



Parliamentary Standing Committee on Public Works 600

18 MAR 1982

FINAL REPORT

Chadslair
Clerk of the Senate

relating to the

UPGRADING OF AIRPORT FACILITIES FOR THE INTRODUCTION OF DOMESTIC WIDE-BODY AIRCRAFT

(Second Report of 1982)

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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

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UPGRADING OF AIRPORT FACILITIES
FOR THE INTRODUCTION OF DOMESTIC
WIDE-BODY AIRCRAFT

(Second Report of 1982)

Australian Government Publishing Service
Canberra 1982

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(Twenty-sixth Committee)

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3 Appointed 25 August 1981

4 Appointed 25 August 1981

5 Appointed Vice-Chairman 27 August 1981

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EXTRACT FROM
THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES,
NO. 28 DATED 27 AUGUST 1982

- 11 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - UPGRADING OF AIRPORT FACILITIES: Mr. McVeigh (Minister for Housing and Construction), pursuant to notice, moved - That, in accordance with the provisions of the Public Works Committee Act 1969, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for consideration and report: Upgrading of airport facilities for the introduction of domestic wide-body aircraft.

Mr. McVeigh presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

WITNESSES

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

UPGRADING OF AIRPORT FACILITIES FOR THE INTRODUCTION
OF DOMESTIC WIDE-BODY AIRCRAFT

F I N A L R E P O R T

By resolution on 27 August 1981 the House of Representatives referred the proposal to upgrade airport facilities for the introduction of wide body aircraft by the domestic airlines and the consequential redeployment of elements of the existing fleet to the Parliamentary Standing Committee on Public Works for investigation and report to Parliament. The airports at which the works were to be carried out included Coolangatta, Melbourne, Perth, Sydney, Hobart and Adelaide.

The Committee has the honour to report as follows:

THE REFERENCE

1. The proposal is for, where necessary:
 - . the alteration and expansion of terminal facilities;
 - . the strengthening and extension of runway, taxiway and apron pavements; and
 - . associated engineering works
2. The estimated cost of the work to upgrade airport facilities for the six airports was \$23.3M at August 1981 prices. The limit of cost for the work recommended in the Committee's Initial Report for Coolangatta, Melbourne, Perth

and Sydney Airports was \$12.85M. The estimated cost of the work for Adelaide and Hobart Airports is \$10.45M.

THE COMMITTEE'S INVESTIGATION

3. Press advertisements calling for submissions from interested groups and individuals appeared in newspapers covering the six cities on 4 September 1981 and between 29 September and 16 October 1981 members of the Committee inspected the existing facilities and the sites for the proposed works at the six airports. A public hearing was held in Canberra on 19 October 1981.

4. The Committee received a number of submissions from individuals and organisations concerning the Adelaide component of the reference and it was the intention of the Committee to defer consideration of this component until after a public hearing had been held in Adelaide. As Parliament rose early it was not possible to hold the hearing in Adelaide beforehand and in order not to delay the proposed upgrading at Coolangatta, Melbourne, Perth and Sydney the Committee resolved to table an initial report on the proposed work at these airports and to conduct a public hearing into the Adelaide and Hobart components in Adelaide after the Parliament had risen. The initial report, the Committee's Eleventh Report of 1981, was tabled in Parliament on 27 October 1981.

5. The public hearing was held in Adelaide on 3 December but was confined to the Adelaide proposal. The Committee received written submissions and took evidence from representatives of the Department of Transport; Mr Keith Plunkett, MP, Member for Peake, South Australian Parliament; Mr John Scott, MP, Federal Member for Hindmarsh; representatives of the Metropolitan Regional Organisation Western; Mr K.C. Bull, Principal, Thebarton Primary School; Mr N. Burrowes, Anti-Airport Noise Association Inc; and Mrs H. Kocher, Help for

Airport Victims Committee. Letters and submissions were also received from a number of individuals. Following the public hearing in Adelaide the Committee received further letters and submissions from individuals who attended the hearing or were made aware of the opportunity to put their views in writing. The letters will be incorporated in the Minutes of Evidence.

6. The Committee held another public hearing in Melbourne on 27 January 1982. A submission was received from the Tasmanian Government relating to Hobart Airport and two representatives gave evidence in support of the proposed work at that Airport. The Department of Transport witnesses were recalled and gave further evidence relating to Adelaide Airport. The Committee received an amended written submission and drawings from the Department of Housing and Construction on Adelaide Airport and took evidence from their representatives. The representatives of the Adelaide Anti-Airport Noise Association and the Help the Airport Victims Committee, who were flown to Melbourne at the Committee's expense, gave further evidence.

7. The Committee's proceedings will be printed as minutes of evidence.

BACKGROUND

8. In its initial report the Committee mentioned the introduction of Wide Body Aircraft (WBA) by the domestic airlines followed Government decisions made in 1979 and 1980 for the acquisition of these aircraft by Trans-Australia Airlines (TAA) and Ansett Airlines (Ansett). As part of those decisions, Government approval was also given for the Commonwealth to upgrade facilities at designated airports to enable the WBA to operate at planned levels. These facilities, of Commonwealth responsibility, include pavements, terminal buildings and associated works such as access roads, car parks and airport security measures.

ADELAIDE AIRPORT

9. Location. Adelaide Airport is located near the shores of St. Vincent Gulf, 6.4 kilometres from the Adelaide Central Business District. The airport is bounded on three sides by the District Council areas of Henley and Grange, West Torrens and Glenelg. On its western boundary are Tapleys Hill road and the West Beach Trust recreation area.

10. Airline services were transferred from Parafield to Adelaide Airport in 1955. Since that time the airport has been progressively upgraded to meet the requirements of larger aircraft and increasing traffic and it now represents a substantial Commonwealth Government investment. Its replacement cost, including land acquisition, movement areas, terminal buildings and all other facilities would be of the order of \$100 million.

11. The original design concept for Adelaide Airport provided for the future construction of a third runway parallel to the north of the existing (main) 05/23 runway. Although the runway was never built, appropriately aligned land was acquired by the Commonwealth outside the boundary of the airport to the west of Tapleys Hill Road. This land, which abuts the West Beach Trust recreation area on its northern extremity, is in an undeveloped state and it is still Commonwealth property. The construction of a parallel runway in the originally planned location would still be technically feasible but, due to Tapleys Hill road on the western side of the airport boundary and to obstructions outside the airport boundary to the north east, its length would be restricted to approximately 1100 metres. Such a runway could only be used by light General Aviation (GA) aircraft.

12. Runways. The two runways at the airport are the (main) 05/23 of 2528 x 45 metres and the 12/30 of 1652 x 45

metres. The 12/30 runway is infrequently used by the domestic jet aircraft. The airport is equipped with appropriate radio navigation aids, communications, air traffic control, flight service and fire service facilities. The main runway is grooved to improve the surface texture in wet weather. Adelaide Airport currently handles B727, DC9, F27 and a number of light commuter and GA aircraft types.

13. Importance. Adelaide is a comparatively important component in the domestic aviation network because, in addition to its use as a destination port, it is used extensively by transit traffic to and from Perth and Alice Springs/Darwin. Regional and commuter airlines also use Adelaide Airport with schedules arranged for convenient connection with the interstate Regular Passenger Transport (RPT) services. Table 1 below shows the number of aircraft movements and passengers handled at Adelaide, compared to Sydney, Brisbane and Perth, in 1980.

TABLE 1

| | <u>Passengers</u> ('000) | <u>Aircraft</u> <u>Movements</u> |
|----------|-------------------------------|-------------------------------------|
| Adelaide | 1,962 | 25,721 |
| Sydney | 6,038 | 86,016 |
| Brisbane | 2,633 | 37,014 |
| Perth | 934 | 13,654 |

14. Curfew. A curfew is applied at Adelaide Airport which precludes the operation of RPT jet aircraft between the hours of 11 pm and 6 am but prop-jet and certain approved light executive jets are not subject to the curfew. Noise abatement procedures are invoked for all aircraft whenever traffic and weather conditions permit with the objective of confining the

flight paths of arriving and departing aircraft over the sea area to the west of the airport. When this procedure cannot be enforced, aircraft fly over the city area and many suburbs to the east and north-east of the airport.

15. Under powers provided in the Air Navigation (Building Control) Regulations, the Commonwealth has gazetted a number of areas around Adelaide Airport, including part of the Central Business District, in which building height limitations apply.

16. The Committee has examined extensions and upgrading of Adelaide Airport facilities on two previous occasions: the upgrading of pavements and terminal facilities in 1967 (Parliamentary Paper 110/1967) and the redevelopment of airways facilities, which included a new operations building and control tower, in 1978 (1st Report of 1978, Parliamentary Paper 166/1978).

17. Parafield and Edinburgh Airports. Parafield, used by General Aviation aircraft is twenty kilometres north of Adelaide Airport; Edinburgh, a RAAF aerodrome, is thirty kilometres north-west of Adelaide Airport.

18. Studies on Airport Location. At the Public Works Committee hearing in 1978 the Committee was advised that the present Adelaide Airport would be satisfactory until the year 2005 when traffic projections indicated that airport capacity would be reached and that it would need to be relocated or replaced. The Committee was also advised that a Commonwealth/State Committee was examining the future prospects of all airports around Adelaide and that it had been required to recommend on continued use, closure or relocation of the airports. Alternative airport sites were also to be studied. The Commonwealth/State Committee issued a report in 1979. The report concluded that the existing arrangement of airports (Adelaide, Parafield and Edinburgh) adequately served the

Adelaide region and that, with continued development of these airports (and the possible addition of a supplementary GA airport during the 1990's), Adelaide's forecast aviation requirements could be met to at least the year 2005. The report further recommended that:

- master plans be prepared and published for Edinburgh, Parafield and Adelaide airports;
- land use planners recognise the continuing roles of the existing airports in future development plans for surrounding areas;
- intensification of residential land use in noise sensitive residential zones adjoining existing airports be discouraged;
- non-residential use be encouraged in noise sensitive zones in preference to residential development;
- undeveloped areas in noise sensitive zones be retained as open space;
- for the longer term, action be taken now to secure the availability of an alternative major airport site in the Two Wells/Virginia area.

THE NEED

19. The need to upgrade facilities at Adelaide Airport has arisen from commercial decisions taken by the two airlines to include this airport in their WBA networks. WBA, because of their larger size and their greater gross weight, require movement areas of commensurate size and strength which generally exceed those currently provided at Adelaide.

20. Aircraft Mix. Forecast usage of Adelaide Airport by RPT aircraft, shown in Table 2, below, shows that nearly 20 per cent of RPT movements are expected to be WBA by 1990 although the majority of movements will continue to be B727 aircraft.

TABLE 2

AIRCRAFT MIX

| | 1980 | % | 1985 | % | 1990 | % |
|--------------|--------|-------|--------|-------|--------|-------|
| F27 | 7,696 | 29.9 | 8,050 | 29.6 | 8,570 | 29.7 |
| Electra | 284 | 1.1 | 350 | 1.3 | 350 | 1.2 |
| DC 9 | 3,611 | 14.0 | 380 | 1.4 | - | - |
| B727 | 14,128 | 55.0 | 16,130 | 59.3 | 14,350 | 49.8 |
| WBA | - | - | 2,290 | 8.4 | 5,550 | 19.3 |
| <u>TOTAL</u> | 25,721 | 100.0 | 27,200 | 100.0 | 28,820 | 100.0 |

21. Passenger Forecasts. According to Department of Transport (DoT) forecasts the number of passengers using Adelaide Airport is expected to increase from 1.9 million during 1980 to 2.8 million in 1990 as shown in Table 3 below.

TABLE 3

ADELAIDE - PASSENGER AND AIRCRAFT MOVEMENTS

Historic Data (including transits)

| | Passengers ('000) | Aircraft Movements |
|------|-----------------------|--------------------|
| 1975 | 1,506 | 25,020 |
| 1976 | 1,532 | 24,248 |
| 1977 | 1,663 | 25,200 |
| 1978 | 1,758 | 25,618 |
| 1979 | 1,869 | 25,716 |
| 1980 | 1,962 | 25,721 |

Forecasts (DoT)

| | | |
|------|-----------|--------|
| 1985 | 2,366,100 | 27,200 |
| 1990 | 2,808,100 | 28,820 |
| 1995 | 3,244,800 | 29,840 |
| 2000 | 3,678,900 | 31,100 |

22. Typical passenger capacities of WBA are significantly greater than capacities of narrow body aircraft such as the B727. WBA of the type proposed for introduction will be able to carry up to 269 passengers compared with about 145 passengers for the B727.

23. Increased numbers of passengers, movements and the introduction of WBA will consequently place increasing demands on existing terminal facilities.

24. Existing Terminal. The existing terminal building was constructed in the 1950's and it was extended in 1964 and 1968. The original section now contains airline check-in and operations areas, DoT administration, air traffic control and

meteorology. The extensions completed in 1968 comprise a passenger concourse (finger) with toilets, concessions and arrival and departure lounge areas.

25. Specific areas of terminal operations where demands caused by increasing passenger numbers, movements and the introduction of WBA will generate more congestion and delays to the processing of passengers, are in the handling of baggage, the arrivals area, in gate lounges, terminal vehicular areas, the first floor concession area and on the terminal apron.

26. Baggage Handling. WBA employ a system of containerised baggage. This, and the larger volume of baggage associated with increased passenger numbers, requires special baggage container breakdown and makeup facilities as well as enlarged baggage claim areas, including baggage conveyors. The present baggage handling facilities at Adelaide Airport are designed to cope with present baggage loads and practices derived from using trolleys and not containers to transport baggage from aircraft to baggage claim areas.

27. Terminal Congestion. The terminal apron can accommodate six B727 or DC9 aircraft near the terminal with additional standoff positions as required. Under present arrangements arriving passengers enter the terminal through one of thirteen doors located at regular intervals along the terminal finger. The absence of barriers around these entrances can lead to congestion problems where individuals or groups wishing to greet disembarking passengers tend to congregate around entrances, interrupting the flow of disembarking passengers and causing problems to departing passengers on their way to holding lounges. Congestion is especially bad during peak periods. The main problem stems from the intermingling of arriving and departing passengers and members of the public visiting the airport to greet or farewell passengers. The situation could be overcome by separating

arriving and departing passengers, thereby providing a more controlled flow of people.

28. Gate Lounges. Basically the terminal finger has four gate lounge areas where, after seat allocation, passengers wait until called to board their aircraft. These gate lounge areas are sized to service current aircraft types but some congestion does occur when one lounge area is required to accommodate two aircraft passenger loads at the same time.

29. Security. Although random security checks are carried out, they are done so in public view and this arrangement defeats their purpose. The procedures then do not comply with the recommendation Mr Justice Hope's "Protective Security Review" report on Aviation Security.

30. Movement Area. In 1968 the main 05/23 runway was extended by 350 metres at the south-west end and during 1981 it was extended by a further ninety metres. This runway, of sufficient strength for WBA operations, is now 2,528 metres in length.

31. Two taxiways (taxiways A and B) were strengthened in 1981 and some curve and fillet widening was carried out. These taxiways now have a pavement similar to the main runway and they are satisfactory for current and proposed domestic aircraft operations including WBA. The taxiways serving the south-western end of runway 05/23 will require both strengthening and fillet widening for WBA.

32. The main apron currently accommodates B727, DC9, F27 and light commuter aircraft. Its strength is inadequate for WBA and, due to additional space demands by these aircraft and the area provided will be insufficient for all aircraft.

33. The Committee understands that the works for strengthening the taxiways mentioned above were carried out under the 1980/81 civil works program to enable Adelaide Airport to be flight planned as an alternate airport for TAA WBA operations in the eastern States. However, the Committee considers that the works should have been referred to it as a component of the works necessary for WBA operations.

THE PROPOSAL

34. In all it is proposed to add 5,400 square metres of floor space to the terminal building to provide covered ways, new baggage handling and collection areas, two new gate lounges for passengers using WBA, an enlarged arrivals area as well as an enlarged concessions area on the first floor.

35. It is also proposed to strengthen taxiways and aprons, provide new aprons and rearrange access roads to the front of the terminal building.

36. Terminal Building New baggage handling facilities will be provided by extending the western side of the old terminal building. These extensions will provide each airline with 600 square metres of additional floor space with matching public space.

37. Departing passengers will, after baggage check in, proceed to seat allocation and gate lounges. Two additional gate lounges capable of accommodating passengers for WBA are proposed to be added to the western end of the terminal finger.

38. Arriving passengers will enter the terminal through one of five doors, proceed along a covered walkway to the new baggage claim area and then to the enlarged arrivals hall. This arrangement will separate departing and arriving passengers and visitors to the terminal.

39. It is proposed to enlarge the concession area on the first floor by 700 square metres. The extensions will be directly above the new Ansett baggage claim area.

40. Adequacy. The proposed extensions are sized to suit forecast traffic for five years after completion.

41. Aprons. The provision of new baggage handling facilities will intrude into areas currently used by the airlines to park aircraft servicing equipment. As a consequence it is proposed that this equipment be parked in the area currently used by commuter and light aircraft for overnight parking. This will necessitate the construction of a new northern parking apron for about twenty light aircraft. The designated area is remote from public access and it will also be necessary to construct a commuter set down and pick up area at the southern end of the main apron. In all, the new aprons will comprise 24,000 square metres of pavement.

42. An area of the main terminal apron of about 50,000 square metres is to be shape corrected and strengthened.

43. Taxiways. It is proposed to shape correct, overlay and provide turning fillets to taxiway F which leads from the terminal to the end of the main 05 runway. This strengthening will be of the same standard as already carried out on taxiways A and B and is designed to permit WBA operations.

44. Drawings. The extent of the works proposed is shown on plans at the back of this report.

REACTIONS TO THE PROPOSAL

45. The majority of objections to the proposed upgrading stated the airport should be moved to a site identified by the Commonwealth-State Committee in the Two Wells/Virginia area

and that no further development should be carried out at the existing airport. Those opposing more development at Adelaide Airport made a number of complaints which can be summarised as follows:

- current operations endanger residents and property;
- aircraft noise disturbs sleep and affects health;
- aircraft noise interferes with school lessons;
- vibrations from aircraft noise cause damage to buildings and houses;
- increased operations and noise would reduce property values;
- aircraft noise affects conversation and TV and radio reception;
- aircraft operations cause air pollution.

46. Other witnesses complained that there is no listed number in the Adelaide telephone directory where they may lodge complaints about noise generated inside the curfew, especially in the early hours of the morning, that the curfew was being broken, individuals who managed to locate DoT officials were treated in an offhanded manner and that the recording of complaints appeared to be incomplete.

47. Many letters were received by the Committee and quite a number indicated opposition to the proposed construction of an International terminal building at Adelaide. This work was referred to the Committee by the House of Representatives on 17 February 1982. Letters and evidence relating to the proposed new International facilities received as part of the present reference will be taken into account when the Committee examines this additional work at Adelaide.

48. During the public hearing DoT witnesses advised the Committee that operations by light executive aircraft are permitted inside the curfew on the grounds that they are

quieter than larger jets. Noise abatement procedures covering ground running and ground testing of aircraft engines during curfew hours as well as operations outside the curfew are enforced.

49. Some individuals complained that departing and arriving aircraft do not always conform with the Adelaide Airport noise abatement procedures. They claimed that aircraft make tight turns on final approach and after departure at less than the specified distance from the airport and, in doing so, they needlessly fly over residential areas at low altitude.

COMMITTEE CONSIDERATION

50. Quite clearly the most objections to the proposal and future operations of Adelaide Airport revolve around aircraft noise.

51. Noise Exposure Forecasts The technique of noise exposure forecasts is a measure of the noise exposure related to average community response for land use compatibility planning around airports. Noise exposure levels are expressed in Noise Exposure Forecasts (NEF) units and are related to the characteristic noise output of each aircraft type in flight and such factors as:

- the magnitude and duration of the aircraft noise as determined by type, weight and flight profile;
- the distribution of the noise energy over the spectrum of audible frequencies;
- the forecast frequency of aircraft movements on various flight paths, and;
- the average daily distribution of aircraft movements by day and night time hours.

52. In the application of this system the area around airports is divided into zones of defined noise exposure. If the boundaries of these zones are plotted on airport locality charts they appear as contours of given noise exposures. Within these contours it is then possible to make a count of houses and persons affected by aircraft noise at the estimated NEF levels.

53. DoT advised the Committee during the enquiry into the redevelopment of Brisbane International Airport, Initial Works of Phase 1 (Committee's 10th Report of 1979, Parliamentary Paper 43/1970) that the criteria for assessing the number of people annoyed by aircraft noise in a noise affected area as defined by the NEF system are as follows:

- (a) At 25 NEF level
 - 20% of the exposed population are seriously annoyed;
 - a further 20% of the exposed population are annoyed.
- (b) At the 30 NEF level
 - 35% of the exposed population are seriously annoyed;
 - a further 25% of the exposed population are annoyed.
- (c) At the 40 NEF level
 - 60% of the exposed population are seriously annoyed;
 - a further 30% of the exposed population are annoyed.

54. Acceptability ratings relating to NEFs, developed by the United States Federal Aviation Agency particularly for land use planning purposes, indicate that zones within the 35-45 NEF as "unacceptable" for urban development and zones between 30-35 NEF as "barely acceptable" for such development.

The reaction experienced from the public in Adelaide tends to confirm the rating system under which Adelaide's situation would be classified as "barely acceptable".

55. Table 4 below, illustrates the number of dwellings and people within the 25 NEF around Adelaide Airport in 1976.

TABLE 4

NOISE EXPOSURE ADELAIDE AIRPORT 1976

| NEF Values | Houses | Flats | Total | Persons |
|-----------------|--------|-------|-------|---------|
| 25-30 | 3354 | 460 | 3814 | 11,150 |
| greater than 30 | 1425 | 198 | 1623 | 3,120 |
| Totals | 4779 | 658 | 5437 | 14,270 |

56. DoT believe projections for aircraft noise exposure indicate that by 1990 there will be a reduction in the number of houses and people affected. For the 1980 Noise Exposure Index (NEI) DoT estimate the number of properties within the 25 NEI contour at approximately 4850. By 1990 it is estimated there will be approximately 3520 properties within the 25 NEF which is a reduction of about 27 per cent in the number of properties affected.

57. Select Committee on Aircraft Noise Many of the charges made by individuals and groups concerning the level and effects of aircraft noise are similar to those presented to the House of Representatives Select Committee on Aircraft Noise. In its report (Parliamentary Paper 236/1970) the Select Committee made a series of findings and recommendations regarding aircraft noise levels near major Australian airports and their effects on schools and hospitals. The Select Committee found however that it was not possible to secure from any source an accurate measure of the magnitude of social

unrest attributable to aircraft noise. An Australia-wide survey of the social consequences of aircraft noise has recently been made by the National Acoustic Laboratories of the Commonwealth Department of Health but the data obtained has yet to be released in final report form.

58. It is clear that substantial changes have occurred since the Select Committee reported, including:

- additional overseas and local studies on the effect of aircraft noise on people and communities;
- increased air traffic at Australian capital city airports;
- the introduction of new and larger aircraft on Australian domestic and international routes;
- better designed aircraft engines with greatly reduced noise.

59. Committee's Conclusion. There is justification and a need for a further study by a Parliamentary Committee into the subject of aircraft noise as a matter of urgency. Accordingly the House of Representatives should refer to the Standing Committee on Environment and Conservation the matter of aircraft noise. The Standing Committee be requested to inquire into and report on all aspects of aircraft noise within and adjacent to major urban areas, particularly:

- its effects on persons, property, institutions and communities;
- the effectiveness of current noise abatement procedures;
- the adequacy of current noise monitoring programs;
- curfew requirements at Australian airports;
- long and short term action which should be taken by Commonwealth, State and local governments to lessen impact;

- changes which should be made to priorities and programs for the development of existing airports and construction of new airports within and adjacent to major urban areas;
- assessment of airport planning, development and aircraft noise compensation schemes operating in the United Kingdom and other countries;
- such other matters which the Committee decides should be drawn to the attention of the House.

60. Department of Transport Evidence. Witnesses appearing before the Committee presented evidence which purported to show, that based on published information and verbal evidence, the runway at Adelaide is too short for WBA operations. DoT presented written submissions which showed that the Department used constant criteria in accounting for the engine failure case, the accelerate - stop situation and the calculation of runway length requirement including obstacle clearance. DoT confirmed that all International Civil Aviation Organisation (ICAO) requirements as regards runway length are being met. The Committee is aware that the proposed operation of the Airbus A300B4-203 at Adelaide by TAA has been tailored to meet with safety the requirements over the intended flight stage lengths and that, if any economic penalty is involved by so doing, the safety aspects are paramount.

61. Similar allegations were made by witnesses that DoT used inaccurate and misleading technical information in references regarding the noise certification of the Airbus and in noise measurements. DoT stated that the TAA Airbus had been demonstrated in noise certification tests carried out in France under the supervision of competent authority and that the DoT noise measurement procedures conform to ICAO technical requirements. The Committee believes these factors will be considered by the proposed House of Representatives Standing

Committee on Environment and Conservation enquiry into aircraft noise mentioned in paragraph 59 above. Similarly, without in-depth examination and the provision of independent technical advice the Committee is unable to reach conclusions on complaints concerning injury to health, damage to buildings etc and would expect that such matters would be fully canvassed by the House of Representatives Committee on Environment and Conservation. The outcome of such an inquiry will be vital and necessary for the Government's and the Committee's consideration of airport development throughout Australia.

62. Implications of Non-Approval. In giving careful consideration to all evidence presented in relation to the proposal, including the evidence presented by those opposed to further development, the Committee was aware that, if it were not to approve the work, the airlines would continue to operate through Adelaide, most probably using existing aircraft, and that, if passenger forecasts are met, there would be even more aircraft movements than proposed.

63. The Committee is also mindful that it would take from ten to twelve years to commission a new airport and it could have a cost in the order of \$250 million at current prices. The Committee feels in these circumstances that whilst planning for the future airport needs of Adelaide should proceed with some urgency, the proposed development should not and cannot be deferred.

64. Improved Communication. There are, however, a number of areas where the Committee believes there to be scope for reducing the level of aircraft noise at the present airport, particularly inside the curfew hours.

65. As a first step, determined action should be taken by DoT the Anti-Airport Noise Association, the Airlines and other

groups to improve communication. Sight should also not be lost of including representatives of the State Government in any discussions. Improved communications can best be achieved by an arrangement of formal meetings of accredited representatives. Also, designated DoT officials should be readily accessible for the receipt of complaints at all hours. A telephone number through which noise complaints can be lodged should immediately be advertised in local newspapers and inserted in the next Adelaide telephone directory. Each complaint should be given a number and the complainant advised of it. This will assist in the identification and investigation of complaints.

66. National Priorities. In its report on Initial Works for Brisbane Airport, reasons advanced for the works by the DoT were:

- alleviation of noise nuisance;
- removal of curfew;
- removal of building height restrictions in the Central Business District of Brisbane.

67. The Committee recommended that initial works for Brisbane Airport should not commence until 1986, because minor expenditure would have permitted the airport to be used until 1992 (Committee's 10th Report of 1979, Parliamentary Paper 343/1979). The recommendations of the Committee were rejected by the Government for the same reasons advanced by DoT in its submission to the Committee. It should be emphasized that the same factors advanced by DoT, and accepted by the Government, for commencement of a new Brisbane Airport apply with similar force to the proposal for a new airport at Adelaide.

68. The main difference would be the greater volume of traffic at Brisbane airport (although airport runway capacities were adequate to 1992), and the number of residents close to the airport affected by noise.

69. The numbers affected by noise at Adelaide Airport are greater than those affected at the existing Brisbane Airport. At Brisbane the number of houses within the 25 NEF in 1976 was 2565, compared to 5437 houses and flats in Adelaide.

70. The apparently differing criteria being applied emphasise the Committee's observation in its report on Further Dredging and Reclamation for Brisbane International Airport (Committee's 9th Report of 1981) that a national airport development strategy rather than the current ad hoc and piecemeal approach to airport development is required. The Committee is hopeful that the Interdepartmental Committee tasked with currently preparing a Strategic Overview of Major Airport Developments, will enable this approach to be adopted.

71. Committee's Conclusions. Adelaide Airport will need to operate at its present site until an alternative location can be found, land acquired and new facilities provided. Planning for the future airport needs of Adelaide should start now.

72. Projections of aircraft and passenger movements for Adelaide indicate these will increase. Existing facilities at Adelaide Airport are inadequate to meet present and future demand, especially for WBA.

73. As an interim measure, to overcome the immediate problems, the proposed extensions and upgrading of pavements and the terminal extensions should proceed as proposed.

74. There is scope for more rigorous application of noise abatement procedures. Such procedures should be immediately reviewed by Department of Transport, especially such aspects as the operation of light executive jets and the ground running of turbo-propeller aircraft within curfew hours.

75. At paragraph 59 the Committee has recommended that the House of Representatives Committee on Environment and Conservation should examine all aspects of aircraft noise.

76. At the Committee's meeting on 11 March 1982 it was moved by Senator Foreman seconded by Mr Humphreys that the following paragraphs be inserted in the draft report and the Committee agreed:

"SENATOR FOREMAN'S VIEWS

I do not oppose the proposal as put to the Committee by DoT and the Department of Housing and Construction. This is, however, conditional on a number of factors which require immediate action and rectification, namely:

- (a) tangible and positive steps must be taken now by the Commonwealth and State Governments for the construction of a new airport for Adelaide;
- (b) the present curfew must be maintained and more rigorously enforced;
- (c) operations by small executive jets inside the curfew must cease forthwith; likewise the ground running of turbo-propeller aircraft;
- (d) without prejudicing the conduct and findings of the House of Representatives Standing Committee on Environment and Conservation inquiry into aircraft noise, all schools and hospitals in the vicinity of the airport, particularly those in the flight paths of the main runway, must have sound proofing treatment and where necessary, airconditioning; the State and the Commonwealth to share the costs equally;
- (e) Noise abatement procedures outside the curfew be rigorously enforced, their compliance be monitored by DoT and punitive action in the form of fines be taken against operators who, without compromising safety, do not comply with the procedures."

77. At the Committee's meeting on 11 March 1982 it was moved by Senator Martyr seconded by Mr Bungey that the following paragraphs be inserted in the draft report and the Committee agreed:

"SENATOR MARTYR'S VIEWS

I dissent from the Committee's recommendation to refer the allegations of noise problems at Adelaide Airport to another Committee. Further I dissent from any move to recommend any other such problems associated with this inquiry to other Committees.

I believe the Public Works Committee is authorised and able to handle all these matters itself and as the Standing Committee of the Parliament should do so.

As to the specific assertions of a noise problem at the Airport, when these assertions were examined publicly at the hearing of the Committee in Adelaide, no hard evidence was adduced to prove psychological or physiological damage or distress of such proportions as to warrant the Joint Committee's recommendation. Nor was there any hard evidence adduced to prove structural or mechanical damage to homes or other buildings.

All this despite the fact that the hearing was widely publicised and every effort was made to allow persons with evidence to speak and produce their evidence.

My own view of the noise allegations and assertions is that they are satisfactorily answered by documents received from the Department of Transport which are included in the Minutes of Evidence."

HOBART AIRPORT

THE NEED

78. With the introduction of WBA on the major domestic network some redeployment of B727 aircraft to Hobart will result and movements by this type are forecast as increasing significantly beyond the present level.

79. The main (12/30) runway at Hobart Airport, 1,981 metres by 45 metres, has been extended, upgraded and resurfaced on a number of occasions since its original construction in 1955 and similar improvements have been carried out on the taxiways and the apron. These pavements are considered generally satisfactory for the present aircraft movement rates although they have lost some surface shape in the trafficked areas and local patching has been necessary.

80. Present operations consist mainly of DC9 aircraft but B727 aircraft do operate on a pavement concession basis. The airlines request Department of Transport approval of a number of operations by B727 aircraft over a given period. These are considered by Department of Transport and an approved number advised to the airlines. Frequencies approved over the last two years are shown in Table 5 below:

TABLE 5

PAVEMENT CONCESSIONS AT HOBART AIRPORT

| Period | Approved (per week) |
|---------------------|------------------------|
| 2.3.80 to 25.10.80 | 13 |
| 26.10.80 to 28.2.81 | 17 |
| 1.3.81 to 24.10.81 | 17 |
| 25.10.81 to 6.3.82 | 36 |

81. Historic data and forecasts of passenger and aircraft movements, provided by DoT, are shown in Table 6 below. Details of the existing and projected aircraft mix are shown in Table 7.

TABLE 6

HOBART-PASSENGER AND AIRCRAFT MOVEMENTS

| Historic Data | Passengers | Aircraft Movements |
|-----------------|------------|--------------------|
| 1975 | 378,489 | 7,848 |
| 1976 | 406,054 | 8,128 |
| 1977 | 420,135 | 8,234 |
| 1978 | 447,790 | 8,832 |
| 1979 | 463,575 | 8,555 |
| 1980 | 476,930 | 8,437 |
| Forecasts (DoT) | | |
| 1985 | 571,000 | 6,760 |
| 1990 | 662,000 | 7,080 |
| 1995 | 753,000 | 8,190 |
| 2000 | 844,000 | 9,780 |

TABLE 7

AIRCRAFT MIX

| | 1980 | 1985 | 1990 |
|---------|-------|-------|-------|
| Electra | 122 | - | - |
| F27 | 636 | - | - |
| F28 | - | 310 | 620 |
| DC9/737 | 6,879 | - | - |
| B727 | 800 | 6,450 | 6,460 |
| Total | 8,437 | 6,760 | 7,080 |

82. In Table 8 below are the forecast movements and aircraft mix for 1985 as provided by Ansett and TAA.

TABLE 8

AIRCRAFT MIX

| 1985 | TAA | Ansett | Total |
|------|------|--------|-------|
| A300 | Nil | Nil | Nil |
| B727 | 1456 | 728 | 2184 |
| DC9 | 2503 | Nil | 2503 |
| B737 | Nil | 3614 | 3614 |

83. Although complete unanimity of forecasting aircraft movements and the future mix of aircraft is seldom achieved between DoT and the airlines and reasonable differences are to be expected, the differences in their projections in this proposal are far too great for reconciliation. From the tables above it will be seen that for 1985 DoT estimates 6450 B727 movements as against the combined airline estimate of 2184 and DoT provides no B737 movements for 1985 for which Ansett estimates 3614. It is considered that a more realistic forecast is provided by the airline figures.

84. The terminal apron is regularly congested due to conflict between normal airline services, commuter aircraft, charter and itinerant aircraft movements. This congestion is of concern with existing traffic and the apron area would be inadequate for increased B727 operations.

THE PROPOSAL

85. It is proposed to upgrade the runway, taxiways and terminal apron to permit unrestricted operations by B727

aircraft and to provide facilities to enable Hobart Airport to be used as an alternate airport for WBA operations. This will involve pavement strengthening, turning nodes, taxiway fillet widening and runway surface friction treatment.

86. All pavements to be used by the heavier aircraft require shape correction and strengthening by overlaying with an average of 50 mm of bituminous concrete. The central 30 metres of the runway will be grooved to improve its frictional characteristics in wet weather. The terminal apron will be overlayed with 25 mm of tar concrete to provide a jet fuel resistant surface.

87. The turning node pavements, fillets and apron extensions are costed on the basis of 300 mm of bituminous concrete but alternatives which are operationally acceptable will be considered following further site investigations.

88. International Terminal Building. Because of the previously expressed wish of the Committee to be advised of further associated planning work, DoT witnesses gave an outline of the department's intentions regarding facilities needed for international airline operations through Hobart Airport. The facilities related specifically to the provision of a new, and separate, international terminal building or to the modification of the existing domestic terminal building. Finance for this proposal was to be arranged through existing departmental allocations although final approval had yet to be achieved.

89. International airline operations between Australia and New Zealand provide for Qantas being the designated Australian airline but the authorised services from Hobart to Christchurch and return were carried out, until recently, on behalf of Qantas, by Ansett and TAA. Ansett has now withdrawn from the bi-weekly return service which will now be operated by TAA using B727 Aircraft.

90. At the present time international passengers are processed through the existing Hobart domestic terminal and, to meet the requirements of Customs, Immigration, Health, Police and the airlines, furniture and temporary barriers have to be shifted before and after each international movement with consequent disruption to domestic operations.

91. From its study of the problem DoT has developed a number of optional solutions involving possible modifications to the existing terminal or the provision of a new, and separate, international terminal building. The order of costs range from \$650,000 for a modification of the existing terminal to \$950,000 for a separate international building.

92. Reactions to the Proposals - Pavement Upgrading
Because of their moves into different types of competitive aircraft, the airlines have not responded unanimously to the DoT proposals for pavement upgrading at Hobart Airport. The TAA plans for servicing Hobart involve redeployment of B727 aircraft but Ansett intends employing B737s as the dominant aircraft with far fewer operations by B727s. The B737 does not require a pavement concession for unrestricted operation at Hobart.

93. The DoT proposal to upgrade the pavements for unrestricted use by B727 aircraft is therefore supported by TAA so that it could use these aircraft without recourse to DoT for approvals under pavement concession arrangements. Ansett, whilst not seeking the upgrading as such, could use Hobart as an alternate airport.

94. DoT has also proposed that the pavement works should provide for future WBA operation through Hobart by the inclusion of turning nodes on the runway and fillet widening of the taxiways at an approximate cost of \$500,000. Neither airline has plans for the future operation of WBA through

Hobart nor was there substantial argument from them that the extra facilities should be provided to allow this airport to be used for alternate purposes.

95. The proposal was strongly supported however by witnesses appearing on behalf of the Tasmanian Government.

96. Committee's Conclusion There is a need to upgrade and extend the apron pavement at Hobart to eliminate congestion and to provide for increasing B727 operations. On the basis of airline projections for B727 aircraft at Hobart the proposed runway and taxiway upgrading is not a proven necessity at this time. This work should be deferred for at least two years unless pavement distress begins to appear earlier. Justification for the fillet widening and turning nodes for WBA operation has not been shown. This work should not proceed.

97. International Terminal The Committee regrets that works relating to International facilities at Hobart were not referred to it in conjunction with other works proposed for Hobart Airport. Failure to include such works in the reference to the Committee has denied the people of Hobart, airline and tourist interests from publicly commenting on the proposals. It is clear from evidence received that construction of a separate International terminal is not supported by the airlines. Evidence indicates that the existing two return flights per week between Hobart and Christchurch will continue at about the same level for the foreseeable future. The Committee is aware that, due to the relatively short period of the international operation, an accurate assessment of future movements is difficult to make despite the expressed optimism about future increases in tourism.

98. Accepting that two return flights per week will continue, grave doubts must be held on the justification for the construction of a separate terminal building which would be used only for very few hours each week.

99. The Committee had additional doubts because the proposed location of the separate international terminal is operationally difficult for TAA, now the sole operator on this route.

100. The Committee recognises that the present method of operation through the domestic terminal building does cause disruption of normal working and that furniture moving etc. would be time consuming. However it considers that by close attention to design and that, with the co-operation of TAA and departments concerned, a satisfactory option could be developed by modification of the existing domestic terminal building. The Committee feels moreover that satisfactory modification of the existing terminal would provide improved services, such as baggage handling, for the domestic travellers, as well as providing a more economic solution.

101. Committee's Conclusion The Committee recommends that modification of the existing domestic terminal be made for international operations at Hobart Airport rather than providing a separate international terminal building.

LIMIT OF COST

102. Adelaide When referred to the Committee the limit of cost estimate was \$7.0 million at August 1981 prices. During the public hearing in Canberra on 19 October 1981 the Committee was advised that the limit of cost had increased to \$7.5 million due to modifications to the scope made in the interval between the work being referred to the Committee and the public hearing.

103. The limit of cost estimate for Adelaide comprises the following items:

| | \$ million |
|--|-------------|
| - apron and taxiway upgrading | 1.88 |
| - apron replacement | 1.03 |
| - terminal extensions | 4.20 |
| - access road upgrading and carpark replacement | <u>0.39</u> |
| Total | <u>7.5</u> |

104. The Committee has since been advised the limit of cost estimate at January 1982 prices is \$8.0 million.

105. Hobart The limit of cost estimate for the proposed upgrading of Hobart Airport when referred to the Committee was \$3.45 million at August 1981 prices and comprises the following:

| | \$ million |
|---|-------------|
| - strengthen runway, provide turning nodes and surface friction treatment | 1.45 |
| - strengthen taxiways and provide fillet widening | 1.2 |
| - apron strengthening and extensions | <u>0.8</u> |
| Total | <u>3.45</u> |

106. At January 1982 prices, the limit of cost estimate is \$3.65 million.

PROGRAM

107. Adelaide Planning for the work provides for the letting of tenders early in 1982 for the terminal extensions and for Taxiway F. The building extensions will be phased to suit the airlines' operational requirements.

108. Hobart The planning for the works provides for their completion to meet the needs of the redeployment of 8727 aircraft.

109. Committee's Conclusion The Committee recommends the construction of the work at Adelaide Airport at an estimated cost of \$8.0 million at January 1982 prices as proposed. The Committee recommends the construction of apron strengthening and extensions at Hobart Airport at an estimated cost of \$0.85 million at January 1982 prices.

RECOMMENDATIONS AND CONCLUSIONS

110. The summary of recommendations and conclusions of the Committee and the paragraph in the report to which each refers is set out below.

Paragraph

1. THERE IS JUSTIFICATION AND A NEED FOR A FURTHER STUDY BY A PARLIAMENTARY COMMITTEE INTO THE SUBJECT OF AIRCRAFT NOISE AS A MATTER OF URGENCY. ACCORDINGLY THE HOUSE OF REPRESENTATIVES SHOULD REFER TO THE STANDING COMMITTEE ON ENVIRONMENT AND CONSERVATION THE MATTER OF AIRCRAFT NOISE. THE STANDING COMMITTEE BE REQUESTED TO INQUIRE INTO AND REPORT ON ALL ASPECTS OF AIRCRAFT NOISE WITHIN AND ADJACENT TO MAJOR URBAN AREAS, PARTICULARLY:

- ITS EFFECTS ON PERSONS, PROPERTY, INSTITUTIONS AND COMMUNITIES;
- THE EFFECTIVENESS OF CURRENT NOISE ABATEMENT PROCEDURES;
- THE ADEQUACY OF CURRENT NOISE MONITORING PROGRAMS;

- CURFEW REQUIREMENTS AT AUSTRALIAN AIRPORTS;
 - LONG AND SHORT TERM ACTION WHICH SHOULD BE TAKEN BY COMMONWEALTH, STATE AND LOCAL GOVERNMENTS TO LESSEN IMPACT;
 - CHANGES WHICH SHOULD BE MADE TO PRIORITIES AND PROGRAMS FOR THE DEVELOPMENT OF EXISTING AIRPORTS AND CONSTRUCTION OF NEW AIRPORTS WITHIN AND ADJACENT TO MAJOR URBAN AREAS;
 - ASSESSMENT OF AIRPORT PLANNING, DEVELOPMENT AND AIRCRAFT NOISE COMPENSATION SCHEMES OPERATING IN THE UNITED KINGDOM AND OTHER COUNTRIES;
 - SUCH OTHER MATTERS WHICH THE COMMITTEE DECIDES SHOULD BE DRAWN TO THE ATTENTION OF THE HOUSE. 59
2. ADELAIDE AIRPORT WILL NEED TO OPERATE AT ITS PRESENT SITE UNTIL AN ALTERNATIVE LOCATION CAN BE FOUND, LAND ACQUIRED AND NEW FACILITIES PROVIDED. PLANNING FOR THE FUTURE AIRPORT NEEDS OF ADELAIDE SHOULD START NOW. 71
3. PROJECTIONS OF AIRCRAFT AND PASSENGER MOVEMENTS FOR ADELAIDE INDICATE THESE WILL INCREASE. EXISTING FACILITIES AT ADELAIDE AIRPORT ARE INADEQUATE TO MEET PRESENT AND FUTURE DEMAND, ESPECIALLY FOR WBA. 72
4. AS AN INTERIM MEASURE, TO OVERCOME THE IMMEDIATE PROBLEMS, THE PROPOSED

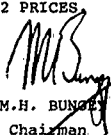
- EXTENSIONS AND UPGRADING OF PAVEMENTS AND THE TERMINAL EXTENSIONS SHOULD PROCEED AS PROPOSED. 73
5. THERE IS SCOPE FOR MORE RIGOROUS APPLICATION OF NOISE ABATEMENT PROCEDURES. SUCH PROCEDURES SHOULD BE IMMEDIATELY REVIEWED BY DEPARTMENT OF TRANSPORT, ESPECIALLY SUCH ASPECTS AS THE OPERATION OF LIGHT EXECUTIVE JETS AND THE GROUND RUNNING OF TURBO-PROPELLOR AIRCRAFT WITHIN CURFEW HOURS. 74
6. THERE IS A NEED TO UPGRADE AND EXTEND THE APRON PAVEMENT AT HOBART TO ELIMINATE CONGESTION AND TO PROVIDE FOR INCREASING B727 OPERATIONS. 96
7. ON THE BASIS OF AIRLINE PROJECTIONS FOR B727 AIRCRAFT AT HOBART THE PROPOSED RUNWAY AND TAXIWAY UPGRADING IS NOT A PROVEN NECESSITY AT THIS TIME. THIS WORK SHOULD BE DEFERRED FOR AT LEAST TWO YEARS UNLESS PAVEMENT DISTRESS BEGINS TO APPEAR EARLIER. 96
8. JUSTIFICATION FOR THE FILLET WIDENING AND TURNING NODES FOR WBA OPERATION HAS NOT BEEN SHOWN. THIS WORK SHOULD NOT PROCEED. 96
9. THE COMMITTEE RECOMMENDS THAT MODIFICATION OF THE EXISTING DOMESTIC TERMINAL BE MADE FOR INTERNATIONAL OPERATIONS AT HOBART AIRPORT RATHER THAN PROVIDING A SEPARATE INTERNATIONAL TERMINAL BUILDING. 101

10. THE COMMITTEE RECOMMENDS THE CONSTRUCTION OF THE WORK AT ADELAIDE AIRPORT AT AN ESTIMATED COST OF \$8.0 MILLION AT JANUARY 1982 PRICES AS PROPOSED.

109

11. THE COMMITTEE RECOMMENDS THE CONSTRUCTION OF APRON STRENGTHENING AND EXTENSIONS AT HOBART AIRPORT AT AN ESTIMATED COST OF \$0.85 MILLION AT JANUARY 1982 PRICES.

109


M.H. BUNGE
Chairman

Parliamentary Standing Committee on Public Works
Parliament House
CANBERRA
11 March 1982

APPENDIX 1

ADELAIDE AIRPORT - CONSTRUCTION

Movement Areas - Shape correction and strengthening of about 50,000 square metres of the terminal apron will be with a 50 mm overlay including a 25 mm surface layer of tar concrete to resist the effects of fuel spillage.

Extensions to the apron will comprise 25 mm bituminous concrete on 150 mm of fine crushed rock on 325 mm of sand. Diversion and relocation of some engineering services will also be involved.

Terminal Extensions The extensions will be designed to be similar to the existing terminal, of steel frame construction, sheet metal roofing and wall panels and glazed wall panels.

Internal finishes will comprise sound absorbent strawboard ceiling panels and painted plasterboard walls. Floors will generally be vinyl tiles in public areas.

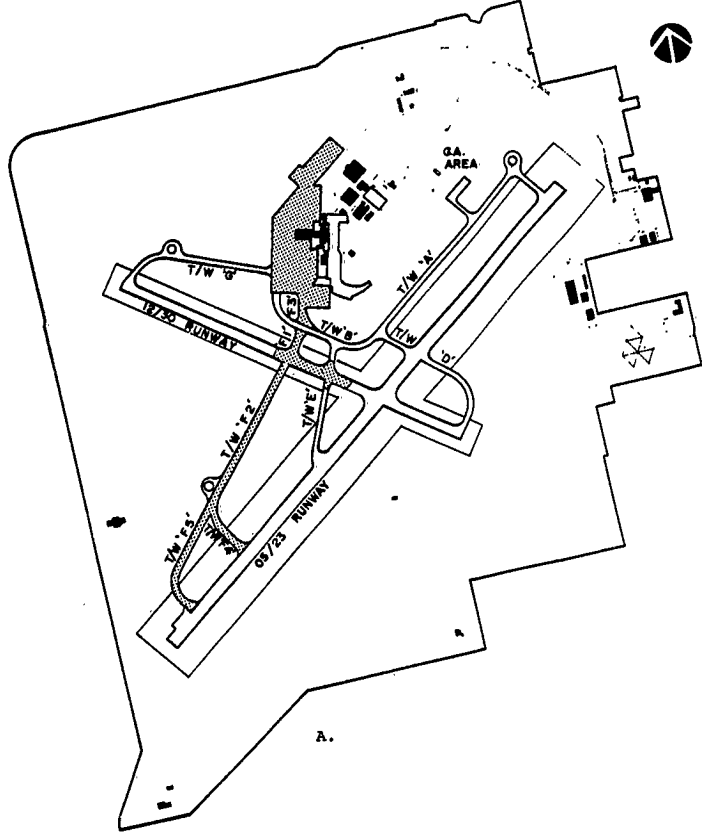
The new baggage claim areas and enlarged gate lounges will be served by hot water heating and evaporative cooling as for the existing building.

Electrical work will include improved high voltage supply and reticulation, new transformers and extensions to the existing system.

The building extensions will be constructed of non-combustible material and will be provided with fire exists, fire extinguishers and small base hose reels. The terminal building fire detection system will be extended to include the extensions.

LEGEND

PROPOSED AIRCRAFT
PAVEMENT WORKS



0 100 200 300 400
M
SITE PLAN

ADELAIDE AIRPORT SA.

LEGEND

EXISTING BUILDINGS ■

PROPOSED WORKS

1 APRON STRENGTHENING (50,000m²)

3 NEW COMMUTER AIRCRAFT

APRON

4 DOT STAFF CAR PARK

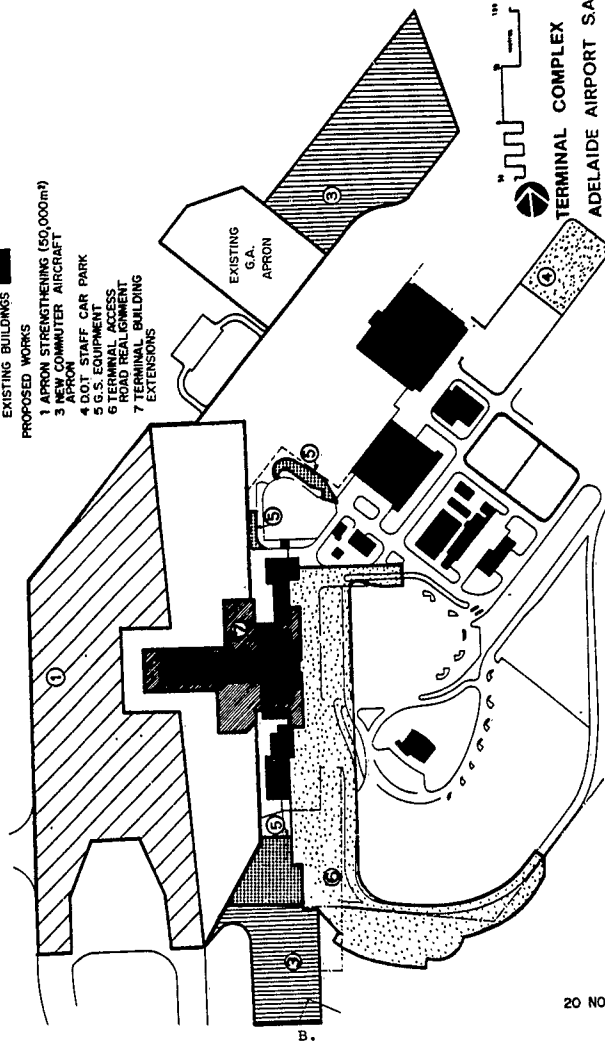
5 G.S. EQUIPMENT

6 TERMINAL ACCESS

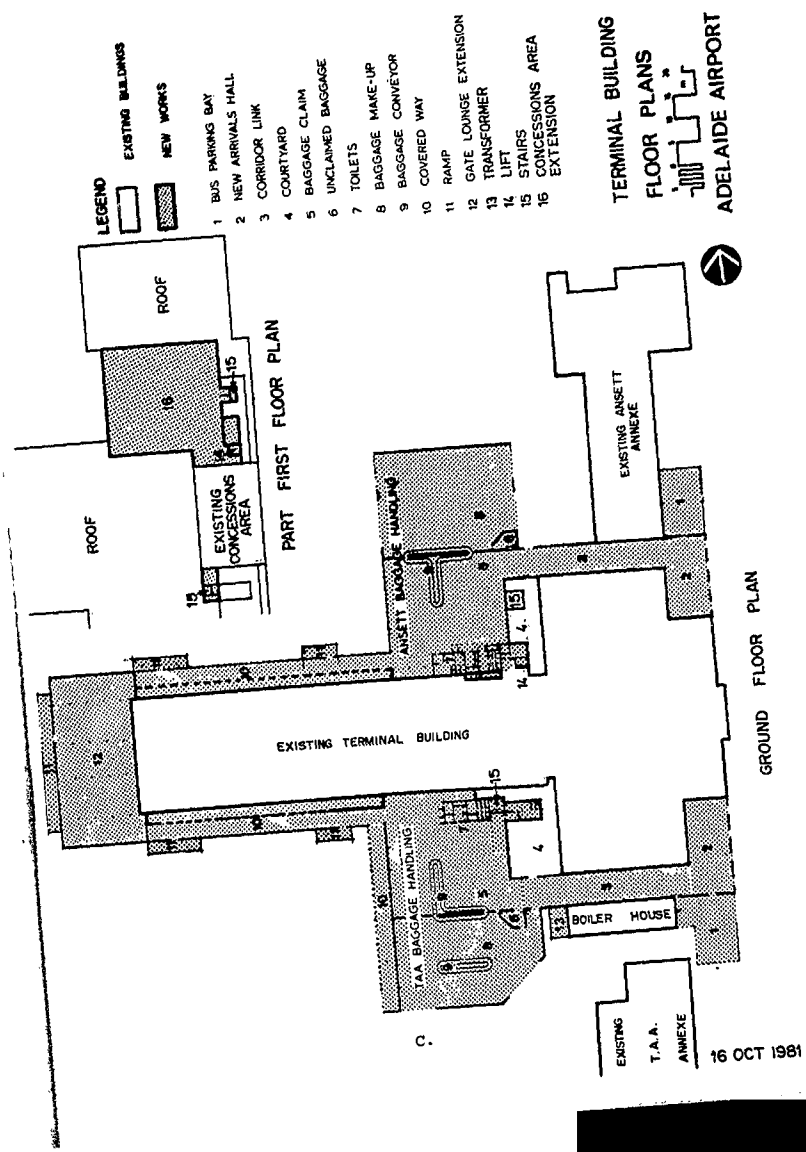
ROAD REALIGNMENT

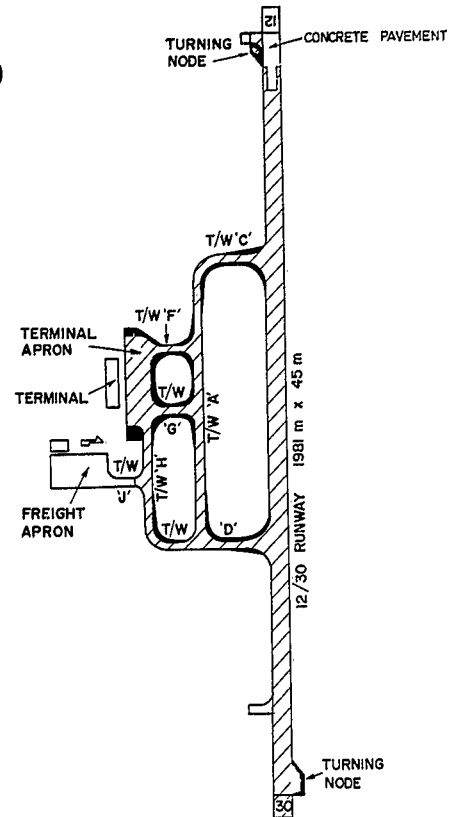
7 TERMINAL BUILDING

EXTENSIONS



20 NOV. 1981





LEGEND.



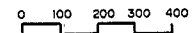
NEW PAVEMENT



PAVEMENT STRENGTHENING

HOBART AIRPORT
AIRCRAFT PAVEMENT WORKS

SCALE 1:10 000



D.