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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

relating to the proposed

PITT EXCHANGE BUILDING

at

SYDNEY, NEW SOUTH WALES

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

PITT EXCHANGE BUILDING, SYDNEY, N.S.W.

R E P O R T

By resolution on 1st March, 1967 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report, the proposal to erect a new exchange building in Pitt Street, Sydney.

The Committee have the honour to report as follows -

THE COMMITTEE'S INVESTIGATION

1. The Committee received submissions and drawings from the Postmaster-General's Department and the Department of Works and studied a model of the proposed building. Evidence was taken in Canberra and Sydney from departmental witnesses and from a representative of the Commonwealth Telephone and Phonogram Officers' Association. We inspected the site, facilities in the City North Exchange, as well as the Central and the International exchanges in the G.P.O.

THE PROPOSAL

2. The proposal submitted to the Committee is to erect on a Commonwealth owned site at 76 Pitt Street, Sydney, a telephone exchange building of two basement and 16 upper floors, to be known as the Pitt Exchange. The facilities and accommodation in the building, which will be near the centre of the northern half of the city area of Sydney, will -

- (a) accommodate subscribers local automatic switching equipment to replace obsolescent apparatus in the adjacent City North Exchange;
- (b) permit the recovery of space in the G.P.O. occupied by the temporary Central Exchange;
- (c) meet part of the needs of subscriber trunk dialling (STD) in the metropolitan area and house associated trunk amplifying and carrier equipment;

- (d) accommodate manual assistance facilities including positions for metropolitan and country directory information, changed number and re-direction exchange and a new international exchange;
- (e) accommodate expansion of telephone services in the northern city area for a considerable period.

EXISTING FACILITIES

3. Four telephone exchanges meet the present needs of subscribers in the northern city area. They are -

City North	(12,200 lines)
Dalley	(8,800 lines)
York	(8,200 lines)
Central	(3,600 lines)

A fifth and temporary exchange, known as Phillip, with a capacity of 3,000 lines, is being established in the sub-basement of the Commonwealth Centre in Chifley Square. From these lines, and a further 2,000 lines which can be installed at York, will come the only new services that can be provided in the area by normal means up to the completion of the proposed Pitt Exchange. Should these lines prove to be insufficient, temporary but costly expedient measures will need to be taken.

4. The City North Exchange building was erected in 1919 to house 2,500 lines of subscribers automatic switching equipment. The installation was extended as required until, in 1945, full capacity was reached with 12,200 lines. Shortage of accommodation then necessitated the establishment of the temporary Central Exchange, with 1,000 lines, in the basement of the G.P.O. This was subsequently extended to its full capacity of 3,600 numbers. In 1948 it was again necessary to augment facilities in the area and this led to the opening of the York Exchange in the Grace Building. Then followed the erection of the Dalley Exchange in Dalley Street in 1951.

5. Equipment in the City North Exchange is now obsolescent, particularly in the light of the proposed widespread installation of STD facilities throughout Australia. It is also incapable of efficiently

handling local traffic at the present level and evidence submitted to the Committee showed that the expansion of STD facilities in the City North area will be halted until the Pitt Exchange is operating.

6. The main trunk switching centre in Sydney is a manually operated installation in the Dalley building which is augmented by an interstate switching centre in the G.P.O. For some years both of these centres have been functioning at capacity and development has been provided for by enabling distant operators to use transit dialling through Sydney and by extending the boundaries for unit fee calls, i.e. introduction of the Extended Local Service Area (ELSA). Further relief has been obtained through the direct dialling of trunk calls by subscribers.

GROWTH OF DEMAND FOR TELEPHONE SERVICES

7. Sydney's Growth In 1961 over 2,200,000 persons lived in the Sydney Extended Local Service Area, i.e. in the area up to 25 miles from the G.P.O. This figure is expected to exceed 2.8 million in 1970, 3.4 million in 1980 and 5.1 million in the year 2010.

8. There was little major building activity in the city area immediately after World War II, but between 1955 and 1965, 136 buildings were erected or re-modelled and at the end of that period 32 buildings were under construction and 22 were planned. In the area to be served by the Pitt Exchange, major building projects valued at over \$226 million were completed in the last 10 years or are under construction.

9. It has been estimated that office accommodation in the central business area of the city covered 12.4 million square feet in 1963 and that by the end of 1967 it will have grown to 15 million square feet.

10. Subscribers Automatic Telephone Services It has been possible to meet demands for new services in the northern part of the city area through the facilities available in existing exchanges and the demands of the immediate future can be met by the expansion capacity available in the York and Phillip exchanges. The Committee were told that when this equipment is fully utilised all reasonable expedients will have been taken and that unless emergency steps are taken, there

could be a critical period in meeting additional demands between 1970 and the time when the Pitt Exchange is completed and the initial equipment is installed and operating. We were also informed that any further temporary installation necessary to meet demands up to the completion of the Pitt Exchange would be costly and uneconomic.

11. The estimation of subscriber growth in the area and the space required for switching equipment is based on -

- (i) a telephone survey involving an estimation of future building accommodation including a comparison with experiences in other cities;
- (ii) the fact that the city area contains nearly 40% of the private automatic branch exchanges in Sydney. Techniques for the switching of traffic have recently undergone substantial change and it is now necessary to provide an expanded numbering range to permit indialling of calls to individual extensions;
- (iii) the heavy use of telephones by subscribers in the city area of Sydney. Calling rates are high by world standards, so that equipment with the highest traffic handling capacity is necessary. This requires up to three times the space needed in a suburban exchange for an equivalent number of lines.

12. An assessment of space required for subscribers equipment was made on the basis of a study of needs over a 20 year period following the completion of the proposed building. The following forecasts show that at the end of this time 43,000 lines will be required in the Pitt Exchange. This equipment will occupy five floors whilst at the ultimate development of 60,000 lines, six floors will be required.

	<u>1975</u>	<u>1980</u>	<u>1990</u>	<u>Ultimate</u>
Subscribers Equipment	21,000	30,000	43,000	60,000
Subscribers	19,000	27,000	39,000	54,000
Annual Calls (millions)	52	97	144	190

13. Automatic Trunk Switching Equipment Subscribers connected to the Central, York and Dalley exchanges have access to STD services but the bulk of those connected to City North do not. Selected subscribers connected to City North who make heavy use of trunk services have been given STD facilities on a temporary basis through the Haymarket Exchange, which is in the southern city area. In order that all subscribers may eventually have STD facilities it is proposed that the new Pitt Exchange will accommodate an automatic trunk switching exchange and associated trunk amplifying and carrier equipment.

14. The rate at which the provision of STD facilities has grown in Sydney has been regulated in part by the growth in trunk traffic and also by the capacity of the manual trunk switching exchange at Dalley. Thus, when the existing manual switchboard positions at Dalley were being fully utilised, relief was given by the provision of STD facilities.

15. STD is also to be progressively provided from distant networks for calls terminating in Sydney. This traffic will enter the Sydney network through the automatic trunk switching exchange complex at the Pitt Exchange. The provision rate of automatic trunk switching exchanges is thus also related to the rate of growth of trunk traffic terminating in Sydney.

16. Furthermore, the Sydney automatic trunk switching exchanges are the main switching points in the network of New South Wales automatic trunk switching centres. In this role the Sydney exchanges will continue to handle transit trunk traffic from one part of the state to another, and from all parts of the state to elsewhere, including overseas. The growth of the Sydney automatic trunk switching exchange complex will therefore also be related to the need to transit calls which neither originate nor terminate in Sydney but which require the use of the Sydney exchanges as through switching points.

17. Despite the relief provided by such means as ELSA and STD, in the ten years between 1955 and 1965 booked trunk calls have doubled. It is expected that this rate of growth of trunk traffic will continue

and that three automatic trunk switching exchanges of 4000 inlet/4000 outlet capacity will be needed in Sydney by 1975. This is the target date for the provision of STD on 66% of all trunk calls in the Commonwealth, implying that STD will be available to virtually all subscribers in large automatic networks.

18. The first of the proposed automatic trunk switching exchanges will be operating at the Haymarket Exchange this year. It is proposed to provide space for the second on one floor of the Pitt Exchange and the third is being planned in the future expansion of the City South Exchange.

19. Trunk Amplifying and Carrier Equipment The complex of automatic trunk switching exchanges throughout the Commonwealth is to be interconnected by trunk carrier channels, the terminating equipment for which should be located close to the exchanges. This requirement, together with carrier channels associated with junctions between local area exchanges, will necessitate space in the Pitt Exchange for 10,000 channel terminations.

20. Special Service Manual Operating Positions The rate at which automatic trunk switching equipment is being provided to allow subscriber trunk dialling is keeping the demand for manual handling of trunk calls within the operating capacity of existing manual installations. In Sydney this service is provided at Dalley where there are 211 manual operating positions and at the G.P.O. where there are 60 interstate positions. There will therefore be no requirement for this type of service in the Pitt building.

21. Nevertheless, there is a continuing and increasing demand for other types of manual assistance generated by an automatic telephone system. The number of special service positions requiring accommodation in the Pitt building by 1990 is expected to be -

International exchange	50
Changed number and redirection	64
Metropolitan directory information	100
Country directory information	26
Miscellaneous positions	<u>10</u>
	250

22. The international exchange has an important role in world telephony since it is the manual assistance "gateway" for calls both to and from Australia. Overseas calls are now connected either by radio or by the COMPAC or SEACOM cables. Calls connected by radio are handled through international exchange positions which also provide manual assistance to calls on which originating operators throughout the Commonwealth have dialling difficulties or where through dialling is not available.

23. The international trunk exchange with 21 manual positions, is now located in the Sydney G.P.O. from where it is proposed to clear all manipulative operations and technical equipment. The international trunk exchange will need to expand considerably in the future as in the long term, overseas trunk traffic is expected to be heavy. The rate of growth of overseas calls has been high as a result of the improved service made possible by submarine cables. This trend is expected to continue as more improved circuits become available through cable and satellite operation. Substantially more accommodation is thus needed by the international exchange to meet this growth.

24. The remarkable increase in the volume of international traffic is illustrated by the fact that whilst in 1960/61 there were 62,584 outgoing and 65,673 incoming calls, by 1965/66 these figures had grown to 281,840 and 261,424 respectively.

25. Changed number and redirection services for subscribers in the Sydney network require improvement including the centralising of equipment and operating positions. Initially the first of these will be in the Pitt Exchange which will provide the changed number and redirection facilities for the whole of the Sydney network. It will be relieved by the establishment of additional centres when its capacity is reached.

26. The metropolitan telephone directory has some 1350 pages. Also there are six country directories with some border areas of New

South Wales being covered by directories issued in adjoining states. As the telephone system is always changing and expanding, there are many directory alterations and as directories are only re-issued annually, subscribers are constantly seeking information on new and existing connections. Sufficient operating positions are needed to provide this information about services in both metropolitan and country areas. Enquiries not only originate from subscribers in the Sydney area, but it is envisaged that in future calls will be directed to Sydney operators from other networks throughout the Commonwealth. As the facilities in the G.P.O. are not suitable for expansion, it is proposed to centralise the directory information facility in the Pitt Exchange.

27. Three floors will be required in the new building to accommodate facilities for the special service manual operating positions and the associated switching equipment.

28. The Need The Committee were satisfied that a new telephone exchange building is urgently needed in the northern part of the Sydney city area in order to facilitate the replacement of outmoded equipment, improve unsatisfactory working conditions and to provide for future growth of telephone services.

THE SITE

29. The site on which it is proposed to construct the Pitt Exchange is at 76 Pitt Street within the city block bounded by Pitt, Hunter and Castlereagh Streets and Martin Place. It is roughly rectangular in shape, having a 72 ft. frontage to Pitt Street and a depth of 233 ft. 3 ins. Irregularities in the shape of the site occur in the north-east corner. Due to a fall of 12 feet from east to west, it is possible to have surface access to the ground floor from Pitt Street and to the first floor from Castlereagh Street through a right of way.

30. Negotiations were first commenced in 1938 to acquire the site which abuts the City North Exchange on its south-east corner. At the time it was acquired in 1945 the site was occupied by Dalwood

Chambers and used mainly for commercial purposes. That building was severely damaged by fire in 1961 and was subsequently demolished. The site is now used as a parking area for P.M.G. vehicles.

31. Suitability The site is at the copper centre of the area the exchange is designed to serve. It is immediately adjacent to the main city cable tunnel in Pitt Street and double tunnel access to the site from Castlereagh Street has already been provided under Pearl Assurance House. The latter connect with the planned Castlereagh Street tunnel. The close proximity of the site to the main cable tunnel network in the city will allow economic cable reticulation.

32. The site dimensions will permit large single floor equipment installations of a satisfactory size.

33. The Pitt Exchange, in addition to providing an immediate replacement for the City North and Central exchanges, will be so located as to meet future service demands in the areas now served by Dalley and York exchanges and in the northern city area generally for a good many years.

34. The Committee believe that the proposed site at 76 Pitt Street is an appropriate location for this major telephone exchange.

OCCUPATION OF THE PROPOSED BUILDING

35. Ultimately the space to be provided in the building is to be used in the following way.

SUB-BASEMENT:	Lower level of cable chamber.
	Emergency power plant.
	Air conditioning plant.
	Oil storage tanks.
BASEMENT:	Upper level of cable chamber.
	Electricity sub-station and switchroom.
	Subscribers installation and maintenance centre.
	Cleaners' accommodation.

GROUND FLOOR:	Materials handling and vehicle accommodation with access from Pitt Street.
	Vehicle access to goods lift.
	Pedestrian access to lifts.
FIRST FLOOR:	Materials handling and vehicle accommodation with access from Castlereagh Street.
{ SECOND FLOOR:	Main distributing frame.
{ THIRD FLOOR:	Subscribers local automatic switching equipment.
{ FOURTH FLOOR:	Storage.
FIFTH FLOOR:	Subscribers local automatic switching equipment.
	Exchange installation workshop and storage area.
	Storage and equipment areas.
{ SIXTH FLOOR:	Subscribers local automatic switching equipment.
{ SEVENTH FLOOR:	
EIGHTH FLOOR:	Automatic trunk switching equipment.
NINTH FLOOR:	Trunk amplifying and carrier equipment.
	Installation workshop and store.
TENTH FLOOR:	Directory information services.
	P.A.B.X. switchboards.
ELEVENTH FLOOR:	International exchange.
	Recorded voice announcement machines.
TWELFTH FLOOR:	Cafeteria.
	Staff recreation.
	Staff amenities.
THIRTEENTH FLOOR:	Changed number and redirection exchange.
	Recorded voice announcement machines.
FOURTEENTH FLOOR:	Air conditioning plant.
	Lift machinery.
FIFTEENTH FLOOR:	Plant room.
	Water tanks.
	Lift machinery.

36. Interim Use of Equipment Floor Space Areas on the fifth, sixth and seventh floors will provide expansion space for the installation of equipment required as services in the area grow. Until this need arises the space will be occupied by elements of the Postmaster-General's Department concerned with the provision and maintenance of telephone equipment in the Pitt Exchange area. Some space will also be provided for laboratories associated with the Sydney telephone network.

37. Amenities The exchange will ultimately be staffed by 928 officers (including 504 females), the maximum number on duty at any one time being 571 (including 266 females). The building will be occupied by staff on various shifts 24 hours per day. The proposal therefore includes a cafeteria which will provide a hot meal/light refreshment food service. Seating will be provided for up to 260 persons simultaneously. The location of the cafeteria on the 12th floor will be close to the main concentration of the building population on the 10th, 11th and 13th floors. Tea making and food heating facilities adjacent to the cafeteria will be available at all hours.

38. The Committee noted that two bays of the cafeteria can be partitioned off from the main area. When not used for meal purposes, the partitioned area is designed to be used for staff functions. Other amenities, which include recreation areas, a library, rest rooms, toilets and lockers, are provided in conformity with the Amenities Code and the local building regulations.

39. A representative of the Commonwealth Telephone and Phonogram Officers' Association drew the Committee's attention to several matters on the provision of amenities on which the Association had unsuccessfully made representations to the Postmaster-General's Department. In this particular instance it seemed that the Department had come to reasonable decisions on the Association's requests, having regard to the requirements of the Amenities Code, the practice followed in similar buildings elsewhere, the different types of staff employed in the building and the conditions under which they are employed. There did, however, seem to be some merit in the Association's request for segregated tea making facilities for female shift staff and the Committee therefore suggests that the possibility of agreeing to this request be further explored.

40. We noted that the Commonwealth Amenities Code was originally drawn up in 1947 and that the last complete review of it was carried out in 1961. We experienced difficulty in some respects in understanding the application of the Code to the situation of staff at the Pitt Exchange and feel that the Code might be of greater value if it is reviewed more frequently and its provisions are more precisely stated.

41. Vehicle Accommodation The Committee were told that materialshandling facilities and accommodation for at least 39 vehicles will be required by the installation, technical and administrative staffs associated with the Pitt Exchange. Parking for these vehicles is provided on the ground and first floors. No special kerb parking space will be available adjacent to the building.

42. Re-Use of Vacated Areas Vacation of the space now occupied by the Central Exchange in the basement of the G.P.O. will relieve congestion experienced in the movement of mail and other delivery vehicles in the vehicle manoeuvring area. The present International Exchange on the third floor of the G.P.O. will provide administrative accommodation for telegraph services on an adjoining floor. The movement of the directory information services from the fourth floor of the G.P.O. will enable amenities for phonogram answering staff to be extended.

43. The City North building is not structurally suited to carry the loads which the installation of modern exchange equipment would involve. As obsolescent equipment is removed it is proposed, therefore, to use the space for other departmental purposes. It would also provide a site on to which the Pitt Exchange could be extended should this become necessary.

THE BUILDING PROPOSALS

44. Planning Considerations The total allowable height and volume of the building were defined after negotiation with the local building authority and at its request the building is to be set back 20 feet from the Pitt Street frontage.

45. The irregularity in the boundary at the north-east corner of the site has necessitated the concentration of equipment areas in the more regularly shaped portion of the area. At the same time the Committee noted that it has been possible to design the layout of the equipment areas without prejudicing efficiency.

46. The irregular section of the site is to accommodate supporting services including lifts for both equipment and personnel, toilet and locker facilities and the main air conditioning riser shaft. Although the lifts are to be located some distance in from Pitt Street, they are readily accessible from both this street and Castlereagh Street and the accesses to the City North Exchange. Their location would be convenient to any redevelopment on the City North site.

47. Mechanical and electrical plant room space has been provided at the top and bottom of the building. The major mechanical plant is being provided on the 14th and 15th floors which have been set back one structural bay from the Pitt Street frontage to comply with light restrictions.

48. Design Appreciation The site is surrounded by commercial buildings including large offices, most of which have a high standard of external finish. It is proposed that the external finish to the Pitt Exchange will be of an equivalent standard and applied in units of a similar scale to those on nearby buildings. The elevation to Pitt Street, which will eventually be the only relatively clear view of the building, is designed to present a pleasing study in black and white, complemented by the shadows created in the projections and recesses in the facing elements.

49. The proposal is for a virtually windowless structure similar to the Lonsdale Exchange in Melbourne on which a previous Committee reported in October, 1963. Significant economies in the capital and operating costs of the building and air conditioning are to be gained from the exclusion of windows. They are being used, however, to the stairway at the Pitt Street end of the building. Apart from

providing an interesting vertical feature on this elevation, these windows will also provide emergency fire access. The only other windows are provided to the cafeteria on the 12th floor.

50. The buildings which presently adjoin the site are lower in height. It is therefore proposed to treat the side walls, where they project above the adjoining buildings, with similar facings to those selected for the Pitt Street elevation.

51. Structure and Foundations We were told that the structural frame of the building is dictated by function and layout. The width of 72 feet is divided into three bays. The length of 233 feet is divided into 11 bays, six of which have a regular spacing of 22 ft. 2 ins., which is set by the standard telephone exchange equipment layout.

52. The storey height of 15 ft. 3 ins. is designed to provide 12 ft. 6 ins. clear, floor to ceiling, on equipment floors. The total building height is 246 feet above pavement level. Heavy equipment loads favour the adoption of a structural steel frame, which is to be fireproofed by encasing it with concrete.

53. The reinforced concrete floor slabs will be cast in place, and supported on steel secondary beams. The latter will span between the main beams which will in turn span transversely between the columns. This floor system meets the requirements of heavy floor loads and facilitates the provision of air treatment ducts and slots for telephone cables. The main air ducts will pass longitudinally through the beams and transverse distributing ducts will pass under secondary beams.

54. The building is to be designed generally for an equipment load of 200 lbs. per square foot with heavier design loadings in areas containing mechanical plant.

55. Site investigations have confirmed that the building can be supported on plain concrete footings founded on sandstone. Bores on and adjacent to the site indicate the presence of sound rock at a shallow depth and it is not expected that much underpinning of adjacent buildings will be necessary.

56. Finishes It is proposed that the paving to the area of the set back from Pitt Street and the facing of the Pitt Street elevation up to second floor level, will be natural dark granite. Between this level and the first set back, the facings, including those on the side and rear walls above the adjoining buildings, will be storey height precast concrete units. They will have an exposed aggregate finish and be fixed in horizontal bands separated by a wide recess at the level of each floor slab. The two floors at the top of the building will be faced with darker precast panels.

57. Special features will include the building name and Royal Cypher on the granite facing at ground floor level in Pitt Street, and tapered aluminium flag poles at the roof level on the first set back.

58. The building will be roofed with stainless steel decking, with precast concrete paving slabs over the decking in trafficable areas.

59. Internally the finishes are to be selected with the aim of reducing maintenance to a minimum. Walls in equipment areas will have a plastic sealer applied directly to the off form concrete or flush jointed brick surfaces. Toilet walls will be finished with ceramic tiles.

60. Floors will be covered with vinyl tiles generally, except in the garage and plant rooms which will be finished with a granolithic surface and in toilets where ceramic tiles will be used.

61. Ceilings will have a plastic sealer applied to the off form concrete surface. However, several areas - particularly where staff is concentrated - will have suspended ceilings. Selected areas will also be acoustically treated.

62. Mechanical Services The basement and floors from the 2nd to the 13th, other than toilet blocks, the cable chamber, electrical sub-station, etc., will be air conditioned from two chilled water units and two oil fired boilers supplying hot water to four air handling plants. The chilled water units will be located on the 14th floor and the cooling towers and boilers on the 15th floor. Oil will be stored

in the sub-basement. A pair of air handling plants will be located on the 14th floor and the other pair in the sub-basement. Hot and cold air from these plants will be distributed through vertical shafts to the various floors and mixing dampers will permit the use of one or more temperature controlled zones on each floor.

63. Filtered supply air will be provided to plant rooms, battery and rectifier rooms, the cable chamber and the lift motor room.

64. The vehicle accommodation, kitchen, battery rooms, locker rooms, toilets, sub-basement plant room and the lift motor room will be mechanically ventilated.

65. Emergency electrical power for essential equipment will be supplied by a high speed diesel generating set of 700 kW capacity located in the sub-basement.

66. In the cafeteria, the electric kitchen equipment will include ovens, stock pots, bainmaries, deep fat fryers, atmospheric steamers, a dish washer and refrigerators.

67. Domestic hot water will be supplied to basins, sinks, showers and kitchen equipment from a calorifier on the 15th floor.

68. An incinerator to dispose of office and kitchen refuse will be provided on the 14th floor.

69. Electrical Services Electricity will be supplied by the Sydney County Council which will also equip the sub-station in the basement. A low voltage main switchboard will be provided adjacent to the sub-station. The emergency generator will be connected to the main switchboard where switch gear will control both the main and emergency supplies.

70. Artificial lighting generally will be from hot cathode fluorescent fittings. The levels of illumination in offices, workshops, the cafeteria, stores and manual switching centres will be in accordance with the Lighting Code of the Standards Association of Australia. In telecommunications equipment areas the level of lighting will be suitable for the general movement of personnel and the tracing of

faults. Supplementary local lighting will be provided by the Postmaster-General's Department as required. Incandescent light fittings will be provided where lights are used spasmodically or where architectural features require special treatment.

71. General purpose power outlets, cafeteria equipment and sundry equipment will be fed from general distribution boards located at each floor level in the electrical riser ducts.

72. Wiring to light outlets, general purpose outlets and fixed equipment will generally be from a grid system designed to meet the needs of the installation and to provide flexibility for future modifications.

73. Lifts A group of four fully automatic passenger lifts, each designed to carry up to 16 persons at a speed of 500 feet per minute, will be located towards the rear of the building. These lifts will travel between the basement and the 13th floor under a group supervisory control system which will automatically adjust the movement of the various cars so that traffic is handled according to demand. One of these lifts will also serve the sub-basement.

74. A goods lift designed for a maximum load of 5000 lbs. at a speed of 200 feet per minute will also be provided. It will serve floors between the sub-basement and the 14th and will be designed to carry telecommunications equipment racks in the horizontal position.

75. A small maintenance lift is to be located in the north-west corner of the building. It will be designed to carry two maintenance men, their tools and equipment and will serve the main distributing frame areas on the 2nd, 3rd and 4th floors and the upper level of the cable chamber at basement level.

76. Hydraulic Services The building will have water, sewerage and drainage services connected to mains in Pitt and Castlereagh Streets. Water storage and pumping facilities will be provided to maintain water supply for domestic purposes.

77. Fire Protection The three escape stairs will be fire-isolated and designed to discharge into the open air, either directly or through a fire isolated corridor. The two major escape stair wells will be pressurised to prevent the entry of smoke.

78. Areas, other than those in which P.M.G. equipment is installed, will be protected by automatic sprinklers. Fire hydrants and hand extinguishers will also be located at appropriate points. An automatic fire detection system using smoke detectors will be used in equipment areas.

79. Committee's Recommendation The Committee recommend the construction of the work in this reference.

PROGRAMME

80. In accordance with a decision of the Cabinet, the preparation of working drawings and tender documents was commenced in November, 1966 in anticipation of a favourable report by the Committee. Subject to no major changes being necessary as a result of the Committee's report, this phase of the work is expected to be completed early in 1968.

81. The Department of Works' representative told the Committee that the building contract is expected to take three years to complete after a tender is accepted. Occupation of the building is therefore not expected to commence before April 1971.

82. The 5000 telephone lines available from existing resources to meet demands in the area for new subscribers services will have been used by 1970 and costly expedient installations in other buildings will be necessary before that time if new services are to continue to be available. It is thus expected

that a period of extreme emergency in the provision of telephone services for both subscribers and STD will occur in the northern city area between 1970 and the completion of the installation of the first equipment in the new Pitt Exchange late in 1971, or later still if the project is further delayed. At the same time we were told that it would be undesirable, because of dust and humidity, to commence the installation of equipment in the uncompleted Pitt Exchange, at least until equipment areas are air conditioned.

83. The Committee concluded from these facts that the project is at least 18 months behind schedule at this point of time. Accordingly, we strongly recommend that every practical step be taken which will accelerate calling of tenders, completion of the building and installation of equipment.

ESTIMATES OF COST

84. The estimated cost of the work when referred to the Committee was \$7,200,000 as follows -

Building work	\$5,300,000
Mechanical services	\$1,300,000
Electrical services	\$300,000
Lifts	\$300,000

85. Although these figures include loadings to cover such factors as the most recent basic wage increases and other cost rises, at the time tenders are called the cost is expected to be in the range \$7.2m to \$7.5m.

RECOMMENDATIONS AND CONCLUSIONS

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

	<u>Paragraph</u>
1. A NEW TELEPHONE EXCHANGE BUILDING IS URGENTLY NEEDED IN THE NORTHERN PART OF THE SYDNEY CITY AREA.	28
2. THE PROPOSED SITE AT 76 PITT STREET IS AN APPROPRIATE LOCATION FOR THIS MAJOR TELEPHONE EXCHANGE.	34
3. THE POSSIBILITY OF AGREEING TO THE REQUEST FOR SEGREGATED TEA MAKING FACILITIES FOR FEMALE SHIFT STAFF SHOULD BE FURTHER EXPLORED.	39
4. THE COMMONWEALTH AMENITIES CODE MIGHT BE OF GREATER VALUE IF IT IS REVIEWED MORE FREQUENTLY AND ITS PROVISIONS ARE MORE PRECISELY STATED.	40
5. THE COMMITTEE RECOMMEND THE CONSTRUCTION OF THE WORK IN THIS REFERENCE.	79
6. A PERIOD OF EXTREME EMERGENCY IN THE PROVISION OF TELEPHONE SERVICES FOR BOTH SUBSCRIBERS AND STD WILL OCCUR IN THE NORTHERN CITY AREA BETWEEN 1970 AND THE COMPLETION OF THE INSTALLATION OF THE FIRST EQUIPMENT IN THE NEW PITT EXCHANGE LATE IN 1971.	82
7. THE PROJECT IS ALREADY AT LEAST 18 MONTHS BEHIND SCHEDULE.	83
8. EVERY PRACTICAL STEP SHOULD BE TAKEN WHICH WILL ACCELERATE THE CALLING OF TENDERS, COMPLETION OF THE BUILDING AND INSTALLATION OF EQUIPMENT.	83
9. THE ESTIMATED COST OF THE WORK WHEN REFERRED TO THE COMMITTEE WAS \$7,200,000.	84

F. C. Chaney
F. C. CHANEY
Chairman

Parliamentary Standing Committee
on Public Works,
Parliament House,
CANBERRA A.C.T.

5th April, 1967.