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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

REPORT

relating to the proposed construction of the

LONSDALE EXCHANGE BUILDING,

MELBOURNE, VICTORIA.

## C O N T E N T S

	<u>Paragraph</u>
General	1
Existing Telecommunications Facilities	2
The Need for a New Exchange	6
The Site	13
The Proposed Building	18
Structure	21
Under pinning	23
Materials	24
Food services and amenities	26
Mechanical services	27
Electrical services	28
Lifts	29
Allocation of Space	31
Population	32
Interim Use of Building	35
Car Parking	38
Radio Telephone Tower	40
Estimates of Cost	41
Construction Time Table	42
Summary of Recommendations and Conclusions	43

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS  
LONSDALE EXCHANGE BUILDING, MELBOURNE.

REPORT

By resolution on 10th September, 1963, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report, the proposal to construct the Lonsdale Exchange Building, Melbourne. The Committee have the honour to report as follows :-

GENERAL

1. The Committee inspected the site of the proposed building and heard evidence from representatives of the Commonwealth Departments involved. The local government authorities which were invited to express comment raised no objection to the proposal and therefore did not wish to present evidence. Representatives of employee organizations were also consulted.

EXISTING TELECOMMUNICATIONS FACILITIES

2. The four city exchanges which cater for the telephone activities in the City of Melbourne are City West, Civic, Russell and Batman. The City West subscribers' exchange area is bounded by Spencer, Latrobe, Elizabeth, Collins, William and Bourke Streets.

3. The City West Exchange at present provides some 7,800 lines to subscribers' premises and is capable of providing 8,200. The facilities give access to all of Melbourne's 100 exchanges and 375,000 telephone services.

4. Apart from this Local Subscribers' Equipment, City West Exchange also contributes to activities in the Melbourne Telephone Zone and to the facilities provided by the Extended Local Service Area system.

5. The exchange is also an integral part of the Trunk Switching Plan for Australia and will, in conjunction with the Lonsdale Exchange, be the main trunk centre for Victoria.

THE NEED FOR A NEW EXCHANGE

6. The City West Exchange area has been subject to considerable building development in recent times. Twenty new

office blocks of over six storeys have been erected in the last four years and the replacement of low rise structures by tall buildings is expected to continue in keeping with the growth of Melbourne, the population of which was 1,900,700 in 1961. Master planning of the Melbourne and Metropolitan Board of Works is based on a population of 2,500,000 by 1973.

7. Establishment of the Batman and Russell Exchanges has permitted some transfer of subscribers' lines from the City West Exchange but the point has now been reached where further transfers would be uneconomical and would upset the balance of the planned city exchange areas.

8. After careful analysis, the Postmaster-General's Department has concluded that 22,000 subscribers' lines will be required in the City West area by 1985.

9. The facilities to be incorporated in the new exchange building have been planned to meet requirements until 1985. Taking into account the possibility of technological development which might render existing methods obsolete and also allowing for the possibility that trends in the development of this area of the city of Melbourne could ultimately change, this seems a reasonable planning period.

10. The Community Telephone Plan announced in 1960, outlined the new telephone policy for Australia and described the plans involved for its application. This plan has an important influence on facilities to be provided in developing -

- (1) Ultimate nation-wide subscriber dialling;
- (2) Extended local service areas;
- (3) Automatic multi-metering on trunk calls;
- (4) Register controlled, high-speed switching system using automatic alternative routing;
- (5) Switching centres classified as main, primary, secondary, minor and terminal; and
- (6) Provision of a comprehensive range of subscribers' telephone facilities.

11. The introduction of these new facilities, the increasing demand for telephone services arising from an increasing population, and an increasing use of telephone facilities, all contribute to the need to augment the existing City West Exchange, which cannot be extended vertically. The capacity of the existing main trunk exchange will be exhausted by 1967 and that of the local subscribers' exchange by 1969.

12. The Committee are satisfied that the need exists for the establishment of considerably increased facilities for the City West Exchange area.

THE SITE.

13. It is proposed to erect the building on the site in Lonsdale Street where the old Central Exchange building now stands. The rear of the proposed building will be against the City West Exchange which has a frontage to Little Bourke Street.

14. With existing cable ducts designed to feed into the equipment in use at the City West Exchange, it is logical for additional facilities to be provided in the same area. Another factor which makes it desirable to build near the City West Exchange is the saving resulting from the ability to combine staffs.

15. Looking further into the future, it is to be observed that the adjoining Commonwealth-owned Michaelis Hallenstein building could be demolished to provide a site for additional exchange facilities.

16. The old Central Exchange building no longer houses telephone equipment. It is used for activities of the Postmaster-General's Department which could be either located elsewhere or incorporated in the new exchange building in space which will not be required initially for technical equipment.

17. The site meets all the requirements which are needed and we are satisfied that it is an ideal location for the proposed building.

THE PROPOSED BUILDING.

18. The building will comprise sub-basement, basement, ground and 14 upper floors on a site which is 60 feet wide by 212 feet deep. It will rise to 230 feet above pavement level and has, as already mentioned, been designed to accommodate the equipment expected to be required to meet the telecommunications requirements in the area until 1985.

19. The equipment to be installed is highly sensitive to conditions of humidity and temperature and air-conditioning is essential for its effective operation. The main purpose of the building is to accommodate this technical equipment and this will involve extensive vertical ductwork to carry cabling.

20. Although unusual, it seems sensible to have a design which, with the exception of the Lonsdale Street frontage, and the cafeteria area, will be windowless - when fully equipped, natural light will be obstructed by technical gear. The absence of windows will permit a lower capacity air-conditioning plant than would be necessary to cope with the additional heat load generated by large areas of glass exposed to sunlight.

21. Structure. Functional requirements of the Postmaster-General's Department prevent the use of internal stiffening walls and the structure has therefore been designed as a rigid steel frame which will be fire protected by a concrete casing. It will be designed to withstand the load of a 200 feet high steel tower should this be required in the future.

22. Reinforced concrete floor slabs supported on structural steel secondary beams will be used throughout the building. Where suitable internal walls will be of light-weight concrete blocks. Reinforced concrete walls will be used to provide the necessary fire protection to lifts, stairs, etc.

23. Under-pinning. Basements and foundations will be at greater depths than those of adjoining buildings and extensive and costly under-pinning operations will be required. Serious problems are not expected from this or from foundation conditions although in the latter case, test borings have only been undertaken around the perimeter of the site.

24. Materials. External walls will be of selected face brick laid in panels. To first floor level on the Lonsdale Street frontage selected black Australian granite will be used. The roof will be covered with stainless steel trough type sheeting over concrete slabs.

25. Internal walls will be cement rendered and finished with materials such as ceramic tiles, vinyl tiles and paint, according to requirements. Floors will be screeded and where other finishings are required, these will be selected from ceramic tiles, vinyl tiles and timber. Generally, the exposed concrete ceiling surfaces will be finished off the forms and painted. Where false ceilings are needed, they will be of the suspended type using acoustic gypsum tiles.

26. Food services and amenities. Kitchen equipment for food preparation, cooking and serving is to be provided on a scale sufficient to supply 200 hot meals and a light refreshment service and facilities for a tea service will also be provided. The dining room will seat 320 people. Recreation space will be provided for use by the Victorian Postal Institute and provision will be made to hold small functions and conferences.

27. Mechanical services. Mechanical services will provide air-conditioning, mechanical ventilation, heating, domestic hot water, kitchen and tea preparation equipment, drinking water coolers, diesel generating plant, fireprotection and incinerators.

28. Electrical services. Electrical services will include main switchboard and main distribution board and central control, light and power installation, sub-mains, electric clocks, fire detection, lightning protection and lifts.

29. Lifts. At the front of the building there will be a group of four fully automatic passenger lifts, each designed to carry a load of 3,000 pounds (20 passengers) at a speed of 500 feet per minute. These will serve the basement and all floors up to the eleventh floor operating under a group supervisory control system. A smaller passenger lift at the rear of the building will carry 16 passengers at 500 feet per minute, serving all floors from the sub-basement to the twelfth floor. This lift will also meet the requirements of the Metropolitan Fire Brigade for a fireman's lift.

30. A goods lift will be located at the rear of the building and will serve all floors from the sub-basement to the twelfth floor. It will have a capacity of 5,000 lbs. and a speed of 200 feet per minute and will be specially designed to transport equipment racks in a horizontal position.

#### ALLOCATION OF SPACE.

31. Initially, space on the 3rd, 4th, 6th, 8th and 12th floors will be used for clerical accommodation. As the need arises to instal more equipment, this space will be taken over progressively until all the technical equipment for which it is designed is installed. Ultimate allocation of space will be as follows :-

<u>Sub-basement</u>	: air conditioning, ventilation and emergency power plant rooms; building service centre; lower level of cable chamber.
<u>Basement</u>	: electricity supply sub-station, subscribers' installation centre; upper level of cable chamber, etc.
<u>Ground Floor</u>	: entrance; garage for official vehicles; subscribers' maintenance centre; main distributing frame; recorded announcement machines, etc.
<u>First Floor</u>	: subscribers' local and tandem automatic switching; main distributing frame, etc.



- Second, Third & Fourth Floors: subscribers' local and tandem automatic switching.
- Fifth & Sixth Floors : automatic trunk switching, etc.
- Seventh Floor : trunk amplifying and carrier equipment; intermediate distributing frame; test rooms, etc.
- Eighth Floor : trunk amplifying and carrier equipment; T.V. and radio programme switching centres, etc.
- Ninth Floor : manual equipment for country and metropolitan information, changed numbers, etc.; class rooms, locker rooms, etc.
- Tenth Floor : manual equipment for service assistance, etc.; main trunk exchange managerial staff, etc.
- Eleventh Floor : cafeteria; recreation; functions and conference room, etc.
- Twelfth Floor : radio telephone equipment; air-conditioning plant room.
- Thirteenth Floor : air-conditioning plant room; lift machine room.
- Fourteenth Floor : lift machine room; mechanical plant.

32. Population. The maximum number of people who will use the building will be 1,195 when it is fully occupied in 1985. Because of the amount of shift work, the maximum number on duty at any one time will be 744. During the period when space is temporarily occupied for clerical purposes, however, the population will rise to a peak of 822.

33. The design of the building is such that access could be provided to a new building on the Michaelis Hallenstein site should one be erected there in the future.

34. Construction of the building to the size and design proposed is recommended.

INTERIM USE OF BUILDING

35. We have expressed earlier in this report our support for the design of the building which involves virtual absence of windows. The reference to this Committee is for the erection of a telephone exchange and although clerical staff will occupy the building for a number of years in space which will be taken over progressively as demand for telephone services increases, we believe that our inquiries should be confined only to the ultimate use.

36. Evidence presented to us by the representative of organizations of clerical officers objecting to this feature of the building has been noted. Our view is that any representations about interim occupancy are matters for negotiation between the organizations concerned and the Postmaster-General's Department.

37. We wish to point out that we have had the opportunity to examine the Melbourne and Metropolitan Fire Brigade report on the proposal. In view of the comment of that organization about blank wall construction, we suggest that the parties concerned hold further discussions to ensure that there is no misunderstanding about what is proposed.

CAR PARKING

38. We are sympathetic with the case presented on behalf of the technical staff who will be using the building, seeking enclosed parking space for night shift staff who might otherwise be required to leave their vehicles unattended through the night in the city.

39. We believe that suitable arrangements could be made to meet this request and we urge consideration of it by the Postmaster-General's Department.

RADIO TELEPHONE TOWER

40. As mentioned earlier, the building has been designed to withstand the weight of a radio telephone tower if it is found necessary to erect one sometime in the future. Although it is

the usual practice of Commonwealth authorities to do so, we wish to record the desire of the Melbourne and Metropolitan Board of Works to be consulted should it be intended to go ahead with the erection of the tower.

ESTIMATES OF COST

41. The estimated cost of the work proposed is approximately £2,400,000 made up as follows :-

	£	£
Building work		1,537,241
Mechanical services		
Air conditioning	272,800	
Mechanical ventilation	62,200	
Heating plant	8,200	
Domestic hot water	2,500	
Kitchen and tea preparation equipment	9,000	
Drinking water coolers	2,900	
Diesel generating plant	145,000	
Fire protection	7,100	
Incinerators	3,300	513,000
Electrical services		
Main Switchboard, Main Distribution		
Board and Centralised Control	38,000	
Light and Power Installation	96,000	
Sub-mains	18,000	
Electric Clocks	2,000	
Fire Detection	33,000	
Lightning Protection	2,000	189,000
Lifts		<u>156,000</u>
Total		<u>£2,395,241</u>

CONSTRUCTION TIME TABLE.

42. From the date upon which instructions to proceed are given it is estimated that the preparation of documents necessary

for the invitation of tenders will take approximately 15 months.  
Construction time will be approximately 2 years.

SUMMARY OF RECOMMENDATIONS AND CONCLUSIONS.

43. The recommendations and conclusions of the Committee are set out below and alongside each is shown the paragraph to which it refers.

	<u>Paragraph</u>
(1) There is a need for considerably increased facilities in the City West Exchange area	12
(2) The site meets all the necessary requirements and is an ideal location for the proposed building. Adjoining Commonwealth owned land is available for expansion	15. 17
(3) Construction of the building to the size and design proposed is recommended	34
(4) There should be further discussion with the Melbourne and Metropolitan Fire Brigade to ensure that there is no misunderstanding about the proposed design.	37
(5) Consideration should be given to the provision of car parking space for night shift staff	38
(6) The estimated cost of the proposed work is £2,400,000	41

*R. L. Dean*  
(R.L. DEAN)

Chairman.

Office of the Parliamentary Standing  
Committee on Public Works,

Parliament House,

CANBERRA...A.C.T.

**30 OCT 1963**

For Senator Anderson.

I present the Report of the Parliamentary  
Standing Committee on Public Works, relating to the  
following proposed work -

Construction of the Lonsdale  
Exchange Building, Melbourne,  
Victoria.

Hansard

For Senator Anderson.

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following proposed work -

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