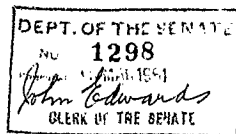


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COMMONWEALTH OF AUSTRALIA.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

R E P O R T.

Relating to the Proposed

Erection of the

IRWIN AUTOMATIC TELEPHONE EXCHANGE

at

P E R T H, W. A.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

=====oOo=====

R E P O R T.

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IRWIN AUTOMATIC TELEPHONE EXCHANGE BUILDING

at

PERTH, W.A.

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COMMONWEALTH OF AUSTRALIA.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

IRVIN AUTOMATIC TELEPHONE EXCHANGE AND POST OFFICE,

PERTH, W.A.

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 erection of an Automatic Telephone Exchange building in Perth, Western Australia, has the honour to report as follows :-

SECTION I - INTRODUCTION.

1. The existing Perth city area is served by one exchange only, namely, Central. This exchange is situated in Murray Street, between King and Milligan Streets, and the building which houses the equipment was erected in 1911, having been designed for the installation of manually operated equipment at that time. Automatic equipment for 4,000 lines was installed, and the exchange was cut into automatic service in November, 1914. It was thus one of the earliest automatic exchanges brought into operation in the Commonwealth and the first one in Western Australia, and provided service for an area of approximately four miles radius. The Perth Trunk Exchange was also installed at the same time in that building.

2. As the number of subscribers' services increased, it became necessary to meet growth in the area by opening new exchanges in the adjacent suburbs. The first relief was given in 1936, by which time there were approximately 8,000 lines connected to central, by the opening of exchanges at Maylands and Victoria Park. This was followed by the establishment of the Nedlands Exchange in 1937, Subiaco in 1939 and Mt. Hawthorn in 1949. This has resulted in the reduction of the area served by the Central Exchange to an irregularly shaped area roughly 3 miles long and $2\frac{1}{2}$ miles wide. At the end of December, 1950, there was a total of 8,852 subscribers connected, and the number of deferred applications for service held at the end of December, 1950 was 41.

3. In order to meet telephone development, it will be necessary to establish a second main automatic exchange in the city area of Perth, and a third automatic exchange in the city area will be required at a later date. A site has already been acquired at the corner of Bulwer and William Streets, North Perth, for use when it is considered essential to establish the third exchange for the city area.

SECTION II. - THE PRESENT PROPOSAL.
THE EXCHANGE.

4. The Perth Central Exchange building is filled to capacity with equipment, and is incapable of providing for the constantly increasing development without relief from the establishment of a new exchange area.

5. It is therefore proposed to establish the Irwin automatic exchange at the opposite end of Murray Street to the existing Central Exchange, and it will be situated near the copper centre of the area to be served. It is estimated that, when the Irwin Exchange is established, there will be a total of 13,900 lines connected in the City area and served by the two exchanges, Central and Irwin. This total is expected to increase to 31,900 in the twenty year period to 1976, but long before that time it will be necessary to provide the third city exchange to which some of the telephone services required in the Irwin and Central area will be connected.

6. A modern Trunk exchange is also planned in the building in order to meet the growth of the trunk line services radiating from Perth throughout the State. In addition space is required for the installation of long line equipment so that the apparatus, used in providing telephone and telegraph carrier channels over the long distance lines, may be centrally located and adequately housed.

7. The building will provide suitable space for a small Post Office to cater mainly for counter business which will increase in this section of the city. It is also proposed to provide office space urgently needed for Departmental administrative activities in Perth. The whole of the Engineering Branch administrative offices are to be transferred to the new building in order to provide space for departmental activities in the General Post Office.

THE BUILDING.

8. The proposal envisages a structure with two basements, Ground, Mezzanine and ten upper floors, and a flat roof, and it is to cover an area of 13,100 square feet, representing 60% of the area of the site. If available, a steel frame will be used, but otherwise the frame will be designed in reinforced concrete. All floors, walls and roof will be fireproof construction, the lower portion of the exterior walls being faced with Donnybrook stone, leaving the upper portions to be finished in a material to harmonise with the Perth Hospital facades on the adjoining site.

ESTIMATED COST.

9. The estimated cost of the structure as at July, 1950,

was :-	£
Building	620,000
Engineering services and mechanical services	155,000
Contingencies	<u>77,000</u>
Total	<u>£852,000</u>

SECTION III - THE COMMITTEE'S INVESTIGATIONS.

GENERAL.

10. The Committee studied the plans and took evidence in Melbourne from officials of the Postmaster-General's Department and the Department of Works and Housing. The Committee also travelled to Perth to carry out inspections, of the site for the proposed building, and of the existing exchange and departmental activities in Perth. Evidence was taken in Perth from departmental officials concerned with the present establishment and having an interest in the present proposal. In addition the Committee sought evidence from local architects, civic and State Government authorities, and from other persons in a position to supply information required concerning the proposal.

NECESSITY FOR NEW EXCHANGE.

General.

11. A considerable volume of evidence was submitted to the

Committee to emphasize the urgent necessity for the establishment of a new exchange in a new building erected for the purpose in a suitable locality. Amongst the very many reasons advanced in favour of the project it was pointed out that the present buildings used for the various functions of the Postmaster-General's Department are grossly overcrowded to a point where the standard of service possible is being seriously limited; the prospects for the future show clearly that additional new equipment must be provided; and fresh office space is essential to allow expansion of the existing sections of the Department.

New Automatic Exchange.

12. The increase in the number of subscribers during past years has been very striking, and a careful survey of the districts affected has been made with a view to determining as accurately as possible the number of subscribers' lines which will be needed within the next 20 years. The local call network covers a ten mile radius from the General Post Office, Perth, and at 31st December, 1950, 8,852 subscribers were connected in the Central Exchange area, while 41 applications were held up owing to shortage of equipment or cable pairs.

13. The existing Central automatic exchange building is to be extended to the rear, and this additional accommodation will enable a total of 12,600 lines to be connected to the exchange. This is estimated to meet development until the end of 1954. After that time it is anticipated that the establishment of the Irwin exchange will allow a division of the services in the City into two areas, so that by 1956 the estimated distribution will be 7,100 in the Irwin area and 6,800 in the Central area. At the end of the twenty year period to 1976 the respective estimated figures will have grown to 16,100 in the Irwin area and 15,800 in the Central area. It will be necessary, however, long before 1976, to provide the third exchange in the city area and to re-allocate the lines to suit the services required in the three sections of the city.

14. Maximum relief will be given to the cable system by the establishment of the Irwin exchange, which is close to the heaviest concentration of lines in the city. The new exchange is planned to be capable of housing 10,000 lines of equipment, and sufficient for 8,100 lines will be installed immediately to cope with the initial requirements in the area.

The Trunk Exchange.

15. Perth is the main trunk switching centre for Western Australia, and it is vitally important that an efficient and modern type of trunk switchboard shall be provided. The existing Trunk Exchange is located on the second floor of the G.P.C., where it was transferred in 1941, when additional space was needed for automatic equipment at Central Exchange building. Some of the switchboards used were originally installed in the Melbourne Central Exchange building as part of the trunk switching equipment previously used there.

16. Space is not available at the G.P.O. for the additional trunk line switchboards required for the switching equipment needed to improve the efficiency of the trunk line system. It is also desirable and more economical to have the trunk switchboard located as close as possible to the long line equipment which will be installed in the new building.

17. It is therefore proposed to install trunk equipment including the most modern aids to give efficient trunk line working, including automatic apparatus to enable operators in various country centres to dial into the Perth network direct, and also to dial into other country centres as desired. There are 151 trunk lines now connected, and anticipated development by 1956 is 212 trunk lines, increasing to 354 by 1976.

Long Line Equipment.

18. The present day standards of efficiency in transmission over long distances throughout Australia are attained by the use of special long line equipment which must be connected to the various trunk lines in order that telephone and telegraph carrier channels may be derived, and the speech levels brought up to the correct values. In Perth this special equipment is located partly in the G.P.O. and partly in the Victoria Park Exchange. The Transmission Laboratory, which is concerned with the testing and installation of long line equipment throughout the State is located in the G.P.O. building in very cramped and unsatisfactory conditions, and the space for development is totally inadequate. In order to cater for future development and

to locate the long line equipment in the same building as the Trunk Exchange for more efficient maintenance and testing, space is to be allocated on the 3rd floor of the new building, together with space for the Transmission Laboratory.

Post Office and Public Telephones.

19. On the Ground Floor space is to be provided for a Post Office and Mail Handling Room. This is considered essential in view of the rapid development in the area. For some time past local people, including the hospital authorities, have been asking for a new post office, and, pending the opening of the Irwin building, arrangements are being made to set up a temporary post office in the hospital grounds. The plans also provide for built-in public telephone cabinets which will provide a desirable public facility in this portion of the city.

Expansion in Existing Buildings.

20. The Central Exchange Building - It has already been shown that much needed space in the Central Exchange is being provided by additions to that building for immediate use. In that way it will be possible to carry on until the new Irwin building is erected. The establishment of the Irwin Exchange will then free sufficient space in the Central Exchange building to provide for future development until the third city exchange, to be established later at Bulwer Street, is available.

21. The General Post Office - It was very evident to the Committee, from its inspection of the building, that all sections operating in the General Post Office building were grossly over-crowded and seriously handicapped through lack of sufficient space. Conditions are made more difficult because a considerable amount of floor space has been used for some years by officials of other departments. Action is being taken by the Department of the Interior at the present time to house most of these departments in temporary buildings in another part of the city. Even after the tenant departments are transferred to their own building conditions will still be very cramped, and it will be necessary to transfer the whole of the administrative staff of the Engineering Branch, to the Irwin building.

22. The existing manual trunk exchange and some of the long line equipment, which are at present located in the G.P.O. will also be transferred to the Irwin building, and it is intended to use the resultant space for expansion of the remaining branches of the Department which are at present seriously hampered, and functioning under very congested conditions.

23. With the accumulation of so much evidence demonstrating the necessity for the new building, and from actual observations of the existing conditions in all the buildings connected with the Postmaster-General's Department in Perth, the Committee is satisfied that there is an urgent need for the establishment of the new exchange.

24. Evidence was sought with the object of ascertaining whether some of the upper floors were as urgently needed as the remainder of the building. The suggestion that the building might be erected in stages, leaving the upper floors until a later date, was considered. However, the Committee is convinced that the whole of the building is urgently required as soon as possible, and, in fact, it is essential that the temporary buildings to house sections of the Department of Works and Housing and other departments now using some of the space in the G.P.O., should be constructed immediately in order to give relief without delay.

THE BUILDING.

Architecture.

25. The proposal envisages a structure with two Basements, Ground, Mezzanine and ten upper floors with a flat roof, and particularly good results have been attained in planning the lower floors, where additional office space has been provided for, to make economical use of the special floor to floor heights of the equipment rooms. Inter-communication has been preserved by means of short flights of stairs to those equipment floors which do not line through with an office level.

26. The elevational treatment has been carefully considered in order to provide an appropriate building for this important city locality. Standing as it does in close proximity to the new Royal Perth Hospital, and surrounded mainly by two storey buildings, the

structure will be visible from some considerable distance. Hence a treatment has been adopted for all elevations which expresses the plan in both mass and detail, and at the same time is in harmony with the architecture of the Hospital buildings which are of comparable dimensions.

Floor Space.

27. The Sub-Basement - It has been decided that all major city buildings built for the Commonwealth Government shall contain provision for Civil Defence purposes in underground protected areas, and the plans have been made to allow space required, and construction necessary to give specified protection in time of emergencies. The Sub-Basement is to contain Power and Battery Rooms, Main Switch Room and Mechanical Services Plant, and an area set aside for Civil Defence.

28. The Basement - Part of the space on this level is used for the Cable Tunnel, and the remainder is set aside on the plans for Civil Defence Purposes. Inquiries by the Committee elicited the opinion that, in peace time, this area would be used by the Postmaster-General's Department for storage or other purposes easily removable in times of emergency. The question of using this for a car parking area also came under notice, and is dealt with in a later section of this Report.

29. The Ground Floor - A small Post Office has been provided on the Murray Street frontage, with a Mail Handling room behind. The front has been set back from the building line to provide a covered approach to the Main Entrance lobby of the building. A covered loggia will thus be available where public telephones and posting slips will be placed. The remainder of the Ground Floor is occupied by Automatic Telephone equipment and subsidiary offices. A goods entry on this level provides a way to a goods lift at the rear of the building.

30. The Mezzanine Floor - Space on this floor will be allocated for male lockers, lunch room, female lockers, rooms for cleaning staffs, and some offices.

31. The First and Second Floors - The First floor will be taken up mainly by automatic equipment with office space adjacent to the lobby. The Second floor is an intermediate floor, being mainly

occupied by the upper part of the automatic equipment, and will be used for office space and toilets.

32. The Third Floor will accommodate the long line equipment transmission laboratory, and plant room, as well as programme room and various offices.

33. The Fourth Floor will be used mainly for trunk line equipment and plant room, with the remaining space devoted to office accommodation.

34. The Fifth Floor is an intermediate floor, the main portion of which is occupied by the upper part of the trunk equipment room. The other space available will be used for office space and first aid room.

35. The Sixth Floor will contain the Manual Trunk Exchange, women's lockers, assembly area and pay supervision room, observation room, and offices.

36. Seventh, Eighth and Ninth Floors - From the Seventh floor upwards the floors continue in one level, and floor to floor heights remain constant. Detailed planning of the office subdivisions will not be put in hand until after work has started on the actual building, but the tentative allocation of space proposes to use the Seventh floor for costing, typing and general offices; Eighth floor for the Engineering Staff; Ninth floor for the draughting office.

37. The Tenth Floor will be devoted mainly to the various amenities, including Cafeteria and Kitchen, Postal Institute, Library and some office space.

38. The Roof - On this level will be placed the lift motor room, tank rooms, and other mechanical services. The remainder will be available as a flat roof for amenity space as required.

Construction.

39. The structural framework of the building will be determined by the availability of structural steel sections. If available, a steel frame will be used, otherwise the frame will be designed in reinforced concrete. For the walls bricks will be used if available locally, but otherwise it is not proposed to use any bricks in the building. Donnybrook freestone will be used for the whole of the front

elevation up to the window heads on the first floor, and also in the treatment around all the windows. If it is possible to obtain bricks which will harmonise with the hospital building they will be used for the upper exterior walls but otherwise pre-cast stone facing from the Eastern States will be used.

40. Internal walls will be of reinforced concrete or of terra cotta lumber. All ceilings in noisy areas and certain specialist rooms will have acoustic treatment; and all window frames will have anodised aluminium alloy extruded sections with double glazing to the air-conditioned rooms.

Amended Plans.

41. The plans as referred to the Committee were amended to some extent before the evidence was ready for the Committee, and the provisions referred to above are those which incorporate the alterations made as a result of the Prime Minister's directive regarding reduction in works programmes. The size of the building remains the same, but interior alterations have been made to conserve space and provide additional office accommodation where it has been possible to do so.

42. The Committee made inquiries to ensure that the reductions made, which for the most part consisted of reducing and consolidating the space provided for the various amenities, did not unduly restrict the provision of reasonable facilities for the staff using the building. The evidence shows that witnesses agreed that in general the space provided would be sufficient for amenities needed by the staff likely to use the building. The Committee is therefore satisfied that the plans, with further consideration on some minor points, will provide a building with pleasing aesthetic appearance and are generally suitable for the purpose.

Stairways.

43. Inquiries were made regarding fire protection and emergency exits for the building in view of the fact that a considerable number of persons are to be accommodated within the multi-storey building. It was pointed out that all floors, walls and roof would be of fireproof construction, and the Ground Floor slab will conform

to recommendations of the Civil Defence Committee. The stairways were generally considered to be adequate for the building, but some criticism was offered regarding access to the rear escape stairway, in the N.E. corner of the building, particularly on the Tenth Floor, where exit by the escape stair could only be attained through the Cafeteria and Kitchen, where the disposition of equipment might obstruct or confuse those seeking hurried exit in an emergency. Final planning of this section still remains to be carried out, and it should be possible to arrange the services intended for this area in such a way that a clear passage is left through which to direct occupants of the building in an emergency. It is therefore recommended that further attention be given to this aspect when final plans are being prepared.

Future Extensions.

44. The new exchange is planned for a period of twenty years from the date of completion, assumed as 1956, but it is realised that the building will be in use for a much greater period in the future. In order to provide for further long-range planning the present exchange has been so conceived that it will be possible, when conditions demand it in the future, to extend the building to the rear to accommodate additional equipment.

THE SITE.

45. The site has a frontage of 99 feet 3 inches to the North side of Murray Street, with a depth of 219 feet 3 inches, representing a total area of approximately 21,810 sq. ft. The site faces Irwin Street, from which the exchange derives its name, and it is at present occupied by an old two storey building of little merit architecturally and showing faults in the structure. To the West of the site the buildings are of two storey construction, while on the East stands the Royal Perth Hospital. The ground is sandy but is stated to be satisfactory for building purposes, and it is not anticipated that piled foundations will be necessary as is the case in various other sections of the city.

ESTIMATED COST.

46. It was explained to the Committee that, in the matter of preparing estimates for large buildings of this kind, it is necessary to

depend largely upon the accumulated experience gained in the erection of other similar buildings. In the case of Perth no multi-storey buildings have been erected for many years, and the estimates have therefore been made with the guidance of prices obtaining in the Eastern States, though it is considered probable that, for various reasons, Perth costs will now exceed those of the Eastern States. If labour and materials have to be imported for the work, the costs will be increased.

47. The estimated cost of the structure as at July, 1950, was :-

Building		620,000
Engineering Services -		
Electrical installation	45,300	
Elevators (4)	50,000	
Mechanical Services -		
Air-conditioning,		
Mechanical ventilation,		
Radiation system, hot		
water,		
Cafeteria equipment,		
Miscellaneous apparatus	59,700	155,000
		775,000
Contingencies		77,000
		<u>£852,000</u>

With the addition of the cost of the automatic and other equipment the total cost of establishment the new exchange was shown as :-

Site (already required)	12,638
Building as above	852,000
Automatic exchange equipment	623,000
Automatic Trunk exchange	275,000
Line construction	<u>30,000</u>
Total	<u>£1,792,638</u>

The recoverable value of assets to be demolished was shown as £26,500.

REVENUE.

48. During the financial year, 1949/50, the revenue received for rentals, trunk line and local calls, phonograms and miscellaneous items from subscribers served by the Central automatic exchange amounted to £384,864. It is estimated that revenue from city subscribers will amount to £737,000 in 1956, and £1,700,000 in 1976.

CIVIC PROBLEMS.

49. It is evident that a great deal of careful thought and skilful planning has been concentrated upon this proposal, and witnesses were unanimous that the plans will provide a fine structure, suitable for the purpose, in harmony with the adjacent buildings, and a worthy addition to the main buildings in the city. The Committee takes a serious view, however, of the fact, stated in evidence, that the plans had not been shown to the Civic authorities until the Committee made them available. In the case of the State Housing Commission a considerable amount of commendable collaboration was in evidence, followed by successful results in pushing forward the necessary preliminaries for the work. Similar co-operation with the Civic authorities appears equally essential in the case of such a large and important structure, which will inevitably affect many of the problems coming within the ambit of civic administration. Such questions as town planning; traffic problems; drainage; supply of electricity, water, and other services; local by-laws, and many other factors to be reckoned with in a large building project, should be discussed directly with the civic authorities. Although it is understood that study of the local conditions in general will have been made by the officials of the planning department, and some degree of consultation on general building requirements in the city will have taken place, there seems no doubt that specific and detailed discussion of the plans should have been made with the civic authorities, with considerable advantage to the final planning achieved. It is recognised that the Federal authorities are under no legal obligation to consult the civic authorities or to obey their by-laws, but it is a firmly established practice to carry out the provisions of local by-laws voluntarily. The Committee has found similar absence of consultation in connection with various other works investigated in other States in the past, and it is strongly of opinion that no amount of departmental authority, prestige, or feeling of superior technical ability should be allowed to prevent the complete co-ordination of Commonwealth and civic planning authorities in all major building projects.

50. It is therefore recommended that, in the detail planning of the present project, and in future large city structures, every effort should be made to achieve a building having the advantage of full and complete consultation with both State and Civic authorities.

Town Planning.

51. The Committee was informed that, in connection with the over-all planning of the City of Perth, it is intended to provide for Murray Street to be widened to cope with the serious traffic problems growing rapidly within the city. Some years ago, with this in mind, the Commonwealth Bank and Padbury Buildings were set back from the present street alignment, and it is considered that before long legislation will be provided to ensure that all new buildings on the northern side of Murray Street shall be erected on the new alignment. The Committee made inquiries concerning the matter and is informed that there is room on the site to allow for setting the building back without seriously affecting the present proposal. There will also be sufficient room for additions to the rear of the building if required in years to come. The Committee therefore recommends that the new exchange building be set back 14 feet from the present street alignment to allow for future widening of Murray Street.

Car Parking.

52. Considerable concern was expressed by the civic authorities regarding traffic problems which are developing rapidly in the busy sections of Perth, and it was pointed out to the Committee that, in the vicinity of the proposed new exchange, traffic is becoming congested by reason of the increase in business activity, and by the proximity of the Royal Perth Hospital. Car parking is already a problem, and the erection of a multi-storey building alongside the Hospital will add to the difficulties, unless some action is taken at the outset to provide facilities for car parking.

53. In nearly every important city the car parking problem at present remains unsolved, but special attention is being given in various parts of the world to the possibility of providing parking space within large buildings in order to cope with some of the traffic created by their existence. By reason of the large number of staff

likely to use this new building, particularly the upper floors, added to by the persons it will attract in the Post Office and other sections, the structure is looked upon as a "traffic generator", and it is hoped that some parking provision can be made in the interests of the occupants of the building, thus avoiding additional complications in the present traffic difficulties.

54. It was suggested that, except in war time, the Civil Defence Area in the Basement, which is 12 feet below ground level, could be suitably used for parking purposes. Entry could be gained from the Eastern side of the building if the driveway could be formed into a ramp leading down gradually from the street level to the first basement level at a point half way along the side of the building, and rising again to the rear of the building to allow carriage of goods to the rear entry.

55. Some opposition to this suggestion was raised on the score of security, it being held that a side entry to the basement at the 12 feet level would neutralise the effect of the concrete slab and other precautions taken to protect the Civil Defence area. Some problems would also arise in connection with storm water drainage from the bottom of the ramp at this level.

56. The Committee considered all the points raised on this matter, and it feels that, while the provision of parking and of traffic control in the city is mainly the concern of the Civic authorities, it is highly desirable, wherever possible, for facilities to be provided when such large buildings are being constructed. It is realised, however, that, apart from the small Post Office, the building will not be greatly used by members of the public, but will be largely confined to staff employed in the building. The resulting traffic problems will therefore be less than would be expected for a commercial business building or emporium.

57. In view of the importance of maintaining the security of the Civil Defence area, the Committee is reluctant to decide definitely that this area be used for car parking, but it recommends that the matter be seriously discussed with the civic authorities in an effort to make provision for car parking if a practical way can be found to effect it.

Drainage.

58. Drainage of the Basement and Sub-basement is planned by means of mechanical pumping and a suggestion was offered that, by reason of the fall in level of the land between Murray Street and Wellington Street, it should be possible to drain the basements direct into stormwater and sewerage channels in Wellington Street. This would have to be done by securing an easement through the Hospital property, or by arranging for a right of way through the property at the rear, if such a course proved of mutual benefit to the parties concerned.

59. When the matter was inquired into the opinion was expressed by the departmental officials that there was not sufficient fall to allow drainage of the basements to be carried to the existing channels. When investigation was made of the actual levels at the points concerned it was established that, at this point in the street, it would not be practicable to drain the sub-basement direct. The question whether use could be made of the levels to drain the upper basement, and thus save a proportion of the mechanical pumping, would need further consideration by the technical officers dealing with this aspect of the proposal, and the Committee recommends that, before final details of the plans are completed, attention should be given to this point.

LABOUR AND MATERIALS.

60. Owing to the tenseness of the international situation, it is found that supplies of materials from overseas are becoming more difficult to obtain, and this is affecting building operations of both a private and government character. Materials to be used in the proposed building will not affect the building of homes to any serious extent, as it is proposed to use bricks only if they are readily available locally. The alternative proposed is to use pre-cast stone facing from the Eastern states for the building. It was pointed out, however, that cement is in very short supply at the present time, and use of this material would hinder home building at the moment. However, it is realised that at least a year will elapse before the building can be commenced, and it is hoped that supplies will be more easily available by that time.

61. During the last few years considerable opposition has been raised in Western Australia against the erection of any of the Commonwealth public buildings, on the ground that they would interfere with home building. The opposition has now decreased considerably, as it has been possible to import many of the scarce materials from abroad, and it has been realised that it is necessary to follow a balanced building programme, in order to provide essential services as well as homes. It was explained to the Committee that opposition by the State Government and by the Returned Soldiers' organisations to the erection of this new exchange building, and also to the Repatriation Administrative Building, is now withdrawn, so long as materials in short supply, as well as labour for the work, are introduced into Western Australia for the purpose. The Immigration Department has signified willingness to co-operate with any successful tenderer for the works in bringing migrants into the country, as long as they are introduced from countries included in a Migration Agreement. With these provisos it should be possible to construct the buildings concerned, though there will no doubt be many associated problems and obstacles to deal with before the work can proceed satisfactorily.

62. The Committee is satisfied that it is essential to build the new exchange as soon as possible, and it recommends that, as materials and labour are particularly difficult to obtain, special efforts be made to secure a tenderer who will be able to bring in additional labour for the work and provide independent housing for them; also that materials in short supply be imported for the work.

AMENITIES.

63. The plans provide for amenities for the staff on several floors, and they include cafeteria and kitchen, postal institute and library on the tenth floor, with a flat roof for recreational use when required; women's lockers on the sixth floor; first aid room on the fifth floor; female lockers, male lockers, lunch room, male and female cleaning staff rooms on the mezzanine floor; and suitable toilet accommodation throughout the building.

64. As the amendments to the plans appeared to consist largely in reduction of amenity space for the staff, the Committee made inquiries regarding the matter, and was informed that, although

a considerable amount of space had been saved by consolidation and re-arrangement of the various areas originally planned for amenities, the present provisions were adequate for the staff who will occupy the building. Various witnesses questioned on the point agreed that the facilities shown on the plans were generally considered reasonable for the building. It was suggested, however, that some provision might be made so that staff coming into the building in wet weather would have a suitable place to dry out their clothes. The Committee agrees that the amenities planned are satisfactory, but recommends that a drying room be included in the final plans.

MECHANICAL SERVICES.

65. The mechanical services comprise the following systems :- full air conditioning, mechanical ventilation, radiation, boiler plant, hot water supply, emergency diesel generating plant, cafeteria equipment and other miscellaneous equipment such as incinerator, sump pumps and filter cleaning equipment.

66. It was noticed that some of the economies achieved in response to the Prime Minister's directive were effected by reducing the amount of air-conditioning planned for the building, and the Committee made inquiries to ascertain the amount of the saving made and the areas affected thereby. Provision is made for full air conditioning in equipment rooms where the automatic apparatus and the staff working amongst the equipment require specially controlled conditions. Other selected areas need mechanical ventilation, and this has been provided where required. As a result of its inquiries the Committee was informed that the amount saved in this respect by amendment of the plans was £6,100, being the result of replacing air-conditioning in some areas by mechanical ventilation. It has been explained that the capacity of the air conditioning plant, at present 80 tons, was reduced from 120 tons in effecting the saving referred to. If air conditioning were required for all the main sections of the building it would be necessary to increase the capacity to 180 tons. It was stated in evidence that, although conditions would be more comfortable in the office sections of the building, if provided with air-conditioning, the ventilation system had been very closely investigated, and it will be equal to the systems in operation in any

comparable building in Perth to-day.

SECTION IV - SUMMARY OF CONCLUSIONS.

67. The following is a summary of the recommendations made by the Committee after investigation of the proposal :-

1. There is an urgent necessity for the new exchange.
(paragraph 23).
2. It is not desirable to erect the building in stages, as the complete structure is necessary as soon as possible.
(paragraph 24).
3. The temporary buildings projected for the Department of Works & Housing should be provided immediately in order to free space in the G.P.O. for the essential services of the Postmaster-General's Department.
(paragraph 24).
4. The plans, with further consideration on some minor points, will provide a building with pleasing aesthetic appearance and are generally suitable for the purpose.
(paragraph 42).
5. Some slight alteration to the planning to give more direct approaches to the escape stair, particularly on the North East corner of the Tenth floor, would provide an additional safety precaution in time of emergency.
(paragraph 43).
6. Direct collaboration with the Civic authorities in the earlier stages of planning would have produced more satisfactory results in some of the details, and, in the remaining stages every effort should be made to achieve a building having the advantage of full and complete consultation with both State and Civic authorities.
(paragraphs 49 and 50).
7. The building should be set back 14 feet from the present alignment to allow for future widening of Murray Street.
(paragraph 51).
8. The question of providing car parking space within the building should be thoroughly discussed with the civic authorities, in an effort to avoid adding to the already difficult traffic problems, if a

practical and safe way can be found to effect it. (paragraph 57).

9. Further investigation by the technical officers should be made to ascertain whether, by reason of the different street levels, direct drainage of the upper basement would be practicable, or preferable to the mechanical pumping proposed. (paragraph 59).
10. As labour and materials are particularly difficult to obtain, it is recommended that special efforts be made to secure a tenderer who will be able to bring in materials in short supply, and also to provide additional labour with independent housing for them. (paragraph 62).
11. In addition to the amenities planned it is recommended that a drying room for staff use be included in the final planning of the building. (paragraph 64).

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