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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 provision of

BUILDING EXTENSIONS AND CENTRAL AIR-CONDITIONING PLANT

at

A.B.C. TELEVISION STUDIOS,

GORE HILL, NEW SOUTH WALES

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

BUILDING EXTENSIONS AND CENTRAL AIR-CONDITIONING PLANT AT
AUSTRALIAN BROADCASTING COMMISSION'S TELEVISION STUDIOS,
GORE HILL, NEW SOUTH WALES

R E P O R T

By resolution on 9th December, 1965 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report, the proposal to construct building extensions and provide central air-conditioning plant at the Australian Broadcasting Commission's television studios at Gore Hill, New South Wales.

COMMITTEE'S INVESTIGATION

1. The Committee received submissions from the A.B.C. and the Department of Works and took evidence in Sydney from representatives of these organisations. We also inspected the Commission's existing facilities at Gore Hill.

GORE HILL TELEVISION CENTRE

2. The Site The A.B.C.'s television service in Sydney was established in 1956 on the Gore Hill site which is located on the north-eastern side of the Pacific Highway about 3/4 mile north-west of the St. Leonards railway station. The site has an area of just over eight acres. It has three access points to the Pacific Highway and a fourth to Clarendon Road at the northern corner of the site.

3. The Master Plan When the initial buildings for Gore Hill were planned it was appreciated that there could be a substantial expansion of television services requiring a commensurate amount of additional accommodation. It was also known that the activities likely to require additional accommodation might not expand at the same rate. A plan was therefore adopted which was capable of considerable expansion without a loss of functional efficiency.

4. The principal activities planned for, grouped according to the type of accommodation required, are -

- (a) the studios and ancillaries, including dressing rooms, wardrobe and control rooms;
- (b) scenery and property manufacture and storage;
- (c) the central engineering area, including master control, telecine, videotape, telerecording and on-the-spot maintenance;
- (d) programme operations and services, including film and news operations, graphics and scenery design;
- (e) production planning and presentation, programme and engineering administration;
- (f) mechanical services including air-conditioning plant.

5. The master plan permitted these activities to expand and at different rates, if necessary. Studios, their dressing rooms and the wardrobe were thus contained in one block and at one level, the studios being alongside a scenery runway connecting them to a separate scenery building at the same level. Future studios were planned to be added at this level and fed from the same scenery runway.

6. The main engineering services are at first floor level and the programme services and office activities are at various levels in a ring part way around the studios. The mechanical services are located in a separate building adjoining the main studio.

7. Existing Facilities The existing major buildings are -

- (a) the television studio building which was the original studio-office block. It has two medium sized production studios, a small presentation booth, a central engineering area and office accommodation for the related programme staff;
- (b) the office (programme services) extension which adjoins the original studio building on the north-west boundary of the site. This is occupied mainly by the Film Department, Customs Bond, and part of the engineering centre;

- (c) the scenery workshop and storage building which adjoins the studio building on the north-east side of the site. Some scenery activities are also carried out in an adjacent temporary building and in a number of temporary huts;
- (d) the Cottage Building and annexes which house film administration, some film editing activities and the buildings planning section;
- (e) the canteen building and some offices attached;
- (f) the P.M.G. transmitter building, generator house and mast which are located in the centre of the site.

THE NEED FOR ADDITIONAL ACCOMMODATION

8. Growth of A.B.C. Television Services At the start of the service in 1956, less than 40 programme hours per week emanated from Gore Hill, of which 16 hours were local live productions. Staff at Gore Hill then totalled 123. Transmission time has grown to about 57 hours per week at the present time, including about 30 of live local output. This growth has been accompanied by development in the scope and complexity of programmes. The present work population is 573. The Committee noted that the growth in staff has resulted not only from the increase in programme hours and the proportion of live local output, but also from the transfer to Gore Hill of staff previously located in the city.

9. The expansion of activities in the past ten years has not been matched by the provision of adequate or efficient space. The result is that there is now acute congestion in many parts of the present accommodation, some activities are housed in temporary and unsuitable huts and many groups have spread haphazardly into areas not ideally suited to their functions. Furthermore, some staff, who should be located at Gore Hill, are housed in leased premises elsewhere.

10. The present need is thus for a substantial increase in properly designed accommodation and for a re-grouping of some activities to produce better staff and programme control and generally more efficient operations.

11. Changes in Technique At the start of the service the plan provided a balanced layout but since then techniques have been developed which have materially changed the balance of the accommodation required. For example, the technique of pre-recording on videotape has freed each production from the need to carry out the final performance, as a whole, at the transmission time. Programme sequences can now be recorded immediately they are ready, thereby freeing the studio for other activities. Programmes can now be produced in sections which permit scenery changes between sections. They are thus not limited to the number of settings which can be accommodated in the studio at the one time, but can, if desired, be given a much larger range of settings.

12. The improvements in techniques have resulted in more programmes being produced in the existing studios. However, at the same time there has been a demand for more ancillary service for each programme. Thus there has been a continually changing requirement for programme service accommodation for these expanding services which include central engineering facilities, film operations, news, graphics, design, programme production and presentation. This need was met, in part, in 1960 by the extension of the studio building along the north-west boundary of the site.

13. Country Television An additional requirement has arisen following the extension of television to country areas. It is necessary for the programmes being fed to the respective country transmitters to be properly monitored and controlled and for provision to be made for the insertion of programme items of special local interest. To meet this need, four continuity control suites comprising small studios and associated technical rooms are urgently needed.

14. Committee's Conclusion From the foregoing and from an inspection of the overcrowded existing accommodation, the Committee concluded that there is an urgent need for additional studio and office accommodation for the A.B.C. at Gore Hill. Provision of the additional accommodation proposed will relieve the present congestion and permit a regrouping of functions.

THE PRESENT PROPOSAL

15. Outline The proposal submitted to the Committee is for a studio-office building comprising ground and four upper floors to be erected as an extension of the existing studio building adjacent to the studio entrance. Broadly, it is to provide a floor of continuity and control suites at studio floor level and four floors of programme service accommodation.

16. The proposal is designed to -

- (a) locate studio ancillary services close to studio operations, but where they will not interfere with these operations;
- (b) place continuity and control suites close to the centre of operations;
- (c) bring together, on the same floor in each case -
 - (i) news and news film operations;
 - (ii) all graphics activity;
 - (iii) programme planning and production offices; and
 - (iv) scenic design;
- (d) provide, through a relocation of other activities, extra space in the existing building for film operations, engineering and presentation sections, as well as additional dressing rooms, artists rooms and wardrobe space; and
- (e) generally permit a regrouping of functions designed to improve efficiency.

17. Some 60 per cent of the space in the proposed extension is needed to relieve congestion which exists at this moment. The remaining area is a contingency against future expansion.

18. Although proposals for future television studios will include a complement of programme service accommodation, the studio-office extension in the present reference will always accommodate some of these activities. Apart from the provision against future expansion, it is considered essential to provide for a later vertical extension of the proposed studio office accommodation. Having regard to the limited floor area and in order to maintain an efficient traffic flow through subsequent stages, a total of eight floors is thought to be the maximum ultimate height. The foundations, frame and services are therefore being designed to permit the later addition of a further four floors. At the same time the structure on the north-eastern side will be designed to facilitate a future lateral extension in that direction if it is found necessary.

19. Ground Floor This floor is to accommodate four continuity and control suites designed to meet the needs of the development and control of regional television. The suites will telecast linking announcements and programme material of local interest respectively to the following regions -

- (a) Wollongong and Bega
- (b) Canberra, Wagga and Griffith
- (c) Orange and Dubbo
- (d) Newcastle, Kempsey/Grafton, Lismore and Tamworth

20. Other accommodation on this floor will include an announcers' common room, a room for the storage of small properties required on the floor and an air handling room.

21. First Floor This floor is to accommodate the News Department. In addition to the space requirement flowing from an increase in the metropolitan news services from three to five daily, there will be an expansion of news activities to provide more film of Australian interest.

22. In this location the News Department will be close to the continuity suites and Studio 23 from where metropolitan news will continue to be telecast.

23. Second Floor It is planned that this floor will be used by the graphics group including their executive staff. With the multiplicity of equipment already used and being acquired, and the constant development of new techniques in the spheres of still photography and film animation, this group has a continuing need for additional space.

24. Third Floor This floor is to be sub-divided into offices for the Programme Division. The provision of this accommodation will permit producers and their script assistants who are housed at present in the city, to be relocated at Gore Hill from where they can function more efficiently. In addition, there is need for programme planning offices for specific teams such as those on "Four Corners" and "Tonight".

25. Fourth Floor This space is to be occupied by scenery design staff whose present working conditions are cramped and with only limited natural light. With an augmented production schedule the new space will permit staff to be increased and additional equipment to be introduced.

26. Air-conditioning Plant The present air-conditioning plant which is housed in a separate building, originally served air handling plants situated in three main locations. Not all of the original building was air-conditioned and in assessing the initial plant requirement it was assumed that not all areas needing conditioning would require it at the same time.

27. This situation has now radically changed. The original plant now serves more area and more air handling plants than planned. Furthermore the development of techniques and the increase in programme hours has meant that the plant is now serving more areas and for longer periods than for which it was designed. Equally critical in the study of the capacity of the present plant is the fact that much of the television equipment installed in recent times generates considerably greater heat loads than earlier equipment.

The present situation then is that the existing plant, through its limited size, is reaching the stage where it will be no longer capable of meeting the air-conditioning needs of the existing accommodation.

28. The proposal is therefore to construct a new plant room adjoining the present plant room. The two plant rooms will then serve the present buildings, the extension proposed in this reference and have space in which additional plant can be installed to serve the second stage of the studio-office extension.

29. The Committee recommend the proposal to provide a second central air-conditioning plant room.

30. Road Works A small amount of road works is included in this reference to provide surface access to the proposed extension.

BUILDING PROPOSALS

31. Design The design of the studio-office extension posed the problem of establishing a satisfactory proportion and appearance to a building required to accommodate diverse functions. The problem was accentuated by the need to provide for future expansion both upwards and laterally. The solution was to express each floor level as a strong horizontal element which could be repeated appropriately in the future floors and still maintain a satisfactory facade.

32. The new plant room is to be constructed in a light area at the north-eastern end of the existing studio building adjoining both the present plant room and the scenery runway. Here it will interconnect with the existing plant room and the runway can serve as a duct.

33. Materials It is proposed that all four elevations of the studio office will be finished in selected face bricks. Windows generally will be of the aluminium double sash type with a venetian blind built into the space between the inner and outer glazing. The windows will be reversible to permit cleaning from inside the building. The concrete roof will be protected by a galvanised steel ribbed metal roof.

34. Internally the walls of the studios will be treated acoustically to suit programme requirements. Ceilings will be suspended and finished with a sprayed acoustic material. Floors will be finished with vinyl tiles.

35. The walls of the control rooms will be acoustically treated to ensure satisfactory conditions for high quality monitoring of programmes. The ceilings will be cement rendered and painted and the floors will be finished with vinyl tiles.

36. Stores areas and the plant rooms will have walls of fair faced brick work, off-form concrete ceilings and floors finished with a granolithic topping. Levels above the ground floor will generally be sub-divided by demountable partitions, except that walls around toilets, tea rooms and stairs will be of brick. These will be finished with a cement render and painted. Walls of toilets will be tiled to full height with glazed ceramic tiles.

37. Ceilings of office areas will be finished with an acoustic render sprayed directly to the soffit of the concrete slab. False ceilings in the toilets and tea rooms will be sheeted with laminated plastic. Floors generally will be finished with vinyl tiles but the floors of toilets and tea rooms will be of ceramic tile. Stairs will have vinyl treads, risers and skirtings.

38. Structure The soft shales and clays near the surface of the site of the studio-office extension are not suitable foundation material for a multi-storey building. As there is hard shale at about 40 feet the building foundations will be supported on bored concrete piers founded on this material. The extension will be constructed with reinforced concrete columns and floors. Structurally, the design will provide for four future floors.

39. The floor system proposed comprises a wide flat beam in the central corridor spanning longitudinally and one way slabs spanning from this beam to perimeter beams. The only transverse beams will be at lifts and stair wells. This system simplifies

air distribution ducting, reduces floor to floor heights and permits flexibility in office sub-division. The first floor is designed for debris loading.

40. The plant room will be of brick and concrete construction. It will be founded on shallower material and will have conventional footings at about five feet.

41. Mechanical Engineering Services All occupied space in the studio-office extension is to be air-conditioned from air handling plants located on the ground floor and roof. These will be connected to the existing boiler plant and a new chiller plant to be located in the new plant room. The new chiller plant will also carry the full load of the existing facilities. The existing chiller plant has insufficient capacity for the extension but it will be interconnected with the new plant to serve as a partial standby.

42. The new chiller plant installation is designed to work in parallel with a similar unit to be installed when future extensions of the studio-office are constructed.

43. As the new plant room will block natural light and ventilation to the lower floors of the existing adjacent offices, and because the windows of the two upper floors will be sealed to prevent noise transmission, these offices will also be air-conditioned. They will be mechanically ventilated during the construction period. Mechanical ventilation will also be provided to the main plant room, lift machinery room, toilets and tea rooms.

44. Hot water will be supplied to basins and sinks from an electric storage system.

45. Electrical Services Electricity supply will be taken from the Sydney County Council substation in the existing studio block through the main switchboard and underground ducting. The installation will include fluorescent lighting suited to the A.B.C.'s special requirements, and general purpose and special power outlets.

46. The fire alarm installation will include smoke and thermal detectors installed in accordance with S.A.A. codes and integrated with the existing installation.

47. For the population and traffic movement associated with the five initial floors of the building, it is proposed to install one lift with a capacity of 15 persons, operating at a speed of 300 feet per minute. When the building is ultimately extended, two lifts will be required to provide a satisfactory service. A twin well is therefore being provided at the outset. The machinery of the initial installation is to be positioned so as to permit the first lift to continue in operation while the second is being installed.

48. Committee's Conclusion Subject to the qualification which follows, the Committee recommend the construction of the works in this reference.

ESTIMATES OF COST

49. The estimate of cost of the proposals referred to the Committee was \$800,000 as follows -

Studio Office Wing

Building Work	\$396,000	
Lift.	28,000	
Electrical Installation	30,000	
Hydraulic Services	24,000	
Mechanical Services	76,000	
Road Works	<u>6,000</u>	\$560,000

Plant Room

Mechanical Services	\$168,000	
Building and Associated Services	<u>72,000</u>	<u>\$240,000</u>
		<u>\$800,000</u>

PROGRAMME

50. The Committee were told that assuming an early approval to proceed is obtained, tenders could be invited early in the financial year 1966/67. A period of 21 months would be required for the consideration of tenders and construction of the work.

FUTURE EXTENSIONS

51. It will have been noted that the studio-office extension is to comprise a ground and four upper floors and that there is provision in the structure of the extension for the erection of an additional four upper floors and for lateral extension when required.

52. The Committee studied closely the cost and other implications of the provision of the additional four upper floors at the outset and came to the conclusion that from all points of view it would be most expedient to construct this accommodation in the same contract as the work in the present reference. The factors which influenced the Committee's decision were -

- (a) the A.B.C. currently rents 131,000 square feet of office space in Sydney at a total annual rental of \$390,000 ;
- (b) it would be functionally beneficial to relocate some of the staff in this accommodation at Gore Hill. The additional space at Gore Hill could accommodate 95 officers;
- (c) the relocation of these officers at Gore Hill would release 12,750 square feet of rented space. The annual saving in rent would be \$33,400 ;
- (d) there would be an additional saving if the two stages are built in the one contract. The saving in capital cost would be at least \$20,000 ;
- (e) there would be administrative economies and convenience from having the additional staff at Gore Hill;
- (f) construction of the work in one contract would avoid the practical inconvenience of having a builder on the site a second time, and the disruptions resulting from a contractor working on the second stage while normal activities are carried out in the building below, would be avoided.

53. As against these factors, additional time would be spent in completing working drawings and tender documents and in construction. The total additional time would be in the vicinity of 12 months.

54. The Committee feel strongly that the weight of evidence favours the completion of all nine floors under the one contract and recommend that this be done. We noted that the extra cost of the four additional floors is estimated at \$380,000.

RECOMMENDATIONS AND CONCLUSIONS

55. 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. THERE IS AN URGENT NEED FOR ADDITIONAL STUDIO AND OFFICE ACCOMMODATION FOR THE A.B.C. AT GORE HILL.	14
2. THE COMMITTEE RECOMMEND THE PROPOSAL TO PROVIDE A SECOND AIR-CONDITIONING PLANT ROOM.	29
3. SUBJECT TO THE QUALIFICATION WHICH FOLLOWS, THE COMMITTEE RECOMMEND THE CONSTRUCTION OF THE WORKS IN THIS REFERENCE.	48
4. THE ESTIMATED COST OF THE PROPOSALS REFERRED TO THE COMMITTEE WAS \$300,000.	49
5. IT WOULD BE MOST EXPEDIENT TO CONSTRUCT THE ADDITIONAL FOUR UPPER FLOORS IN THE SAME CONTRACT AS THE WORK IN THE PRESENT REFERENCE.	52
6. THE EXTRA COST OF THE ADDITIONAL FOUR UPPER FLOORS IS ESTIMATED AT \$380,000,	54

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