for the Citizen Forces, or others attending the station for short periods of training. When the recommendation for additional buildings was first submitted, funds would not allow of the provision of over £31,000, and the following buildings were asked for:—

No. 47.—Single mechanics' quarters, two story, for 40 men	£4,240
40.—Single mechanics' quarters, one story, for 16 men	2,025
36.—Single mechanics' dining-room and kitchen building	4,440
35.—Single mechanics' quarters and recreation rooms, removal, alteration, and extension	3,835
Nos. 55-60 (incl.)—Married N.C.O.'s quarters (6 houses)	6,240
Footpaths and fencing
Access roads, paths, and stormwater
Water supply, hydrants, and sewerage	8,000
Cooking and hot water services
Installation of K.L.
Contingencies, supervision, &c.	2,000
Total	£30,780

Provision has, however, been made on this year's Estimates for an additional £12,800 for the erection of the following buildings:—

No. 37.—Sergeants' mess	£750
38.—Gymnasium and recreation room	2,000
39.—Single airmen's quarters, to house 16 men	2,025
45.—Single airmen's quarters, to house 40 men	4,240
Nos 61 and 62.—Married N.C.O.'s quarters	2,025
Roads, lights, incidentals	1,770
Total	£12,800

This, with the existing accommodation, will provide for the housing, &c., of 207 other ranks, which should meet immediate requirements. Plans showing the general relation of the station to Laverton and Melbourne, its lay-out, buildings now existing, and those asked for under these proposals, are submitted. In addition, the following short summary setting out the main reasons for establishing a depot at Laverton as against Point Cook, where we already have sufficient land—if that were the only consideration—is submitted.

Main Reasons for Recommending Establishment of an Aircraft Depot at Laverton as against Point Cook.

This is designed as the main receiving storage and supply depot for aircraft, aircraft material and transport, and also to contain the main erecting and repair shops for service units. It calls for:—

- (i) Good communications by road and rail. These should run right into the depot.
- (ii) Adequate facilities for economic handling, storage, overhaul, erection and repair of aircraft, aircraft material, and transport.
- (iii) An aerodrome to allow of proper tests and receipt and despatch of aircraft by air.

The establishment of the depot at Point Cook would necessitate the construction of a railway—5 miles—at a cost of about £45,000 (see Appendix "A"). At Laverton a siding or loop line only is required. Lav-

FLYING SCHOOL—POINT COOK 3

ton is on the main Melbourne-Geelong railway line, which carries regular goods traffic, and also on the main Melbourne-Geelong road, probably the best road in the State; the road from Melbourne to Point Cook passes through Laverton. Telephone, water, light, and power mains provided by the Commonwealth Government to Point Cook pass through Laverton. Air Force bombs and ammunition could be stored at the Laverton magazine, which is connected by a light railway at the Laverton railway station, and so be handy to a depot established there. The following is an estimate given by the Works and Railways Department regarding the difference of cost in establishing No. 1 Aircraft Depot at Point Cook, as compared with Laverton, estimating that the work when completed will amount to £150,000:—

ADDITIONAL COST BY REASON OF ERECTING BUILDINGS, ETC., AT POINT COOK.

Cartage of material to Point Cook, say 10,000 tons, by steam tractors and trolleys, estimated cost 9d. per ton per mile, or 4s. 6d. per ton delivered	£2,225
Cartage of men and supervisors	1,000
Maintenance of roads over two years	1,500
Storeyard at Laverton, consisting of rented land, fencing and shed	175
Labour in storeyard—loading and unloading	350
Loop line from station to storeyard	500
Interest on capital cost of steam tractor, trolleys, &c. ..	2,000

£7,775

Supplementing water supply 6 miles, 4-in. water main, estimated to cost

12,000

Total

£10,775

Railway Land, &c.

Land and compensation	£2,300 0 0
Fencing, cattle grids, and occupation crossings	1,080 0 0
Earthworks	4,312 10 0
Bridgework—steel and concrete bridge over Skeleton Creek	4,800 0 0
Minor water-ways, complete	575 0 0
Ballast and metalling	5,885 10 0
Sleepers	3,450 0 0
Telegraph line, complete	345 0 0
Station buildings, platform, &c.	300 0 0
Signalling and interlocking, Laverton	450 0 0
Rails and fastenings, complete, in road	12,237 10 0

£38,725 0 0

Plant and supervision, 12½ per cent.

4,841 0 0

Contingencies, 10 per cent.

4,357 0 0

£47,923

Total

£97,698

Less Amount to be Spent at Laverton.

Branch electric power main, new transformer-house, transformers, &c.

£1,500

Cartage of materials from Laverton

Railway Station to site at Laverton,

by horse-drawn vehicles, assuming

site within half-a-mile of station,

10,000 tons, at 3s. per ton

£1,500

Labour—loading, and unloading at

station

350

1,850

3,350

Total

£64,348

(From this must be deducted the cost of land, loop line, and road at Laverton.)

The yearly charges at Spotewood are as under:—

Fire services	£430 16 0
Rent of building	160 0 0
Interest on rails and other Public Works material	24 10 11
Maintenance of siding	10 0 0
Rent in respect of railways land	1 0 0
Electric lighting	16 10 4
Sanitary services	6 10 0
Telephone charges	8 12 6
Rental of crane	30 0 0

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I also submit plans setting out the position of the No. 1 Station, and the proposed station at Laverton, as well as the situation of the land in possession of the Commonwealth at Corio Bay, which was purchased over twelve months ago. The area at Corio Bay was purchased because it was the most suitable land adjacent to Melbourne for the operations of flying boats and seaplanes. At the time the land was purchased, the intention was to provide for the establishment of a flying boat squadron in connexion with the development of the Air Force. The main point to be considered in connexion with Laverton, apart from the cost of the station, is that communications are already in existence for civil purposes, and no further expense would be incurred in that direction. I also submit a plan showing in green the buildings now in existence at the station, one showing in red the buildings we are asking for under the scheme referred to the Committee by Parliament, and ~~also showing~~ in blue the buildings we are asking for under the provisions made in this year's Estimates. Building No. 38 is shown as a recreation room, but we have gone into the matter with the Works and Railway Department, and think we will be able to make use of a gymnasium which is now at the Williamstown Naval Depot, and which is not being used. That would save the cost of a new building, but there would be the expense of removal. I also submit a rough plan of our proposals in regard to the buildings at Laverton covering a period of five years. Under the proposed scheme, Point Cook will always be a training station, and I cannot see any possibility of that training station being conducted with less than the 216 other ranks now permanently employed there. In fact, it is very doubtful whether the work can be successfully carried on with that number, although the staff at present will meet the requirements of the immediate future. As considerable expense has been incurred at Point Cook, and as we have a number of buildings already there, as shown by the plan, it would not be wise or economical to transfer the whole of our work to Laverton. Moreover, it is always desirable to separate the service units and service establishments from the training school, from a war point of view. The whole equipment, ~~stores~~ and stores would be at Laverton under the proposed scheme. The cost of conducting the Laverton section would not be as great as that of carrying on the work at Point Cook, because at the former we would have only sufficient to look after the equipment. If we locate the squadron there, they will comprise mostly Citizen Forces, and the permanent *personnel* would only be sufficiently large to look after the equipment. At Point Cook, training would be conducted throughout the year, and as we anticipate that it takes twelve months to fully train a pilot, the Point Cook section will be by far the largest unit. It will mean that we will have two sets of workshops; but that could only be avoided by having the whole of our equipment at Point Cook. That, however, would involve the construction of a railway from Laverton to Point Cook. The statement I have submitted shows the estimate of the Works and Railways Department for constructing such a line, and by having a portion of our equipment at Laverton, we anticipate saving £64,348. The distance between the two places is 6 miles. We have a very large quantity of machinery at present stored at Spotswood, sufficient to equip the proposed workshop at Laverton, so that the purchase of additional machinery is not involved. The same officer would not be in charge of the two ~~sections~~. In making our recommendations we have to consider what would be most efficient in time of war, and in such an event there would be such activity that if all our work were being carried on in one centre, there would be more confusion than if it were separated. The question of cost, however, is the main consideration in suggesting the establishment of a depot at Laverton. If our recommendations are adopted, there

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would be very little to be transported by motor from Laverton to Point Cook. If we have an aircraft depot at Laverton, we would be able to have a railway siding right into the depot, and any aircraft which had to be sent from there to Point Cook would go by air. The only other material to go by sea would be spare parts. At present everything in the way of spare parts and ~~tools~~ has to be taken from Laverton to the depot at Point Cook. We have received from the Imperial Government what is known as an overseas repair section, which is sufficient to equip a workshop at Laverton. In connexion with the Spotswood depot, I have submitted a statement showing the annual charges incurred, which amount to £757 8s. 9d. At present, we have vacancies for seven officers and fifty-five other ranks, which cannot be filled until the present year's Estimates are passed. As a matter of fact, we are rather doubtful if we can carry on with that additional number, as it is considerably below what the Royal Air Force provide in their estimates for similar work. We had to reduce our estimate as low as possible, and base our programme on the money provided for the work. The present strength of permanent personnel at Point Cook is 31 officers and 216 other ranks. The bulk of these ~~working instructions~~ are in the ~~workshop~~ workshop section, because, at the moment, there are few repairs necessary due to crashes. When we start the Citizen Force Squadron, we must expect a certain number of crashes. When we have the flying school ~~established at Point Cook~~ the bulk of the men now shown in the aircraft depot at Point Cook will remain at that centre, and work on repairs connected with the flying school. The present arrangement is most convenient for the time. In the scheme first submitted, provision was made for one building to house 40 men, another 16, and six houses to accommodate 6 married non-commissioned officers, apart from dining, kitchen, and recreation quarters. The additional quarters we are asking for will accommodate another 56, making sufficient for a total of 207 other ranks. If the proposed works were to be erected at Point Cook instead of at Laverton, the additional cost would be £19,775, exclusive of the cost of the railway, which, according to the Estimates of the Works and Railways Department, would be £47,923. I am, of course, not in a position to say whether the estimates of that Department are reasonable, but from the figures submitted it will be seen that £64,348 would be saved by constructing the new buildings at Laverton. The land purchased at Corio Bay was acquired for the development of the Royal Australian Air Force, and ~~allotted~~ for a flying boat and torpedo carrying squadron. The site was selected because it was adjacent to the most sheltered water in the bay, and was most suitable for seaplanes, flying boat work, and torpedo-running. Under the present scheme, no provision has been made for aircraft to work in co-operation with the Navy. Normally, if we had no aircraft equipment at all, and the policy was to start a scheme, and the whole of the equipment had to be provided, the probability is that we would first of all provide units to work in conjunction with the Navy, but as the members of the Committee are aware, we have had approximately £1,000,000 worth of equipment presented to us by the Imperial Government which comprises mainly "land" planes, so that we are able to build up an organization under which we can train men, and make them available for co-operation with the Navy and with Naval units. But there is no doubt that, in time, we must provide for torpedo carriers and flying boats. It is therefore desirable to retain that area adjacent to Corio Bay, as no expense is being incurred. We are, in fact, deriving a little revenue from it, as it is leased, I understand, for grazing purposes.

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2. To Senator Foli.—The proposed expenditure will not assist civil aviation, except that the flying school, under the present policy, will be training pilots who will be suitable for civil aviation. The proposed expenditure will all come from the provision made on the Estimates for defence purposes, and will not assist civil aviation. The extension of the flying branch is being held up pending the construction of the works embodied in the proposal now before the Committee. The permanent buildings in our possession at Point Cook consist mainly of workshops and hangars. We have a considerable quantity of aircraft stores, much of which will deteriorate if not properly housed, and which we have had to ~~take~~ place in permanent buildings at Point Cook. The result has been that we have had to move ~~the~~ aircraft out of those buildings, and erect nine temporary structures to house ~~air-~~ ~~craft~~, and the remainder of the stores. We are protecting this equipment as far as possible by oiling the material used as a covering for the temporary structures, and when the whole equipment is placed in a permanent building the deterioration will be less, and the cost consequently reduced. If our work is considered only from the point of view of convenience, and the possibility of reducing expenditure to a minimum, it would be an advantage to have everything at the one centre; but from a defence point of view, it is desirable to separate the service and training units from the stores depot, and not to have everything in the one spot. That consideration may not have outweighed the other if we could have established everything in the one place at a reasonable cost, but considering the expenditure that would be involved in having a depot at Point Cook instead of at Laverton, we have decided to recommend the establishment of a depot at the latter place. It is not suggested, of course, that a depot at Laverton would be in a safer position in the event of a bombardment. If there were railway communication right into Point Cook, I do not think there is any doubt that we would have decided in favour of Point Cook. As the expense that would be involved would be so great, we have, of course, decided in favour of Laverton. In the event of war, the members of the Air Force would probably be the first called into action, and quite apart from financial considerations, it is better to have the training service units separated.

3. To Mr. Jackson.—I could not give the number of mechanics required per machine, because that would depend on what constituted a service unit or squadron. Generally speaking, twelve machines comprise a squadron, and the number of mechanics necessary would vary according to the types of machines ~~used~~ ~~in~~ the squadron, but, on the average, 750 men would be required for a twelve-machine squadron. Of our present personnel of 38 officers, and 271 other ranks, about 30 would be actual flying men. Our present staff is really a nucleus, and quite inadequate to effectively serve in the case of a possible emergency. Neither have we sufficient aircraft at present to effectively co-operate with land and sea forces. All pilots must be available to act as observers, but, in the event of war, it does not pay to use a pilot in that capacity. The construction of new machines is not undertaken under our present policy. The staff at present employed is fully engaged, and I am doubtful whether we can carry on the work we can see before us for the next few years with that number. At present, the policy of the Government is that mails shall be carried only by civil aviators, and I do not think I should be called upon to express an opinion on the question of whether that work could be undertaken by members of the Royal Australian Air Force. The staff we have at present is barely sufficient for building up an organization from a point of view of defence alone. Our

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operations are at present somewhat hampered, and depend largely upon the money placed at our disposal. We could not carry mails with our present staff. We have not yet undertaken the training of any new pilots, and up to the present we have been engaged in giving only refresher courses to pilots who have already been trained, but who have been away from the work for some time. For such services we have not made any charge. I understand the cost of the land at Laverton is approximately £1,600, and that the Works and Railway Department could put down a good road at about £1,000 per mile.

4. *To Mr. Parker Moloney.*—If Point Cook were connected with Laverton by railway, and we considered the whole question merely from the point of view of convenience in administration, &c., it would be desirable to have everything at Point Cook. I am not in favour of that, however, because, as I have already explained, it is desirable to separate the two services, and by having the depot at Laverton we are reducing expenditure considerably. The bulk of the squadrons will be comprised of Citizen Forces, the members of which will probably go into training on Saturday afternoons. It will, therefore, be seen that if the depot is convenient to a railway station, considerable time will be saved because, instead of transporting them to Point Cook, involving travelling 5 miles each way, they will be landed on the spot after a journey of forty-five minutes from Melbourne, and will consequently be able to devote much more time to their work. I cannot say what engineering difficulties would be encountered in constructing a railway from Laverton to Point Cook, but from observations made I know that a fairly wide creek would have to be crossed, and that the construction of a bridge would cost £4,860. I have not prepared any estimate of the cost of maintenance in connexion with the proposed new buildings at Laverton, but I will supply the Committee with that information. The structure at Spotswood, in which a lot of our material is housed, is the property of the Wool Commission, and is leased from the Railway Department. It is composed of wood, and is covered with malthoid, and I understand that when the lease expires, or when we vacate it, the timber will be offered for sale. The malthoid, of course, will be of little use. The extent to which our present staff is increased will depend, of course, upon the policy of the Government. I am of the opinion that the number of men we are asking for is on a conservative basis. We are now working on an absolute minimum, and we have not trained any ~~new pilots right from the start.~~ We cannot say, therefore, from actual experience, what expenditure is involved in training. All training was done during the war period, when, owing to circumstances, if a man in training gave promise, of being able to control a machine, he was ~~pushed~~ off. In those circumstances, there were, of course, some crashes, but, during peace time, greater care will be taken, and the number of accidents will, ~~of course,~~ be considerably less.

5. *To Mr. Mackay.*—There are no buildings on the land at Laverton, and the area of the block is 116 acres. At Point Cook, we have 640 acres right on the coast. The land at Laverton is 5 miles from the coast. There would be no special advantage in having a depot near the coast, and I am satisfied that the site is a suitable one. Point Cook was selected as being a suitable site before the war, and a good base from which aircraft could operate. It has not been considered desirable to have our equipment accommodated inland, as has been suggested, in connexion with arsenals. We received as a gift from the Imperial Government 128 aeroplanes, over 100 motor vehicles, 14 hangars, and the machinery to which I have already referred, and which is sufficient to equip our workshop. We also

new pilots in Australia

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received a large quantity of spare parts, machine guns, and spare engines. In the first instance, the British Government offered us 100 aeroplanes, but it was realized that they would be of little use if we had not the necessary spare parts. The Air Ministry was informed that we wished to equip four squadrons, and we were then supplied with sufficient equipment for that number, which we value at about £1,000,000. Under our present programme, we have 40 machines in commission, 12 in the squadron, and the remainder in the flying training school. The amount on this year's Estimates, including the cost of the proposals before the Committee, is £250,000. This amount is sufficient to give us a start, but is not the last word by any means. As a result of the decisions arrived at at the Washington Conference, there is a reasonable assurance of peace being maintained for the next ten years, and our policy now is to spend what we can in establishing a sound ground organization on work which will not have a limited life, and to devote money allotted to us later in other directions. If we are allotted £250,000 this year, the bulk of that expenditure will be incurred in connexion with buildings, and we will carry on in the meantime with the equipment we have. The decisions of the Washington Conference will allow us to lay in a ~~course of equipment and retire future notes in purchasing~~ additional equipment, and training pilots. The plant which we are purchasing now will not become obsolete within a few years.

6. To Senator Plain.—When a recommendation for additional buildings was first submitted, buildings estimated to cost over £30,000 were asked for, as the funds available were not sufficient for more. Since then, we have been able to devote money not required for other purposes to buildings, and we have put on this year's Estimates another £12,800 for buildings. The land at Corio Bay was purchased for us by the Home and Territories Department, and owing to a change in policy, we did not require it; it is still under the control of that Department. I understand that it has been leased by the Surveyor-General for grazing purposes until such time as we may need it.

7. To Mr. Dawson.—Our policy during the war, and ~~at present~~, has been that, when a person, irrespective of rank, comes to be trained as a pilot, he is classed as an officer cadet, and when he has graduated, he becomes an officer. During times of peace, however, it may not be necessary to ~~carry~~ that policy, and we have under consideration at present the possibility of having sergeant pilots. It takes, on an average, about twelve months for a pilot to qualify. Civil aviation is of some value to the Defence Department from the point of view of the ground organization which it provides. The pilots, too, would also be of service in time of war, and there is a provision in the contract made between the Government and the company that all ~~personnel~~ shall be members of the ~~Royal Australian~~ Air Force Reserve. In the event of ~~war~~ ~~require~~ ~~them to continue operating in the civil~~ ~~business~~ to carry on their usual work, they would be available to us as a reserve. Should the exigencies of war require them to continue operating in the civil branch, their services would not, of course, be available. During a period of war, there is always increased activity, and it is more than likely that we could not rely on securing their services. ~~and~~ the developments seem to indicate that the two branches are becoming separated. If a man wishes to be trained as a pilot with the object of engaging in civil aviation, he ~~would~~ be trained up to the standard of a defence pilot, and then become a member of our reserve. We would pay the cost. But if he received only a limited training, he would not be of service to us, and we would ~~not~~, in that case, pay the cost. I could not give the number at present engaged in civil aviation, because I understand that contracts for service between Adelaide and Sydney, Brisbane, Longreach, and Cloncurry have ~~been~~

do away with the necessity for building up a large reserve of equipment, allows us to spend our present funds on ground organization and build up future notes in purchasing

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FLYING SCHOOL—POINT COOK 9

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been lost but, when they have been a certain additional number of pilots will be brought into active work. The Geraldton-Derby service is the only one in operation at present, and, so far as I am aware, there are only four pilots actively engaged on that service. An observer never has control of a machine, but, in some instances, he is able to handle it sufficiently well to enable it to land if the pilot should be disabled. Pilots and observers usually work together, and arrangements are generally made whereby the observer will get sufficient experience of the dual control to enable him to bring down the machine without loss of life, although it may crash badly. About 500 men were trained as pilots during the war, but it would be difficult to say what number are still available, as there are some who are not prepared to re-enter the service for work in the air. The plans in the possession of the Committee show that building No. 35 is a single mechanics' barracks and recreation room, on the site of building Nos. 11, 12 and 13. It is proposed under this scheme to move this building, and extend it. Building No. 36 is the single men's kitchen and messing accommodation, and Nos. 40 and 47 are the barracks for single mechanics. Nos. 55 to 60 inclusive are quarters for married non-commissioned officers. The additional buildings referred to as having been provided for on this year's Estimates include sergeants' mess, ~~also Nos. 41, 42, and 43. It is proposed under this scheme~~ room, which we hope to purchase and transfer from Williamstown to Point Cook. Nos. 39 and 45 are the single airmen's quarters to house 16 and 40 men respectively. Nos. 61 and 62 are married N.C.O.'s quarters.

8. To Mr. Jackson.—The plan submitted has been drawn up by the Air Board, and is designed to meet our requirements. It is now in the hands of the Works and Railways Department, which may make some alterations in regard to the layout. I do not think the Government own any land between Laverton and Point Cook.

The witness withdraws.

60 Cape Lane primary

60 Laverton

No 27 & 28 operation room
No. 38.
We hope to transfer from Williamstown Naval Depot a room suitable as a mechanics' room
(No. 39)

1 of No. 1
arrangements
depot.

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FLYING SCHOOL, POINT COOK 10

(Taken at Melbourne.)

WEDNESDAY, 13th SEPTEMBER, 1922.

Present:

Mr. MATHEWS (in the Chair);
Senator Plain, | Mr. Mackay.
Mr. Jackson, |

John Smith Murdoch, Chief Architect, Department of Works and Railways, sworn and examined.

9. To Mr. Mathews.—I am aware of the reference before the Committee. The plans show the whole of the buildings proposed to be constructed in the course of the next year's programme. They also include some which will probably be erected during next year's programme of work. The scheme is one for constructing a certain number of buildings during this year, as portion of the eventual development of the Central Flying School, at Point Cook, ~~Victoria~~. The proposal was to have been very much larger, until Parliament last year reduced the speed at which it is intended to develop the Flying School. The buildings to be erected this year, with the accessory engineering services, such as road-making, sewerage, storm-water drainage, &c., are estimated to cost £31,500. The buildings themselves comprise a two-story single mechanics' quarters, to accommodate forty men, which is estimated to cost £4,240; a single mechanics' quarters of one story, to accommodate sixteen men, and to cost £2,025; a dining-room and kitchen building for single mechanics, to cost £4,440; and for the removal, alteration, and extension of the existing single mechanics' quarters and recreation rooms the cost is estimated at £3,835. This latter work will entail the shifting of the existing building back about 5 chains to a new position on the site, to fit in with the development of the whole of the Point Cook institution, upon the plan now being followed. Then there will be six cottages, as quarters for married non-commissioned officers, which will cost £6,240. The cost of the accessory services will be as follows:—Foot-paths and fencing, £1,950; access roads, paths, and storm water, £900; water supply hydrants and sewerage, £2,300; cooking and hot water services, £2,300; installation of electric light, £2,700; contingencies and supervision, &c., £1,470. It was originally intended to build quarters for single officers and for officers' servants, and two cottages for married officers; but, under the reduced scheme imposed by Parliament, these have been eliminated from the work intended for the present year. In conformity with the buildings already on the site, all those proposed to be erected will be of timber construction, with iron roofs. The site is difficult of access for material; timber construction has been adopted as the most economical. The site is an expensive one to build on, because it is several miles from the Laverton railway station. In addition to developing the Flying School at Point Cook, it is intended to commence the erection, under next year's building programme, of a flying station at Laverton railway station itself. A site has been acquired for that purpose, and the drawings of the scheme are now being prepared. The Flying School was commenced in a most unambitious way. The Government secured a piece of land, and a couple of small buildings were erected. Very early in its history it became apparent that flying would lead to extensive development at Point Cook. A good many years ago the Department planned out how an arrangement of buildings might best be made in the light of the future development of aircraft. By keeping to that plan, additional buildings, as required, have been, and will continue to be, constructed with due regard to the relationship of ~~them~~ to the whole, and always keeping in view the probable future of Point Cook. The Committee has before it a general plan of the estate which the Government bought. I refer now

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FLYING SCHOOL, POINT COOK 11

to that particular part of the estate on which the administrative buildings are situated. In addition, there is a very large area being used as the aerodrome, and to accommodate the hangars, which are nearly three-quarters of a mile away from the administrative block, down at the sea-shore. The buildings on the plans before the Committee are variously coloured. Those in existence are shown in pink. The group on the south-eastern corner consists of the officers' quarters. Numbers of officers from different units all over Australia go to Point Cook for varying periods, for instructional courses. The intention to increase the accommodation in that direction has been departed from for this year. The only other buildings at present on the site are a small gymnasium, store building, Commandant's quarters, and existing mechanics' quarters. The mechanics' building was put up before the scheme of development on the new lines had matured. It is the only building that will have to be moved to produce what we consider a good group scheme. Buildings intended to be erected this year are coloured on the plans in dark-brown, while the future buildings are those tinted yellow. The main road from the railway station is that which is bounding the east of the property. It arrives at the south-eastern corner and is joined by a road running west. From the road coming from the station, future streets will be let into the property, ~~except that~~ the southern street—which is the front street—actually faces the aerodrome. There, the intention is to extend the existing officers' quarters, ~~and to place the main officers' houses as a continuation of these.~~ The non-commissioned officers' houses are intended to face a street on the western side of the property, going inwards from the southern street. These proposed six cottages will continue straight along the street in question from the existing six buildings, and the whole can be extended indefinitely right along the western side of the property; and, if necessary, they can be continued, in future, eastward to the road coming from the railway station, which flanks the eastern side of the property. The accommodation remaining to be supplied is the single mechanics' quarters; and, in an institution of this character, the latter far outnumber those in any other branch of the service. The development of accommodation for this class of men has been extensively provided for. At present, the scheme is to erect three of these buildings only, and the dining-room; whereas the development will ultimately run into ten such buildings. In addition, if Point Cook ever becomes a large flying centre, there ~~will~~ be need for a recreation hall, a school, a post office, and, probably, shops. All these contingencies have been foreseen and provided for. In the centre of the village, sites have been allocated to that end. When the scheme was planned in the early days of aviation, I had considerable doubt whether Point Cook would ever attain to the dimensions which it has now reached. If aviation continues to develop, we have, at any rate, undertaken that we shall be on safe lines in our planning. I shall commence with a reference to officers' quarters. It is not intended this year to develop that branch of accommodation, either for married or for single officers. Coming now to the quarters for married non-commissioned officers, it is proposed to erect six further cottages, somewhat on the lines of those which the Committee will see at Point Cook at present. My Department has done its best to reduce the cost. The total for the whole six will be £6,240, so that it will be seen that we have endeavoured to keep within £1,000 for each cottage. It is possible that, with the six buildings being erected as one scheme, we may be able to complete them within the price of £1,000 each. I have already pointed out that they will be arranged in continuation of the existing group. Each will have a frontage of 66 feet. Each block will

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FLYING SCHOOL, POINT COOK 12

consist of a quarter of an acre, and will be separately fenced. The accommodation will consist of a living room, 17 feet by 13 feet; two bedrooms, one 13 feet by 13 feet, and the other 11 feet by 11 ft. 6 in.; a kitchen, 11 feet by 11 feet; bathroom and laundry. Each cottage has been so planned as to take a third bedroom, if necessary; and each will have a back and front verandah. Since the plan which the Committee has before it was drawn, I have made some improvements. I have been able to work them out in more detail. While practically retaining the same size for all of the rooms mentioned, I think that I have been able to get a better type of house; and, by erecting two different types, I have been able to secure more variety. There will be more pleasing variation in the ultimate appearance of the village. By adopting those later plans there will be no difference in the cost. I shall now explain the accommodation for the single mechanics. Their quarters at present face the flying area at the south side of the village. That area, however, is one on which it is proposed to develop the married officers' quarters. To bring the existing single mechanics' quarters into conformity with the new layout, it is intended to shift that building from its present position; it will eventually become the largest of the series of buildings for the single mechanics. Being the largest building, and the central structure at the front of the whole group of single mechanics' quarters, it has been deemed advisable to introduce in it a recreation room. It is proposed, when this building is shifted, to introduce a central part which will be a recreation room; its size will be 49 ft. 6 in. by 30 feet. It will have an annex at each end, to contain a full-sized billiard table. Each annex will be 22 feet by 30 feet. Back and front of the recreation room there will be a 10-ft. verandah, extending for the whole length, so that there will be ample sitting accommodation for the men outside of their recreation quarters. This removed building will be of one story. One end will be cut up into bedrooms; the other end has already been developed up to a certain point, in continuation of the arrangements now in existence. When the building has been removed we propose to develop the unfinished end to conform with the other. Each bedroom will be 12 feet by 10 feet, and will accommodate two men. The total accommodation of this largest block will be for sixty-four men, and the recreation room will be common to all the single mechanics in the whole of their group. In addition to the bedrooms, there will be lavatories, shower baths, and ordinary plunge baths; hot water will be laid on. Then there will be verandahs at each end of this block, 30 feet by 8 feet, which will be in the nature of quiet retiring places. Of the new buildings for single mechanics, one will be of two stories, to hold forty men; and the other, to accommodate, sixteen, will be one-storied. Probably, the central buildings to the east and west of the group, when the whole of the plan shall have been completed, will be of one story; so that, with the two-story blocks, the eventual arrangement will be a very good one. The group appearance will be thus enhanced. That is to say, the centre building on each of the four sides of the group will be one story, the remainder being of two stories. I shall now describe the two-story building to accommodate forty men. The bedrooms will be single ones; there will be twenty on each floor, the size of each being 10 feet by 8 feet, and the height 9 feet. From the point of view of hygiene, the cubic capacity of these bedrooms will be ample. There will be a verandah in front of the block. Entrance to the upper floor will be by way of a central stair. There will be a balcony on the upper floor, and central corridors on each. Also, on each floor, there will be lavatories and shower and plunge baths. In this block there will be no sitting room. I take it that such accessories as a library will

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FLYING SCHOOL, POINT COOK 13

be in, or attached to, the recreation room of the large centre building. Describing the smaller block to accommodate the sixteen single mechanics, this will be on the lines of the other which I have just described, to house forty men; but, as I have just said, it will be of one story. It will have eight rooms on each side. In the centre will be the lavatory accommodation similar to that in the other block. It will have a verandah all along the front; there will be no sitting room. The height of the rooms in this single-story building will be 10 feet. When the whole scheme of bedroom accommodation is carried out a certain number of men will have to be provided for in the matter of dining. Two messes will have to be conducted, the one for non-commissioned officers, and the other for ordinary soldiers. One kitchen will have to do for the two messes, but there will eventually be two separate dining rooms. It was at first considered that it would be well to build only that portion of the dining accommodation which would meet with the requirements of the number of men there at present. Afterwards I considered that it would be very much better to build the whole of the dining room, so as to make it a finished building, and to raise a 7-ft. partition across the dining room, so as to temporarily give up one end to the messing of the non-commissioned officers. The dining room will be 91 feet by 42 feet, and will accommodate 320 men, that extent representing the full development of the school. If the whole of the dining room is built now, all that will be necessary, ultimately, will be the erection of a small separate dining room for the non-commissioned officers, at the other side of the kitchen. At the ends and front of the dining room it is proposed to build verandahs 10 feet wide; these will relieve the recreation accommodation in the large central dormitory block. It is not suggested to introduce lavatories at the dining room quarters. There will be accommodation for the men to wash themselves at their buildings on the aerodrome; and the men can also make use of the accommodation in their dormitories. In the dining room there will be only pegs, &c., for hats and the like. The dining room will be 17 ft. 6 in. in height; it will make a fine big hall, which can be used for concerts and meetings. The kitchen will be 30 feet by 22 feet; and, surrounding it, there will be the pantry, scullery, cold storage accommodation, and servery. The existing officers' mess is on the same lines as I have described. Although the construction of a gymnasium is not part of the reference to the Committee, I understand that it will be included in next year's programme. It is intended to place this behind the dining room. Thus, the central line of buildings will consist, first, of the large dormitory for the single mechanics; then there will be the dining accommodation; and, behind that again, the gymnasium. The grouping will thus be of a pleasing character. At the Naval Depot, at Williamstown, there is a very good gymnasium, constructed of timber. It is proposed to remove that to Point Cook, and it will be quite appropriate for the purpose. I desire to mention now, that it would be well to remove that gymnasium straightway, and it may be that before an opportunity arrives to place the next programme of work before the Committee, this removed gymnasium will have been re-erected at Point Cook. Its removal from its present site at Williamstown is necessary. The Railway authorities need the land. The sailors' hutting accommodation has also to be removed. The gymnasium, as I have said, could be very suitably used at Point Cook, while the huts could be shifted to form part of the removal costs. In conclusion, I may add that the original scheme, before it was modified to the amount covered by the present reference to the Committee, namely, £31,500, was for £40,570.

The witness withdrawn

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(Taken at Melbourne.)
TUESDAY, 19TH SEPTEMBER, 1922.

Present:

Senator NEWLAND, in the chair;	
Senator Plain,	Mr. Mackay,
Mr. Bamford,	Mr. Parker Moloney.
Mr. Mathews,	

Vice-Admiral Sir Allan Frederic Everett, K.C.M.G., K.C.V.O., C.B., First Naval Member, Commonwealth Naval Board, sworn and examined.

10. To Senator Newland.—As a member of the Air Council I am familiar with the proposal to spend an estimated amount of £43,500 on extending the Aviation Establishment at Point Cook. Being a Naval officer, my knowledge of aviation is not very profound, but because of my experiences during the war, I appreciate its value to the Navy. At the commencement of the war the British Army and the British Navy each had an air wing, but, for various reasons, after the war had been in progress some time a separate Air Force was created, and to-day it functions according to the requirements of the two older services. The Air Council has discussed the general outlay of the proposed new buildings as shown on the plans before the Committee, and the purposes to which they are to be devoted. I think these proposals are essential. The matter has been discussed by the Naval Board also, but only in its relation to the sea. For instance, the Naval Board has been considering the question of fitting up light cruisers and sloops with derricks, in order to take seaplanes to sea. Seaplanes are an essential arm of the Naval Service, but any scheme of that kind is hampered at the present time by lack of funds. It would cost probably £10,000 to equip a light cruiser to carry seaplanes, and other problems also have to be considered. For instance, if accommodation on a light cruiser is provided for a seaplane, some ~~other~~ equipment must be taken out, and we have to make up our minds whether or not the ship will be more efficient with a seaplane but minus part of its other equipment. A seaplane, unlike an aeroplane, cannot fly off a ship; a special hanger has to be provided for it on board, and special derricks have to be erected to hoist it over the side. An aeroplane can fly off a warship, and during the war ~~ships~~ were erected above the turrets of cruisers to give the aeroplanes a short run against the wind before they took the air. Immediately they finished their flight they landed in the sea, and, with good luck, a destroyer saved the crew. That, of course, was only a war expedient. The modern idea is that each squadron should have an aircraft carrier, and that the air machine should be able to both fly on and off the vessel. Australia has no such ship; as a matter of fact, the Washington Disarmament Conference rationed this ~~sort of equipment~~ to the contracting parties. It is now an established principle that aircraft must co-operate with a fleet, and Lord Beatty stated recently that, two fleets being in themselves equal an overwhelming advantage would be enjoyed by that which was best supported by seaplanes or aeroplanes. The proposals for the enlargement of the accommodation at Point Cook are essential to co-operation between the fleet and aircraft; in fact, I would like to see the idea developed. Australia, owing to its huge length of coastline, is particularly vulnerable to attack from the sea, especially as its population is mainly concentrated in cities on the seaboard, and seaplanes could do in six hours a reconnaissance that would occupy six days' steaming, and involve much greater expense in connexion with the

Armament.

Platforms

Craft

Types of ship

consumption of fuel. For seaplane work in war-time, Point Cook has one disadvantage in the fact that on one day in six these machines would not be able to rise owing to a strong southerly or south-westerly wind. For training purposes, however, the site is suitable. Of course, in war we would require a sub-depôt at Sydney, or, better still, one further north. From a strategic point of view, a naval base further north is necessary, but ~~not in the same way as in the past~~ where it should be. And, of course, the communications are bad and the sources of coal supplies are distant. These difficulties are quite apart from the lack of money. I imagine that the programme laid down for the development of aviation is governed entirely by the amount of money that Cabinet can allot for the purpose, but the proposals at present being investigated do not nearly fulfil what one would like to see done. There are hard-thinking people in Great Britain who prophesiate that thirty years hence the air will be our first line of defence. We made prodigious strides in aviation during the war, when money was no object, because it was essential to defeat the enemy at any cost; but since the war development has been slow. At the present time the Commonwealth has only six Fairey seaplanes, of which two are in use for training purposes. What we want to get in future are amphibians. A seaplane is supported in the water by floats, but the more modern machine, or amphibian, has a hull shaped like a boat; it is also fitted with wheels, and can take off from either land or sea. It is decidedly essential that Australia should develop the air wing. The Commonwealth has only ~~three~~ cruisers and some destroyers, and reconnaissance work can be done much more rapidly, efficiently, and economically by seaplanes. These machines are used also for spotting for the guns, that is to say, marking the fall of the shots. During the Great War the seaplanes were used on only ~~few~~ occasions in action; they were developed tremendously afterwards, but there was no opportunity after Jutland to utilize them.

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11. *To Mr. Bamford.*—I think the layout of the proposed new buildings at Point Cook has been very well thought out. At the present time, owing to the stringency of finance, Point Cook has to perform the double duty of a depôt and a training school. When aviation develops a little more in Australia we shall have to separate those two branches, otherwise the establishment will become too congested. I understand that a certain amount of money is to be set aside for the development of Laverton. At present our spare aeroplanes are stored in wool sheds and other buildings of the kind. It was hoped that it would have been possible to provide in this year's estimates enough money for the provision of a small sub-depôt at Sydney, so that seaplanes could be kept there and hoisted on to light cruisers when required. Under present conditions they would have to be railed to Sydney if required, and assembled there. It was proposed to make the sub-depôt at Rushcutters Bay, but the necessary amount of money was not available. The establishment of a depôt much further north is a matter that must be considered in the future, but it is not of much use to talk about it now, because there is no chance of getting any money. Thursday Island is a sort of watch-dog for Torres Straits, and an Australian aviation station should be established there.

12. *To Mr. Mathews.*—Before the war there were no such machines as amphibians; all the seaplanes were of the type which are supported in the water by floats. Curtis, an American, conceived the idea of an air machine with a boat-like hull, and the British Admiralty built a number of Curtis boats. I believe the amphibians are an improvement of the Curtis

design. The layman might imagine that one type of machine would do all the work that is required by the Navy, but in air fleets as in sea fleets different machines are required for different purposes—one type for long-distance flying, another fighting type which must be extremely fast, and a third type which must be able to rise quickly to high altitudes. The seaplane is required for reconnaissance, enabling the sea for 300 miles or so to be scoured in a few hours, or for "spotting." Another use for seaplanes is the carrying of torpedoes. A new development is the manufacture of seaplanes sufficiently powerful to carry a torpedo weighing 30 cwt., the idea being that the seaplane should swoop down on its prey and launch its torpedo. ~~Of course, if it makes a hit that is the end of the ship.~~

Normally a seaplane requires a clear run of at least 500 yards in order to rise off the sea; but with a smooth surface and a good head breeze the machine can rise within 100 yards. It is not necessary to have a depth of more than 3 feet or 4 feet of water. I believe that an amphibian can get off the water better than can a machine with floats; the hull, being shaped like a boat, is better adapted for riding over rough water. Hobson's Bay is fairly protected, although it becomes ~~very~~ rough at times. As a training ground, Point Cook meets all the requirements, although it is not strategically sound.

13. *To Mr. Parker Moloney.*—The air service is not sufficiently developed in Australia at the present time. I think Parliament should vote more money for it, but I might say the same of the Fleet. Of course we must develop Point Cook first as a depôt. Later, we must think of having stations further north. From a strategic point of view, Point Cook is too far south. We should also have a seaplane depôt at Fremantle. Enemy cruisers would very likely hang off the southwestern coast of Western Australia and destroy our trade. If air machines could reconnoitre from Fremantle, they could at least warn vessels and help to divert the traffic from any threatening danger. I am told that aeroplane parts have been made in Australia, but not engines. Obviously, everything possible should be done to encourage the making of motor engines in Australia. Sending to England involves a delay of months. Moreover, during an emergency all the British firms would probably be busy in manufacturing for the Imperial Government. An aeroplane engine, after all, is only a very high-class motor-car engine. Of course it would be necessary to pay royalties upon machines manufactured to any of the patented designs.

14. *To Mr. Mackay.*—I cannot say much about the military results of the work at Point Cook, because I have been trying mainly to develop co-ordination with the Navy. There are only two men at Point Cook who have had any previous experience of seaplane work. There is a tremendous lot of difference between the use of the seaplane and the aeroplane. The seaplane observer must be trained to describe accurately what he sees; and, of course, some men cannot distinguish a destroyer from a bathing machine when seen from a height of several thousand feet. So far as the training of aviators is concerned, I think the expense at the Point Cook establishment is warranted, but, as I am not a flying man, my opinions as to the military value of the training has no value. We had hoped that, if money had been available, we could have proceeded with the organization of a squadron of seaplanes for co-operation with the Fleet.

15. *To Senator Plain.*—Certain land adjoining Osborne House, at Geelong, has been lent by the Harbor

Board to the Commonwealth Government on condition that it is used for naval purposes. Owing to the lack of funds we have had to pay off the whole of the submarines, for which Geelong is the depôt. At the present time there are only three or four caretakers at Osborne House depôt. It may be that at the next Imperial Conference on defence the Imperial authorities will persuade the Commonwealth Government that submarines are necessary for the defence of Australia. In that event the Geelong establishment will have to be revived. Corio Bay would be a good place for training seaplanes in the dropping of torpedoes, but I do not know that training of that kind would fulfil the conditions governing the loan of Osborne House to the Commonwealth.

16. *To Mr. Bamford.*—The Point Cook establishment is purely for organization and education, and for those purposes it is as good a place as any other. The expenditure upon it is fully justified. The Commonwealth should spend more money in that way; but it is of no use to urge that when there is no more money to be had. Both the air service and the Fleet are being starved at the present time. The Navy, particularly, is cut down to the bone.

~~The witness retires.~~

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FLYING SCHOOL, POINT COOK 18
(Taken at Melbourne.)

TUESDAY, 26TH SEPTEMBER, 1922.

Present:

Senator NEWLAND in the chair;
Senator FOLL, Mr. Mackay,
Senator PLAIN, Mr. Mathews,
Mr. Jackson, Mr. Parker Moloney.
Major-General Sir Cyril Brudenell Bingham White,
K.C.M.G., K.C.V.O., C.B., D.S.O., Chief of the
General Staff, Commonwealth Military Forces, sworn
and examined.

17. To Senator Newland.—I am aware that the Committee is engaged upon an inquiry into proposed works at Point Cook and Laverton. I have not prepared any statement on the subject, because I was not quite sure of the extent, although I know something of the nature of your inquiry. I assume that you want some information as to whether or not it is the right thing to have an air-craft depot established at Laverton. You have examined other witnesses in this inquiry, and you probably know that it was originally the intention, ~~we for us we had contemplated nothing more~~ to have head-quarters of an air force and to have a central training school. The scheme in mind was to have two air squadrons in Victoria, one a reconnaissance squadron and one a fighting squadron, and two in New South Wales, one a reconnaissance squadron and the second a seaplane squadron. Australia at present has no seaplane squadron. It was not intended that these squadrons should be entirely made up of permanent soldiers. Our desire is to keep the numbers of the permanent force down as much as possible, though I am afraid we are not always credited with such a desire. It was intended to have a nucleus of permanent men and to fill up with Citizen Forces. Happily, or unhappily, an era of peace was contemplated, and that scheme did not come off—incidentally, neither has the contemplated era of peace—in consequence we have a much less ambitious air programme in mind at present. We contemplate at present having merely a central head-quarters, a central training school, and instead of all the squadrons that we had in mind, one mixed squadron which in time of emergency might be ~~expanded~~ to fulfil the other requirements, the total establishment contemplated, including the establishment of a very small nucleus system ~~and~~ an aircraft depot, being thirty-eight officers and 271 men. The particular squadron we are now contemplating, and which may be regarded as a nucleus, which we might be able to extend into three, comprises seven officers and thirty-nine of other ranks. There will be a Citizen Force additional of, approximately, speaking without the exact figures, double that number of officers and some four times that number of men. Of course, from the point of view of the defence of Australia, that is a very low basis to begin on, if anything is necessary in Australia in the way of air defence. We originally contemplated in connexion with the more ambitious scheme, that in course of time we should be able to do something at Fremantle, which we regard as a place that needs a considerable amount of protection, and also in Queensland. All that has now gone by the board, and we have only the present very small scheme to submit. I am bound, I think, in honesty to point out to you that it is a very small scheme. I do not know whether we shall be credited with suffering a good deal of anxiety on behalf of the population of Australia, but I confess that it causes me a great deal of anxiety, because if an emergency arises it is possible that the Parliament and people of the Commonwealth may hold us culpable in a considerable degree, because the defence we can put into the air may be practically

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negligible. I feel, also, that I am bound to confess to you that at the present time we have not in this country a single anti-aircraft gun. If an enemy came and decided to bomb Sydney, we will say, we have not a single anti-aircraft gun to deter it. I should feel much easier in my mind if we had two anti-aircraft batteries in Sydney.

18. *To Senator Foll.*—Anti-aircraft guns were not sent out to us by the Imperial Government as part of the equipment of the Air Force. ~~Several~~ anti-aircraft batteries are still manned by artillery *personnel*, and not air *personnel*. Whilst in war experience we found that a good artillery weapon is not a complete deterrent, it is still a very definite deterrent. A man who knows the conditions of fighting in the air will agree that an airman is not at his best when shells are popping all around him.

18a. *To Senator Newland.*—Starting from our present point of view and with the very limited conception I have referred to, the question arises whether we should, for reasons of economy, put everything down at the Central Training School on the land we now have there, and which is capable of fulfilling its requirements. The first question you might ask would be whether Point Cook is quite satisfactory for a central training school, and my answer is that while it might or might not be satisfactory for the mixed aeroplane squadron, it is questionable whether it is satisfactory from the point of view of an aircraft depot, which is quite another thing. By an aircraft depot is usually meant what might be described in ordinary parlance as a big mobilizing store capable of effecting repairs. You might naturally inquire why it should be established in Victoria, and whether it is right to establish it here. My answer must be that, unfortunately, we are not in this world always able to do what is right. We are able only to do what is practical. It would, of course, be far better to locate this establishment up in the north of Australia, but hot-house plants are grown only in hot houses, which are very expensive establishments. It would involve very great expenditure to provide this depot in what might be called the strategically perfect place. You might say that although it might not be possible for us to locate it in the far-north, why should we come right down to the south, and would it not be better to establish it somewhere near Brisbane or Sydney, and particularly near Sydney, that city being a very vital centre. There is a great deal in that argument, and if we had unlimited funds I should much prefer to have the establishment in the vicinity of Sydney, except for the reason that, in my opinion, Sydney is more vulnerable than Victoria. ~~distance~~ distance is not of immense import in air operations, as aeroplanes cover considerable distances very easily and with great rapidity. Dealing with the establishment of the depot in Victoria, it has to be borne in mind that the southern part of Australia is necessarily much the safest part. No probable enemy will come right down the coast ~~as he would~~ as he would require to establish intermediate stations. No enemy can operate at an enormous distance from his base. This is not a perfect place for this depot, but whilst it would be a little more advantageous to locate it in New South Wales, against that it has to be borne in mind that we have no air resources whatever in New South Wales, and we should have to begin *de novo* at a very much greater cost than the expenditure contemplated here. We are bound to cut our clothing according to our cloth. Another consideration favoring Victoria is that if we located the establishment at the best strategical place it would, in all probability, be necessary to establish

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another in some very safe place, such as Victoria, because it would not do to have all our eggs in one basket. So that we say that while this is not strategically the perfect place for this depôt, we are only proposing the establishment of one of what in the course of time will have to be a number of depôts, and we are establishing it in what, so far as we can see, is the safest place. ~~It will, of course, have the advantage that it will enable us to employ a limited number of men.~~ Admitting that Victoria is a suitable place for this establishment, you may ask: Why the necessity of going to the extra expense of moving from Point Cook to Laverton? I am very loath to involve ourselves in any more expenditure than can possibly be avoided, because every penny is very precious if the country is to be given an adequate return for this expenditure. It would be possible to establish the depôt at Point Cook, but on going into the matter it is found that there are a number of reasons against it. The land acquired at Point Cook is a very nice piece of ground, but it is some distance from the railway, and a railway into the depôt is essential. It would be foolish and uneconomical to provide this establishment at any place in which you could not have a railway going right into it. You have to bear in mind the volume of traffic, both from the train and from overseas, into this depôt. If you had to take down to some railway station, and then by truck some distance to the depôt, that would involve the expense of double handling and all the other disadvantages that would naturally arise. Moreover, you would have to go to the expense of building and maintaining a proper road. I do not know whether the members of the Committee have visited Point Cook, but when I was last at the place I confess that I was somewhat horrified at the condition of the road between the main Geelong-road and Point Cook. The maintenance of a road that is to carry heavy traffic involves enormous expenditure, and to establish the depôt where a railway can be carried straight into it will effect a very great saving. There are other disabilities attaching to the establishment of the depôt at Point Cook. It would probably be economical to put all your house into one room if people could live contentedly in one room. But people do not do so, and I fancy that if we attempted to crowd into Point Cook the central flying school, the training depôt, the workshops, and the mixed aeroplane squadron, we should have a conglomeration that would not be conducive to efficiency. From that point of view, the concentration of these establishments at Point Cook would be inadvisable. We were advised by the Works Department that, if ~~the~~ were contemplated, it would be necessary to provide accommodation for workmen at Point Cook, as during the building period the men would be separated from their homes, and that also would involve extra expense. It would be necessary also to establish a sort of depôt at the railway in which to store material until it was required at the place at which it was to be used. As far as I can make out from the figures supplied by the Works Department, the ~~total~~ cost of the establishment at Point Cook, as compared to its establishment at Laverton, where, incidentally, I may say, we have the necessary ground, would amount to some £80,000. I believe that the estimate is fairly reliable. I think that is all I desire to say, but I shall endeavour to answer any questions that may be put to me. Having two establishments—one at Point Cook and the other at Laverton—would not interfere with the efficient training of air-men, but would, on the contrary, increase the efficiency at both places. Whatever the condition of our

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 funds, I should recommend the separation of Laverton and Point Cook. This is not proposed wholly for economic reasons. I believe that we have land at the entrance to the creek in Corio Bay, but I cannot speak with authority on the subject. It was in contemplation that we should establish some kind of a seaplane training place there, but that proposal is at present in abeyance. I think it is possible that in Victoria a better place might be selected than Point Cook. I am, unfortunately, to a very large extent responsible for the selection of Point Cook. It was my business, a good many years ago, in the days when Senator Millen was Minister for Defence, to start an air force. We imported from the Old Country two very good men—one by the name of Pett, and the other by the name of Harrison. We set about seeking the best place in which to establish what was then in contemplation, namely, a very small training school. Our first idea was that it might be established at Duntroon, Canberra. We went up to Canberra, and Mr. Pett, who was a very well-educated man and a capable flying man, went into the matter. He took meteorological bearings and all the rest of it, and finally reported to the Chief of the General Staff, under whom I was serving, that he thought Canberra was unsuitable. The information he had received concerning the weather and prevailing winds was not satisfactory. He thought that what might be called the domestic difficulties of starting there would make the proposal so costly that nothing would be done. His views were listened to with great respect. You have to bear in mind that this was before the war, when flying men did not know how much they could do, and were easily put off if weather conditions were not satisfactory. In those days, a flying man would not take you up on any kind of day, as they will now. Mr. Pett was asked to investigate one or two other places. He inspected a place round about Richmond, in New South Wales, and made further investigations here, and he finally recommended that, so far as he could see, the most economical place to fulfil the necessary conditions for aeroplane development was Point Cook, though he quite agreed that better places might be suggested later on. We all solemnly proceeded to Point Cook, and walked all over the area it was proposed to acquire. It looked flat and suitable, and Senator Millen gave authority to take over the land and establish the Air Force there. Flying men of really good experience have since told me that Point Cook is far from being a good place. The surface of the land offers considerable interference. At certain times of the year it becomes covered with crab hole crackings common in some parts of the Western District. This knocks the planes about a good deal, and so involves considerable expense. I am told, also, that from a meteorological point of view the situation is not good, in spite of Mr. Pett's opinion to the contrary. It is said that a number of places might be selected which would be very much better. But when I have put it to them to say whether Point Cook is so bad that we must get out of it, they have said "No, we do not go as far as that." I think we may take it that while it is not a perfect place, it is quite a good place. It is not a very suitable place for a seaplane establishment. Mr. Pett thought that it would be possible to go straight down to the sea, but in those days there was no such thing as the amphibian plane, which must be close to their housing accommodation, and must have facilities for being brought up on shore. These facilities are not available at Point Cook. I

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may say that I have not yet been convinced that we could not do a considerable amount of seaplane training on the area acquired at Corio Bay. I say with some reserve, because I have not investigated the matter so completely as to be able to speak with assurance, ~~that we could not satisfactorily carry out seaplane training at the new establishment place at Point Cook.~~

It was originally intended at Point Cook to assist both naval and military branches of the Defence Department. In the elementary stages there is not a great deal of difference in the requirements for both branches, but in subsequent stages the training branches out into specialization, and difficulty would arise in giving specialized seaplane training at Point Cook. We could begin the training, and ~~we certainly~~ hope that when the necessity arose there might be some establishment provided in Sydney in which the special training could be completed. The time will come when it will be necessary to make such provision if we are to have an effective air defence, and more specialized training will be possible there.

19. *To Mr. Mathews.*—Very much will be done at the proposed establishment to assist civil aviation. Our great desire is that as many civilian pilots as possible shall be trained, and every facility will be given for their training. The general estimate of the value of civil or commercial aviation ~~cannot be~~ from the military point of view must be qualified. There is some misapprehension about the use of civil machines for war purposes or war machines for civilian purposes. I think that people are inclined to set out with a wrong idea in this regard. Only a few days ago I was reading a very sensible article by an American writer pointing out that civil aviation was really not being given a fair chance. The war had developed military aviation to a very great degree. People returned from the war and began making civil flights with military machines, and relying upon military experience. Military machines are not suitable for civilian purposes, which require an altogether different type of machine. Again, the training which a flying man would obtain from his military experience would be ~~small~~ in excess of his actual requirements for civil aviation, ~~just as a doctor's training would not be unnecessary for the same.~~ The civil aviation machine has yet to be developed. I welcome all flights made, because, from a military point of view, although machines for civil aviation will probably not conform to our military needs, the manufacture of such machines, and the manufacture particularly of engines for such machines, following on the development of civil aviation, will help us subsequently in the defence of Australia.

20. *To Senator Newland.*—With reference to the ideal strategic position for this depot, it must be borne in mind that such establishments are of no value unless they have workshops and population behind them. If I am asked to say what I think the ideal locality from the point of view of the protection of Australia, I should say that I would like to establish the depot in New Guinea or, perhaps, preferably in Borneo. The danger is from the north, and the further north such an establishment was located, the greater would be the facilities afforded for preventing the approach of such a danger. There is, however, a great difference between what is right and what may be practicable. Such an establishment requires manufacturing facilities, population, and resources, and to provide such essentials in the ideal locality would involve an expenditure which the small population of Australia could not afford.

21. *To Mr. Mathews.*—What I have suggested to provide proper protection may be considered an Empire matter. It is not a practical policy for Australia. In view of what is reasonably practicable, I should say that the most suitable locality under existing conditions would probably be somewhere in the vicinity of Sydney or of Newcastle. The disadvantage of such a position is that, until we can afford to provide something in the way of anti-aircraft defence, such a position would be more vulnerable than a locality in the south, and that is why I say the initial establishment would be safer here. If we develop and reach a stage at which it will be proper to provide such an establishment in New South Wales, it will be a much more expensive proposition than that which you are now considering.

22. *To Senator Newland.*—I have always regarded the northern and north-west coast of Australia as very vulnerable. I should like to have an aircraft depôt subsidiary to this established in the West, in the vicinity of Perth. That would do for the present, and the lack of such an establishment is a very distinct loss. You have only to imagine what the position would be if we had to send aeroplanes over to the West from here, and all major repairs would require their return in order to be carried out here. What would probably happen in the case of war would be that we should be forced to establish a depôt in the West. We want to start an aircraft depôt which would be a big mobilization store for machines and spare parts required for the whole of our aeroplanes operating in the vicinity. We could undertake the training of as many mechanics as possible in a small depôt, and could extend our operations as we got more men.

23. *To Senator Foll.*—I have said that the establishment of the depôt at Point Cook instead of at Laverton would involve considerable expenditure in the upkeep of roads, and this might be avoided by establishing it at a place where a railway could be brought right into it. To bring a railway into the depôt if established at Point Cook, would involve an expenditure that is estimated at approximately £47,000. If the depôt is established at Laverton, there will inevitably be a certain amount of traffic between Point Cook and Laverton, but nothing that an ordinary road could not cope with. If we retain only the Flying School and the little workshops necessary at Point Cook, the amount of traffic on the road will be reduced to a minimum, and will not involve great expense for the upkeep of the road. I quite follow your suggestion that a road will have to be maintained between Point Cook and Laverton, but the present road to Point Cook will have less traffic on it than it has now.

24. *To Mr. Mathews.*—It is contemplated that the civilians employed will be exactly the same as the Citizen Forces, except that it is not proposed that their service shall be obligatory under the Defence Act. Compulsory service is required in the infantry, artillery, and so on; but we expect civilians to volunteer for the Air Force Service. We are looking to the development of civil aviation for men and equipment, and as I know Australians, I think we shall have no difficulty in inducing men employed in connexion with aerial postal services to associate themselves with the Flying School. The proposed depôt at Laverton is intended to carry out the greatest amount of repairs, which will involve the setting up of considerable workshops. These would be capable of manufacturing certain things, but not of manufacturing complete aeroplanes. There would be a much larger engineering shop at Laverton than is proposed at Point Cook. At

Point Cook at the present time, they are able, with their limited resources, to carry out such repairs as are necessary owing to the teaching of flying; but they would not be able to carry out major repairs. If, for instance, we were carrying out serious reconnaissances, repairs might become necessary that could not be effected with present resources and *personnel* of the establishment there. There is no lack of skill amongst those employed at Point Cook, but there is a lack of mechanical appliances. I want you to imagine a little central training school at Point Cook for the training of pilots, mechanics, and so on. There are continually little difficulties in connexion with the machines. They get out of order, and they require to be gone over very carefully before they are flown. There must be a little workshop section in connexion with such a training school. Though limited in mechanical resources and *personnel*, it has to do repairs and little minor changes in connexion with the machines used there. Then, at Laverton, it is proposed to have big mobilization resources for the whole of Australia. It will be the aircraft depot and mobilization store. It will receive from England and from the trade in Australia such manufactured parts and aeroplanes as may be necessary to augment our stocks. These will have to be continually overhauled and attended to, and workshop establishments must grow up there. It will be the aeroplane centre responsible for the defence of Australia. ~~It will have to carry out the annual refresher course.~~ It may have to send planes here and there, to send them out with ships, and so on. Those planes may be damaged, and their repair would be beyond the capacity of the little Central Flying School workshop, but within the capacity of the bigger establishment at Laverton. The Laverton establishment will have to be in a position to put together or repair imported aeroplanes, and aeroplanes and parts received from the trade. If Australia became involved in war, and the mixed squadron contemplated was extended for the defence of Australia, the Laverton workshop would immediately be extended also, because all damaged aeroplanes would have to go back there for repairs or for the replacement of engines or spare parts. The Point Cook establishment would be purely for training in flying and for repairs consequent upon that. With respect to the employment of members of the Air Force in connexion with postal services, and to overcome the isolation and distance from doctors of places in central Australia, Western Australia, and New South Wales, whilst it is very natural that you should submit that point of view, there are very considerable drawbacks from the military stand-point. There is an old Persian proverb, which says that the man knows his job best who practises it most. I am very sympathetic with the point of view you have suggested, but we are always being faced with the suggestion of permitting the soldier to become too much of a jack-of-all-trades. If that kind of thing is allowed to creep in, the results, in the course of time, may be very unfortunate. I am afraid that if a soldier is to be asked to become efficient in a number of other things, he may in time come to know little or nothing of the technicalities of his military training. I am afraid it would be asking too much of a man to ask him to do the two things. Your point of view has been suggested to me ~~in the past~~ times. We know what happens if a commanding officer in charge of a barracks is very anxious to make a cricket-ground, and to have good gardens all round the barracks. You will find that the soldiers are largely employed on what he would call "fatigues," and they become by no means the perfectly trained machine for war purposes that they ought to be. You have to bear

in mind that air training represents far more than the capacity to fly a machine. Flying is not in itself extremely difficult. I remember that a lad who was flying me in France on one occasion explained that the machine very nearly flew itself. In order to prove this, he took his hands and feet off the controls, and, really, the way in which the machine flew itself was amazing. I can recall a case in which two lads in a machine were shot dead, and the machine flew 60 miles ~~by~~ by itself and came down without crashing. The degree of perfection attained in the manufacture of aeroplanes is very wonderful; but if I could show you the maze of figures and calculations, and set out the study of mapping and the intricacies of the subjects in which flying men have to be trained, you would, I think, agree that they have quite sufficient to do in making themselves efficient from the military point of view, without being asked to undertake other work. No doubt, your suggestion, if given effect to, would enhance the prestige of air men amongst the public; but, to be honest, I really think that it is not practicable. I would put a lot of money into civil aviation. It is a far-sighted policy, which I consider would pay us ultimately. I tell civil aviation men that if money is spent in the business for the next fifteen or twenty years, we will have no reason to grumble at the return.

25. *To Mr. Parker Moloney.*—I have said that I should like to see anti-aircraft batteries provided. There are eight guns in a battery, or, alternatively, in some cases, six guns. We had a credit recently of nearly £100,000 with the War Office ~~due~~ due for Australian Imperial Force equipment. They will give us no money, but unfortunately, will pay ~~for~~ it only in kind. They cabled recently that the approximate balance remaining to our credit was between £80,000 and £100,000, and ask I what we wanted for it. I wanted very badly to get even one anti-aircraft battery, and I was also very anxious to get one tank into this country. We have no tanks. It is not, perhaps, a serious disability from the point of view of the defence of Australia, but what I felt was that if war came we should have a sample from which we might be able to produce something of the kind, and I would be culpable if we had not even one tank to show those who might manufacture them. We cabled Home and asked what was the price of an up-to-date tank if one were available, and also that the War Office authorities should state what was the present position regarding anti-aircraft batteries, and the price of approved anti-aircraft guns. To my horror, they cabled back to say that an eight-gun battery of 3-inch guns would cost us £45,000. They added that they had recently adopted an improved 3.6-inch gun which would supersede the 3-inch gun. It would, of course, have been very unwise to spend money on getting 3-inch guns in view of the fact that hereafter they would not be manufacturing ammunition for them. What is desirable is that somehow or another a little money should be put aside, and as soon as the 3.6-inch guns are procurable we should get a battery of them. Another shock given me by the reply to our cable was that the War Office authorities could let us have only one tank, and that would cost us £10,000.

26. *To Senator Newland.*—I cannot say what the new anti-aircraft guns would cost. The War Office ~~people~~ were getting the guns for themselves, and there would be none available to us unless we ordered them from the manufacturers. The War Office could give us ~~some~~ from their own stock.

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27. *To Mr. Parker Moloney.*—I think that an anti aircraft battery should be established at Sydney first. Then I should like to have one established at Fremantle and at other places as money became available. With regard to the cost, I think that in all probability it would amount to £100,000 with a reasonable amount of ammunition for the guns. It is true that that is not a very large sum if such a battery is considered imperatively essential for the defence of Australia, but you can scarcely realize the difficulty with which we have been confronted in connexion with our Estimates. I have sat up night after night to see where they could be cut down or how money could be provided for something essential, and if I were asked now to say how it would be possible to cut out £100,000 for something essential, I do not know how it could be done. It is a very bad arrangement to have the mess rooms at Point Cook so far from the workshops, but that could not be altered without great expense. It is a disability, but the workshops had to be placed where it would be convenient to get the machines into them. It is not proposed to remedy this at present. The most serious disadvantage is that a certain amount of time is lost, but the disability is not a vital one.

28. *To Senator Plain.*—It is difficult to say whether the aeroplane or the seaplane is the better from a defence point of view, but I am inclined to think that the balance of advantage is with the seaplane. I think I can conjecture the reason why more attention has not been given to the development of the seaplane. Great Britain gave us a certain number of aeroplanes and we had a number of others. At the time the Navy in Australia did not have the same national character as the Army did. We were without a great deal of knowledge of the seaplane, and certainly had no seaplane resources. We have arrived at our present position in a somewhat haphazard way. ~~The money we had in the Estimates provided for aeroplanes, and the seaplanes should, perhaps, have been the first consideration.~~ We have a definite hope that we shall be able to establish a proper seaplane squadron in the course of time in Sydney. So far as I know, no area has actually been taken over near Sydney for the purpose. I cannot from memory say the areas of the two sites that have been acquired near Corio Bay, one at the mouth of the creek and the other where the flying school is. If the whole of these areas are not required for a seaplane establishment, part might be sold and the money devoted to the purchase of some suitable place. I shall look into the matter. In the event of the establishment of a seaplane force, certain depôts would be required in each State. There was under consideration at one time the acquisition of a piece of land near Geelong at Linneburners Bay, but I do not think it was actually acquired. I believe that the seaplane is as important as the aeroplane from a defence point of view, and probably more important. We have no seaplanes at all. We have converted aeroplane which was made to help the Navy. They wanted to carry out a certain amount of air training, and we fitted a machine with floats and so forth for them. I believe that it does not operate badly, but the Navy could not do all they wanted to do with it. It served to give them an idea of what was required. If a seaplane squadron is to be established, Sydney and Fremantle are the two most suitable places at which to establish it. Sydney, to my mind, is a vital centre, and we must protect it first. An actual attack might come first at Fremantle, but it would not be decisive, whilst an attack on Sydney would be decisive.

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FLYING SCHOOL, POINT COOK 27

29. *To Mr. Mathews.*—It may be that mechanics will not desire to continue with the Air Force if they are treated in every respect as soldiers, but we must have them under discipline. The military discipline of today is not the discipline of the old days, and the average Australian does not object to a reasonable ~~amount of~~ discipline. 67

30. *To Mr. Mackay.*—The machines we have are reasonably up-to-date. Of course, improvements are always going on, but those we have are reasonably useful machines for the purpose for which they were designed. The time required for training a pilot varies. We might be able within six months to give a complete training to a civilian pilot. I have been impressing on the authorities at Point Cook that they should endeavour to complete the training in that time. They would prefer to have nine months or twelve months within which to make a pilot perfect, but I am hoping we will be able to turn out a civilian pilot within six months. The permanent men, of course, continue in the service, and we are not adding to their numbers, but the civilians or Citizen Force men, after they have received their training, go back to the Citizen Forces and come up annually for refresher training. They may in the interval be employed in civil aviation or in some similar occupation. Once we get a man trained we ~~never~~ lose touch with him. He comes up for a couple of weeks for refresher training each year, and when passed into the Reserve will still come up for training, but less frequently. I am satisfied with the general lay-out of the buildings proposed. I believe it will reasonably answer the purpose to be served, and in all the circumstances is as good as we could expect.

The witness withdrew.

It will not.

It will.

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(Taken at Melbourne.)
 WEDNESDAY, 27TH SEPTEMBER, 1922.

PRESENT:

Senator NEWLAND in the chair;
 Senator Foll Mr. Mackay
 Senator Phin Mr. Mathews.
 Mr. Jackson
 Percy Thomas Owen, Director-General of Works,
 Department of Works and Railways, sworn and
 examined.

31. To Senator Newland.—It may interest the Committee to know the general scheme upon which the buildings, now under consideration by the Committee, are proposed to be erected. The site of the school was selected prior to the war. In 1917 the then Minister for Works and Railways (Mr. Watt), accompanied, I think, by the Minister for Defence, visited the school. Mr. Watt told me that the school was being erected without any definite regard to future developments. He asked me to visit the school. I got into touch with the military authorities, and the outcome was that I made a report in November, 1917, in which I mentioned the strength to which the military authorities thought the school would eventually increase, namely, 14 married officers, 100 unmarried officers, 300 mechanics, cooks, servants, and other subordinates, and 50 married and non-commissioned officers and their families. I forecast that that would eventually entail a casualty hospital, post office, recreation ground, school for children, gymnasium, meeting hall, and steam laundry. The total population under that strength would have been somewhere about 800, because there would have been some persons in excess of the actual military establishment. The scheme involved purchasing an extra area of land, on which it was proposed to erect quarters for the unmarried mechanics, and on which there had already been erected cottages for married non-commissioned officers. It is a block of 80 acres, and I understand that it cost somewhere about £10 an acre. The object in purchasing that land was to create zones. The quarters erected up to that time were for officers and non-commissioned officers, and they were intermingled. It was considered that, with the expansion ahead of the school, such an arrangement was not good, and that, therefore, the quarters south of the public road should be wholly absorbed in course of time by officers, thus creating a zone for married officers, for unmarried officers of the Instructional Staff, and for officers who were to be trained. It was proposed that there should be a zone north of the road for non-commissioned officers and subordinates. This has been divided up as to form a compound for the unmarried mechanics, and sites for the accessory buildings which I have already mentioned. There is also provision for 12 allotments, each having a frontage of 22 ft. It was thought that there should be a recreation ground, having in view the isolation of the school. The third zone was for the hangars, workshops, stores, &c. The scheme received approval, and it has since been worked upon. Part of the scheme was to remove the existing sergeants' quarters from the location south of the public road, where they are within the officers' zone, to a position north of the road in section E. That is part of the scheme now before the Committee. The scheme also entailed water supply, sewerage disposal, and electric lighting. I made another report in December, 1917, referring to the previous report, and I there dealt with the question of electric supply. I advised that the current should be obtained from Melbourne. I pointed out that that would be a more certain source of supply than having a local generating unit, because the transmission line,

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 of more in the
 case of common lots

that is

if damaged, could be more quickly repaired. In the event of one source of electric supply in Melbourne being put out of action, there were other sources from which current could be taken; whereas, with a local supply, even with duplicate units, there was a possibility of the whole plant being put out of action, and then it would take a considerable time to obtain a supply from Melbourne. This scheme was approved, and the current was brought from the Williamstown generating current, at the cost of the Commonwealth Government. We have not allowed any one to tap the main. The supply consists of 20,000 volts, and the length of the line is 12½ miles. The current is being used for all purposes—lighting, power, and pumping. Current could not be generated at the Flying School as economically as it is now being obtained. There is an advantage in having an unlimited supply and a twenty-four hours' service. The cost of the electric installation, including high-tension supply and sub-stations, was £15,400. It was necessary to bring water from the Melbourne supply. It was taken from Mason-street, Newport, starting with 1 mile of 6-inch piping, and then having 10½ miles of 4-inch piping. There is a 50,000-gallon overhead tank, which fills in 2½ hours. The bottom of the tank is 40 feet high. Thus it may be said that the station has an adequate supply of water and of electric current. Considerable difficulty has been experienced, owing to the level nature of the site, in disposing of sewerage. It has been found necessary to collect the sewerage from the entire group in a sump, and pump it into sedimentation treatment tanks, from which the effluent will gravitate to the ocean. The sewerage system is now provided, and the location of the treatment tanks is such that the sewerage from the whole area can be collected as the area gradually develops. There was some difficulty about road access. The road was in a very bad state originally, and it was necessary for the Commonwealth to form it. The residents of the local shire would contribute nothing, and the Commonwealth has spent a total of £3,950 on the roads. I do not know what the present establishment at Point Cook is, but I can see that the number of mechanics' quarters under the original scheme is very much larger than is now proposed. I have visited the proposed works at Laverton, and have discussed the matter with Colonel Murdoch and Wing-Commander Williams. We are preparing sketches; but I have not received any drawings yet. The drawings submitted to the Committee have been prepared in collaboration with the military authorities. They are the outcome of many discussions. I do not think it is likely that the 80 acres acquired for residential purposes is likely to prove insufficient when the establishment increases to 800. When there are 800 people at Point Cook there will be a probability of another school being formed elsewhere.

32. To Mr. Mathews.—We begin undergrounding the wires leading to the hangars at the step-down sub-station. That is before reaching the officers' headquarters on the way from Laverton to the entrance gates. I believe there used to be some telephone wires in that neighbourhood, but there are no wires crossing the aerodrome. I do not think that either the Aviation School, or my Department uses the water frontage at Point Cook, except for minor purposes. I can only give the history of the jetty there from hearsay. When the site was selected for the Flying School, it was intended for the joint purposes of aeroplanes and seaplanes, but the development of aviation in connexion with the war has brought about the introduction of the flying boat, which is a very much heavier proposition, and requires more water. The jetty at Point Cook was constructed for seaplanes. I do not know to what

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extent it is used at present, or is likely to be used, although I saw two scaplanes at the school when I was there recently.

33. *To Mr. Mackay.*—It is entirely a matter of opinion as to whether the type of cottages erected at Point Cook is suitable for its purpose; but I think the tenants are quite satisfied. The type was evolved after a good deal of discussion with the military authorities as to the class of accommodation required. I think they are quite good cottages. The land is very bad in wet weather. It is a soggy place. I think the residences are on slightly higher ground. The worst part is where the officers' mess is located. The recreation grounds are soggy. That is partly why they were located there. It was thought that, instead of building houses on this part of the area, it could be gradually developed and drained as funds permitted. It will need sub-soil drainage, and that will cost money. The surface could be gradually improved by dressings of suitable soil. Whether the workshops will be retained in their present position is entirely a matter for the aviation officers. It was originally thought that the location chosen was the best one, because it could be approached by sea as well as providing facilities for aeroplanes. I have heard the opinion expressed that the men have to walk a long way for meals, but one officer expressed the opinion that the amount of marching entailed was good for the men. They have to do a certain amount of marching. I believe the journey in one direction is taken out of the meal hour, while the walk the other way is allowed off the working hours. I do not regard it as a long distance. In very wet weather, it might be unpleasant. A great many people in ordinary avocations have to walk as far as that to their meals.

34. *To Senator Newland.*—The total expenditure at Point Cook to date has been, roughly, £125,000. Out of that sum, roads have cost £7,950; sewerage and water supply, £15,000; electric lighting and accessories, approximately, £15,400; mechanics' quarters, £4,000; single officers' quarters, kitchen, recreation-room, &c., £11,400; non-commissioned officers' cottages, £8,000; temporary hutting for trainees, £9,000; machinery and accessories (not including machine tools, some of which, I believe, were given by the Imperial Government), £3,000; school of aeronautics, hospital, guard-room, and transport garage, £10,500; and hangars, workshops, oil stores, timber jetty, acetylene shed, battery-room, and other necessary buildings, £40,000. There was £1,000 for land; and there are probably a few more items that I have been unable to recall.

~~The witness withdrew.
The Committee adjourned.~~

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