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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

relating to the
proposed construction of a

NEW INTERNATIONAL TERMINAL BUILDING

at

PERTH AIRPORT

WESTERN AUSTRALIA

C O N T E N T S

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THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

INTERNATIONAL TERMINAL BUILDING : PERTH AIRPORT

R E P O R T

By resolution on 17th May, 1960, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report, the proposal to construct a new International Terminal Building at the Perth Airport, Western Australia. Your Committee have the honour to report as follows:-

SECTION I. - INTRODUCTION

Historical

1. The Perth Airport at Guildford was constructed early in the war years, the north-east south-west and the east west runways, the taxiways and aprons being built for use by the Royal Australian Air Force.
2. Additions have since been made to the runway and taxiway system to meet the requirements of civil aircraft operations, however the building area has not been developed to the same extent.
3. Apart from one hangar owned by Ansett-A.N.A., several smaller ones used by MacRobertson Miller Airlines Ltd., oil company installations and a power house, there are no other buildings of a permanent nature at the Perth Airport.
4. The temporary buildings that are in use were either built during war-time or later with war-time materials.

SECTION II. THE COMMITTEE'S INQUIRIES

General

5. Your Committee took evidence in Canberra and Perth from witnesses representing the airline companies, air pilots, professional organisations, the State Government and local authorities and the Commonwealth Departments concerned with the project. The existing

facilities at the Perth Airport were inspected. Our deliberations were aided by plans, sketches and model of the building.

The purpose of the proposed building.

6. Although the proposal has been referred to as an international terminal, the building is designed to meet the needs of domestic as well as international traffic and to accommodate a small administrative section and the operational activities of the sections of the Department of Civil Aviation which are required to control aircraft movements in and out of, and on the routes linked with Perth.

The existing facilities.

7. Activities to be accommodated in the proposed building are at present located in an accumulation of timber and iron buildings of a temporary and makeshift nature, expensive to maintain and in such condition that the possibility of adding to them could not be entertained.

8. International and interstate traffic.- The terminal building now used for international and interstate passengers was erected in 1952 for international operations only. It is a temporary structure built of United States Army disposal black-iron igloo-type huts shipped from New Guinea. In order to avoid costly work on a structure with only limited life, only scant modifications were carried out to convert the building for use by interstate as well as international passengers.

9. Intrastate traffic.- MacRobertson Miller Airlines Ltd., which conducts air services within Western Australia and into the Northern Territory, operates from a Bellman hangar situated some distance from the present terminal.

10. Operations areas.- Buildings housing airport administration, operations sections and meteorological service are of poor quality and in a deteriorated condition. Although they are grouped together they are apart from the areas in which the traffic offices of the airline companies are located.

The need for a new building.

11. A new terminal building will bring together all the activities now scattered in the building area, and overcome the congestion which occurs when passengers from a number of aircraft are in the terminal at the

same time.

12. Congestion in the terminal.- The following table shows passenger movements at Perth Airport from 1953 to 1959:-

	<u>Domestic</u>	<u>International</u>	<u>Total</u>
1953	78,027	-	78,085
1954	81,112	-	81,812
1955	91,020	-	91,020
1956	92,318	2,213	94,531
1957	93,952	2,852	96,804
1958	102,016	5,017	107,033
1959	121,749	5,600	127,349

13. The dramatic increase in 1958 and 1959 has been attributed to the introduction of tourist class travel and this rate of increase is not expected to be maintained. *See page 10*

14. In 1959 when this substantial increase in traffic was taking place, it became necessary, for safety reasons, to move light aircraft and aero club activities to the Perth Airport. These activities had been located at Maylands, a secondary airport about eight miles away and near one of the main approaches to the Perth Airport.

15. To make room for those activities it was necessary to move the traffic offices of Ansett - N.Z.A. and Trans-Australia Airlines to the building which, until then, was used for international traffic only.

16. The operations and administration sections. The five major activities associated with these sections are airport administration, communications, air traffic control, search and rescue and meteorological services. These activities involve the maintenance of teletype links with other interstate communications stations, of radio communication with aircraft in flight over Western Australia and the Indian Ocean and of radio telephonic and telegraphic links with other stations in the State. They are also concerned with the prevention of collision between aircraft operating on specified air routes, the pre-flight briefing of pilots, the provision of information to pilots while in flight and the provision of information about weather along the air-routes and at aerodromes.

17. These activities call for a high degree of alertness at all times and there is a need to provide an improved standard of accommodation for the staff who carry out these important functions.

18. Concessions.- Shopping, banking, postal and adequate dining facilities are expected by passengers particularly those on international flights and are normally found at overseas terminals. There is little opportunity in the existing building to provide adequate facilities of this nature.

19. In order to meet the demands of steadily increasing traffic, to overcome the congestion already occurring and likely to become more pronounced, and to provide conveniently situated and suitable accommodation for staff concerned with all aspects of aircraft movement, your Committee believe there is a pressing need to construct a new terminal building, of international standard, at the Perth Airport.

The proposed building.

20. To overcome the present disabilities the proposal before your Committee is to construct, on a vacant site between the existing terminal and the buildings occupied by MacRobertson Miller Airlines Ltd., a mainly two storey structure to house the various activities already referred to.

21. The design.- The building is divided into two main components. These are the passenger terminal with its associated facilities, and the operations and administrative area.

22. The passenger lounge and booking concourses will occupy the central spine of the building, from which will project, towards the terminal apron, two wings - the international wing and the dining and cocktail lounge wing.

23. The two wings will enclose a garden feature which will provide an outdoor extension of the lounge.

24. The operations area is to be located on the approach side of the building, away from the aerodrome.

25. Building details and materials.- The main sections of the building will be of steel frame construction with reinforced concrete floors, except for the technical areas of the operations wing where a cellular metal deck is to be used to provide a flexible duct system for electrical

and special cables. Generally external wall surfaces will be faced with cut and struck brickwork. Vinyl and ceramic tiles, plasticated fabric, Toodyay stone, acoustic materials and timber with natural finish will be used for internal finishes.

26. Normal mechanical and electrical installations and the usual fire protection equipment will be provided.

27. The site.- The site of the building will be such that the servicing areas of Ansett-A.N.A. and Trans-Australia Airlines to one side and MacRobertson Miller Airlines and Qantas to the other will be handy to the traffic offices of the airline operators. Also the operations area will be centrally situated for crews attending for pre-flight briefing.

28. Evidence was given suggesting that the orientation of the building should be north south rather than east west. It was conceded however, that other factors could pre-determine the orientation and on further inquiry it was revealed that runway positions and convenient public access dictated the site and therefore the orientation. Measures to reduce the heat gain due to the orientation have been incorporated in the planning.

29. Your Committee consider that there is no alternative to the proposed orientation of the building.

30. Size of passenger terminal.- Evidence has been given that the passenger terminal portion of the building has been planned to cope with traffic to 1970. By that time it is expected that facilities will be needed to accommodate simultaneously, passengers from two international, two interstate and four intrastate aircraft.

31. In arriving at the number of passengers such an accumulation of aircraft would yield, consideration has been given to average size of the passenger load and the number of friends likely to meet or farewell passengers. Evidence was given that a 65 per cent load factor is used in making such calculations.

32. Surveys have been conducted to determine the "friend to passenger" ratio and results show that at Australian airports, generally, the ratio is 1:1 for domestic operations, 2:1 for arriving international and 3:1 for departing international. At Perth, however, the results

show that the ratio is 3:1 for interstate as well as international operations, rising, at times to 5:1.

33. Thus, using these figures and assuming a ratio of 2:1 for intrastate traffic, the number of people seeking to use the terminal at one time has been arrived at as follows:-

<u>Aircraft</u>	<u>Capacity</u>	<u>65% load</u>	<u>Friends</u>	<u>Total</u>
2 international	194	126	378	504
2 interstate	176	114	342	456
4 intrastate	176	114	228	342
	<u>546</u>	<u>354</u>	<u>948</u>	<u>1,302</u>

34. The terminal has been planned to accommodate 1,200 people (approximately 15 square feet per person) in the lounge and concourse area, buffet, dining room, cocktail lounge and other enclosed space. Planning has been based on this figure because it is envisaged that in times of peak loads use can be made of the outdoor garden area which, with the temperate climate of Perth, is expected to be usable for a considerable portion of the year.

35. Planning for easy expansion.- The building has been so designed that it would be possible to extend it, in whichever area the need arose, without undertaking major structural alterations. The international wing could be extended towards the apron as could the dining and cocktail lounge wing, while the main lounge or traffic offices could be extended at either end.

36. Your Committee agree with the basis used to determine the amount of space to be provided and commend the design which, by ensuring that expansion can take place with a minimum of disruption to the functioning of the terminal, avoids the need to overprovide for the traffic expected during the next few years. Without this design feature, however, we would have been reluctant to support a proposal to spend £450,000 on a building which would meet requirements for only eight years after its completion.

37. Lounge and concourse areas.- At both ends of the main lounge are to be located the traffic offices of the airline operators; Ansett-A.N.A. and Trans-Australia Airlines together at one end and MacRobertson Miller Airlines and Qantas at the other. These offices will be facing the entrances to the building and handy to the walkways to aircraft standing on the apron.

38. Space will also be provided in the main lounge area for shops, banking cubicle and tourist information bureau and display. Department of Civil Aviation staff will provide postal, telephone and telegraph facilities.

39. International wing.-- The international wing will provide two holding rooms to accommodate simultaneously, the passengers from two international aircraft, a doctor's suite, a customs hall and departure lounge.

40. Press, radio and television rooms for interviewing important passengers, both international and interstate, are also to be provided in the wing.

41. Dining and cocktail lounge wing.-- A confectionery and soft drink shop, quick service buffet and dining room are planned for the ground floor of the dining and cocktail lounge wing, and space is to be reserved beyond the dining room for outdoor dining.

42. On the first floor it is proposed to locate a cocktail lounge and cocktail bar together with an outdoor balcony.

43. Operations wing.-- The operations wing of two floors provides the predominant mass on the approach side of the building. Because it will face almost due west, vertical adjustable louvres are proposed in order to reduce solar penetration and consequent heat gain.

44. By being separated from the apron area by the terminal portion of the building, the wing is provided with an effective sound barrier to the noise generated by aircraft. Thus protection is afforded to the control and operations area where quietness is essential.

45. The wing will contain all the sections normally found at airports for the control of aircraft activities. The airport administration section will also be located in this wing.

46. Outdoor areas.-- Outdoor areas and walkways are to be enclosed, with wire glass screens for protection from wind and jet blasts.

47. Air conditioning, mechanical ventilation and heating.-- Evidence was given that owing to the need to completely exclude external noise from most of the operations area, it will be necessary to acoustically treat the building and seal the windows. It would therefore be necessary to provide mechanical ventilation for the operations wing. Owing to the nature of the activities to be performed and because of the high degree of alertness necessary at all times, air conditioning is considered to be essential.

48. Air-conditioning is also proposed for the reception and press, radio and television interview rooms where there will be high heat generation from television equipment.

49. The operations wing is to be served by a conventional plant, but it is proposed to use package units in the other areas which will not be in constant use.

50. It is intended to provide mechanical supply and exhaust ventilation to the main lounge, shops, airline offices, customs holding area, dining room, buffet, cocktail and other lounge areas. Natural cross ventilation is not possible because of the necessity to seal off the areas from aircraft noise and because of the high occupation density at peak periods. Heating will also be provided for these areas.

51. We agree that the air-conditioning, mechanical ventilation and heating installations to the areas proposed should be provided and recommend accordingly.

52. Your Committee believe the building will be of adequate size for the period for which it is planned, providing facilities of a standard required for the reception of both international as well as interstate passengers. We are impressed with the need to provide good terminal facilities for passengers on the comparatively long domestic flights operating to and from Perth and we recommend construction of the building to the design and size proposed.

Users of the Building

53. Space is to be provided in the building for the traffic offices of Trans-Australia Airlines, Ansett-A.N.A., Qantas and MacRobertson Miller Airlines, and for the activities of the Departments of Customs and Excise, Health and Immigration.

54. The evidence presented by representatives of these users revealed that there had been thorough consultation with the Department of Civil Aviation. The result was that all expressed to your Committee their satisfaction with the space that has been reserved for their use.

55. Revenue.- The immediate revenue from the airline companies, tenants of shops and concessionaires who operate such activities as the dining room and cocktail lounge, is expected to be approximately £18,000

per annum. Against this the outgoings from the terminal section for building maintenance, cleaning, toilet requisites, light, power, and heating and the salary of the supervisor, are estimated to be approximately £13,000 per annum.

Costs.

56. Now that sketch designs have been completed, the estimated cost of the building is £450,000, comprising the following:-

Building and internal engineering services	£342,000
Mechanical services	103,000
Kitchen equipment	2,500
Public address system	2,500
	<u>£450,000</u>

Associated Engineering Works.

57. Closely associated with the terminal building project is a considerable amount of engineering work estimated to cost £280,000. These works which must be carried out in order that the terminal can function, comprise aircraft apron, roads, car parks, drainage, sewerage and water supply.

58. These works have been studied by your Committee under another reference dealing with aerodrome engineering works and will be commented on in the Report covering that reference. They are referred to here in order to show that all the work involved in the terminal building proposal will cost approximately £730,000.

Target dates.

59. Following the present stage reached in the design of the building, it is estimated that a further four months will be required to complete working drawings and details, specifications and bill of quantities.

60. Empire Games.-- Evidence presented has stressed that the terminal building is not proposed for the Empire Games, but that if it is to be built, it should be ready in time for the Games. Otherwise, to avoid the chaos resulting from handling the Games traffic while building operations were in progress, it would be preferable to defer commencement of the project until after the Empire Games in November, 1962.

61. Officers of the Department of Works believe that the work can be completed in the time available, provided the following time-table is adhered to:-

Complete contract documentation by the end of October, 1960.
 Invite tenders and arrange contract by the end of December, 1960.
 General contractor to commence work by late January, 1961.
 Building to be completed by the end of July, 1962.

62. This time-table would allow the Department of Civil Aviation two months to install and test equipment prior to the onset of the Empire Games traffic in October, 1962.

63. It is strongly recommended that this time-table be adhered to.

64. Your Committee wish to record their appreciation and thanks to those witnesses who so obviously devoted a considerable amount of time to the study of the proposals.

SECTION III - THE COMMITTEE'S CONCLUSIONS

Summary of Recommendations and Conclusions

65. Your Committee's recommendations and conclusions, arrived at after studying all the evidence and material submitted, are set out below. The paragraphs quoted alongside each conclusion or recommendation refer to the relevant portion of the report.

- | | <u>Paragraph
in report</u> |
|---|--------------------------------|
| 1. There is a pressing need for a new terminal building of international standard at the Perth Airport. | 19 |
| 2. It is not possible to alter the orientation of the building. | 29 |
| 3. A desirable feature of the design of the building is that, because it could be extended with ease, the need to overprovide now, is overcome. | 36 |
| 4. Air-conditioning, mechanical ventilation and heating for the areas proposed is recommended. | 51 |
| 5. Construction of the building to the design and size proposed is recommended. | 52 |
| 6. The time-table which will permit the completion of the building by July, 1962, should be adhered to. | 63 |

Allen Fairhall.
 (Allen Fairhall.)
Chairman.