

Report of the Committee of Inquiry into
TELECOMMUNICATIONS SERVICES IN AUSTRALIA

Volume 1

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TELECOMMUNICATIONS INQUIRY

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October 1982

The Hon. N.A. Brown, QC, MP
Minister for Communications
Parliament House
CANBERRA ACT 2600

Dear Minister

On 23 September 1981 the then Minister for Communications, the Right Honourable I. McC. Sinclair, announced the appointment of and Terms of Reference for a Public Inquiry into Telecommunications Services in Australia.

We have the honour to present to you our Report.

We record our appreciation for the efforts and co-operation of the Australian Telecommunications Commission and other Government agencies who facilitated our work.

Yours sincerely

J.A. DAVIDSON
CHAIRMAN

W.A. DICK
MEMBER

M.G. KING
MEMBER

A.E. KARBOWIAK
MEMBER

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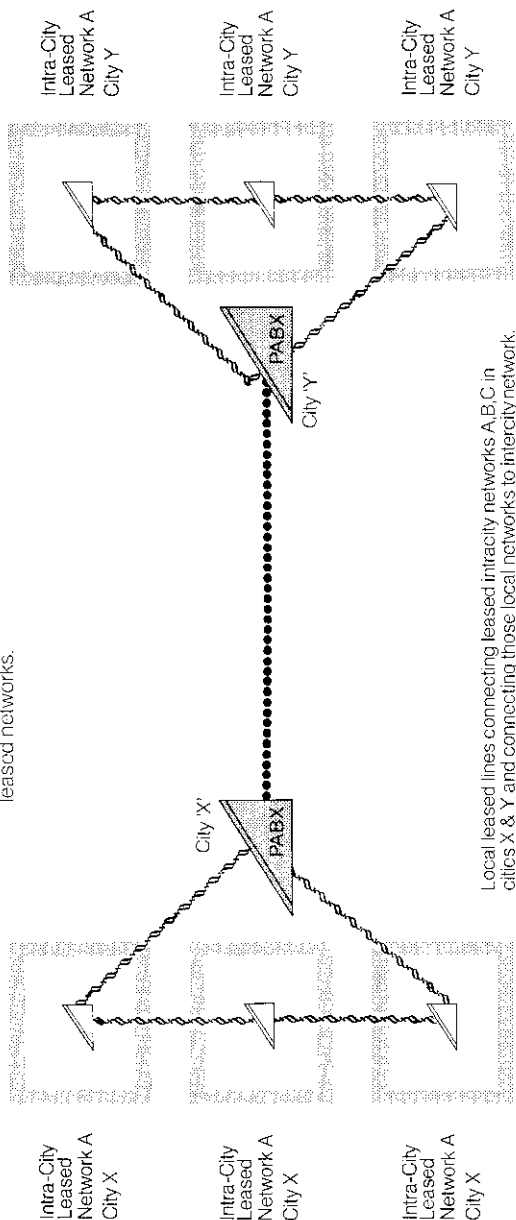
B. MEMORANDUM AND ARTICLES OF ASSOCIATION

C. MODEL LEGISLATION FOR A TELECOMMUNICATIONS ACT AND
SUMMARY OF CLAUSES

Figure 2.3: Basic inter-city leased network.



Figure 2.4: Inter-city leased network interconnecting with intra city leased networks.



Local leased lines connecting leased intracity networks A,B,C in cities X & Y and connecting those local networks to intercity network.

INTRODUCTION

Establishment

The Committee of Inquiry into telecommunications services in Australia was appointed by the Commonwealth Government in September 1981.

Committee membership

The Committee comprised:

Chairman -- Mr. J.A. Davidson, A.O., B.E., F.I.E.Aust.

Members -- Mr. W.A. Dick, B.Com., F.C.A.

-- Mr. M.G. King, A.M., B.E., A.S.T.C., F.I.E.Aust.

-- Professor A.E. Karbowski, D.Sc.(Eng.), F.I.E. Aust.,
S.M.I.E.E.E., F.T.S.

Terms of reference

The terms of reference of the Committee were:

"Having regard to the continuing need to provide adequate telecommunications services throughout Australia as efficiently and economically as possible and the significant technological advances which are now occurring in the telecommunications field both in Australia and overseas, the Committee is requested to examine and report to the Minister for Communications on:

- (a) the extent to which the private sector could be more widely involved in the provision of existing or proposed telecommunications services in Australia either alone, in competition with or in conjunction with the Australian Telecommunications Commission;
- (b) what consequential changes may be necessary in the statutory functions, duties, financial objectives and monopoly provisions of the Commission; and
- (c) the effectiveness of the Commission's operational policies and organisational arrangements.

In carrying out the review, the Committee shall have regard to the effects and likely consequences of any changes that it might propose in respect to:

- (i) revenues and the cost structure for telecommunications services in Australia;
- (ii) the overall financial performance of the Commission;
- (iii) the scope for and ability of Australian industries to compete and participate in the design, manufacture, supply and servicing of telecommunications equipment; and
- (iv) the possible need for any revised regulatory arrangements in the telecommunications field."

Report date

Committee was asked to report on a date twelve months after its establishment.

Submissions to the Inquiry

The Committee received 143 public submissions in response to invitations by notice lodged in the national and metropolitan press throughout Australia. A number of confidential submissions was also received.

Public hearings were held in most State capitals and a number of country areas to discuss issues raised in submissions. Confidential discussions were also held with some organisations.

The Committee expresses its appreciation to those who made submissions and attended its hearings. Tight deadlines for submissions were met in most instances. The Committee especially thanks those who did so.

Committee assistance

The Committee was assisted in its work by a Secretariat and by Consultants.

Secretariat

SECRETARY

B.P. Harvey

ASSISTANT SECRETARY

H.C. Valier (from 3.8.82, formerly Senior Policy Analyst)

RESEARCH

Principal Engineering Analyst

J.J. Bigeni (part time)

Senior Policy Analysts

M.J. Hanna

R. James (5.4.82 to 30.8.82)

Research Officers

R.Q. Fiora

G.R. Maitland

P.P. White (to 26.5.82)

ADMINISTRATIVE

Administrative Officer

R.J. Sellers

Administrative staff

J.L. Barker

F. Edwards

SECRETARIAL

Executive Assistant

S.L. Lainey

Secretarial staff

J.M. Jackson

E. Nicholls

Consultants

LEGAL

Allen, Allen and Hemsley

FINANCIAL

Coopers & Lybrand Services

ENGINEERING

Mr P.L. Skey, C.Eng., F.I.E.E., Principal Consultant (National Telephone Systems), Cable and Wireless PLC, London.

(Logica Limited of London assisted with international data comparisons.)

Related reviews

The Committee studied reports of related Inquiries into aspects of telecommunications:

- Commission of Inquiry into the Australian Post Office ('Vernon Report') -- April 1974;
- Inquiry into the Structure of the Australian Broadcasting System and Associated Matters ('Green Report') -- 1977;
- Commonwealth Government Task Force on a National Communications Satellite System ('White Report') -- July 1978;
- Working Group on a National Communications Satellite System ('Working Group Report') -- August 1979;
- Capital and Policy Requirements for the 1980's: Telecom Australia ('McKinsey Report') -- 1980;
- Review of Commonwealth Functions -- 1981;
- Committee of Review of the Australian Broadcasting Commission ('Dix Report') -- 1981;
- Inquiry into Cable and Subscription Television Services for Australia ('ABT Cable Report') -- August 1982.

Mr Malcolm King, a member of the Committee, had previously been appointed by the Department of Communications to report on certain aspects of the marketing of terminal equipment. Material assembled by Mr King was referred to the Committee.

The Committee noted the following concurrent Inquiries which touch on some matters relevant to the Committee's own terms of reference:

- Committee of Inquiry into the monopoly position of the Australian Postal Commission;
- Committee of Inquiry into Commonwealth Laboratory Services and Facilities.

The Committee sought to avoid overlap between these Inquiries and its own work.

Acknowledgements

The Committee thanks the staff of Telecom Australia who responded willingly and promptly to requests for further background information on its operations.

The Committee also expresses its appreciation to the following organisations which assisted with the organisation of visits and public discussions in country areas:

- . Council of the Shire of Burke (Qld);
- . Department of the Chief Minister (NT);
- . Nhulunbuy Corporation Limited (NT);
- . Royal Flying Doctor Service;
- . Rural Telephone Subscribers' Association;
- . School of the Air.

Structure of the Report

The Committee's Report comprises three Volumes:

- . Volume 1 : MAIN REPORT;
- . Volume 2 : BACKGROUND AND DESCRIPTIVE MATERIAL;
- . Volume 3 : CONSULTANT AND RESEARCH REPORTS.

SUMMARY

PERSPECTIVE

1. During the two decades of the 50's and 60's when there was one telephone per ten persons the need was to provide basic voice communication to as many people as possible. It was appropriate for the Postmaster-General's Department to pursue this objective with a high degree of standardisation and simplicity. Many rural subscribers were connected by party lines who otherwise would have had to go without. The lack of privacy of a party line was an acceptable price to pay at the time. Today when there is one telephone to every three persons the priorities are different.
2. The telecommunications industry is large both in investment and employment. In 1981, Telecom employed approximately 90 000 people, had a revenue of \$2 600 million and purchased equipment to the value of \$370 million -- mostly from the local manufacturing industry. The gross operating surplus plus the wages, salaries and supplements of Telecom's total activities constituted more than two percent of Australia's Gross Domestic Product (GDP).
3. The Committee is pleased to be able to acknowledge that Telecom and the Postmaster-General's Department before it have established a telecommunications network that is recognised internationally as being well designed and soundly constructed. Australia is fortunate to have such a good infrastructure on which to provide the services of the future (paragraphs 2.47, 2.48 and 10.2).
4. There is now an ever increasing variety of services that can be offered through the telecommunications infrastructure and an ever increasing number of people prepared to pay for them. The new services offer the potential for significant economic and social benefits (paragraphs 1.13, 4.7 and 4.8).
5. The Committee found wide support for a faster introduction of these new telecommunications services into Australia (paragraphs 4.25--4.28).
6. So many submissions supported their proposals by reference to the 'national or public interest' that the Committee concluded that it was necessary to consider what are the national objectives in telecommunications (paragraph 1.17). Notwithstanding the diversity of interests there was a consensus of national objectives which can be summarised as follows:
 - to provide every householder with the opportunity to obtain a telephone at a fair cost;
 - to maintain a level, range and quality of telecommunications services which will permit Australian industry and commerce to remain internationally competitive;
 - to achieve growth in telecommunications services which will provide employment in the telecommunications industries and the many industries using those services;

- to ensure that the benefits of technological developments are made available as widely as possible;
 - to provide a sustainable industry base for local manufacture, assembly, product development and software adaptation and development;
 - to ensure maximum reliability of telecommunications services.
- 7. In formulating its recommendations to achieve the above objectives, the Committee established the following criteria against which to test its conclusions:
 - A monopoly should be preserved by legislation only where there are net public benefits not achievable by competition.
 - Where there is competition, the structure of the industry should encourage fair competition and innovation.
 - Compatibility between telecommunications systems and equipment should be maintained so that communications between networks or customers are not restricted.
 - Committee recommendations should create an environment for orderly change.
- 8. The Committee emphasises the need for overall planning and development of Australia's telecommunications within a rapidly changing technological environment. If we fail to provide the telecommunications services essential to modern society we will not only create substantial hardships for Australia but also miss the wave of technology which offers great potential for social and economic benefits.
- 9. Any approach based on forecasting the degree of technological change would require an unrealistic degree of foresight. Changes in technology and market structure will not inevitably result in significant unemployment when there is a growth rate in traffic of ten percent in the future, comparable to that enjoyed during the four years from 1978 to 1981, and a labour turnover in excess of ten percent per annum. Retraining and redeployment will be necessary. This can be achieved to the benefit of all Australians provided there is co-operation between employers, employees and the Government (paragraph 8.34).
- 10. Development and operation of the national network in a professional and business-like manner is a first priority requiring that Telecom's resources and management skills are not diverted from this priority (paragraph 3.47).
- 11. The Minister should make use of a widely based National Telecommunications Advisory Council in implementing these recommendations and planning for Australia's future communications needs (paragraph 13.7).

12. During a period of change attention can be focused on either the risks or the opportunities created. The Committee is satisfied that its recommendations provide many more opportunities than risks.
13. The Committee does not recommend 'selling off bits of Telecom to private enterprise' but rather increasing the investment in Telecom's national network to ensure Australia has a modern system able to accommodate a rapid growth of telecommunications services (paragraph 10.22). The Committee's recommendations build upon the resources that have already been established and provide flexibility for progressive development to meet the changing economic and technological environment.

THE ROLE OF COMPETITION

14. Some submissions argued strongly for maintenance of the status quo on the basis that the telecommunications industry is a 'natural monopoly' (paragraph 1.31). Littlechild defines a 'natural monopoly' as:

". . . an industry in which economies of scale are so great, compared to the size of the market, that it is inefficient to have more than one firm producing the industry's output, and, in fact, only one firm would be able to survive in such an industry."¹
15. While the Committee was able to confirm that there were substantial economies of scale in some parts of a telecommunications system (e.g. trunk and local networks), these costs have economies of scale no greater than in many other industries where competition operates successfully. The Committee considers that arguments of a 'natural monopoly' do not hold (paragraph 1.37).
16. Within the increasingly diverse markets for terminal equipment the further argument of economies of scope has decreasing relevance. Customer choice, innovation and access to equipment tailored to the needs of different classes of customers are far more relevant arguments for the future (paragraph 1.34).
17. There is already an increase in competition. Telecom through its policy of 'permitted attachments' allows some competition in terminal equipment. The introduction of a domestic communications satellite under the management of AUSSAT will make competition in telecommunications inevitable for the future. The possible introduction of 'cable television' could also result in competition in the distribution of telecommunications services (paragraph 2.51).

1. Littlechild S.C. -- 'Elements of Telecommunications Economics', page 199

18. Growing public awareness of the capability of the telecommunications network for improved information services for business, research, security, education, medicine and entertainment will force a further liberalisation of current practices (paragraph 4.20) and will create a need to encourage 'specialised' service providers to supply the ever-increasing variety of services sought by the public.
19. These pressures must be met in a flexible but orderly fashion to ensure that present and future generations benefit from the expansion of their communications options.
20. The question is not between competition or monopoly but how to allow competition to develop in a manner to gain the most benefit for the community.
21. However, if Telecom is subject to competition it will have great difficulty in maintaining the substantial cross subsidies inherent in a 'uniform' pricing policy (paragraph 6.43).
22. The Committee is satisfied, as a result of its investigations, that it is in the national interest for Telecom to substantially reduce its cross subsidies irrespective of the extent of competition (paragraph 6.14). Telecom could achieve this by moving from 'uniform' to 'cost related' prices with a revision of prices which need be no greater than some in recent years (paragraph 6.46).
23. It is therefore practicable to consider a role for Telecom which introduced some competition.

REGULATION

24. In examining the possibilities of an expanded role for the private sector, the Committee has sought to facilitate a market structure in which there is minimum public regulation.
25. Regulation of telecommunications in Australia is currently based on Telecom's monopoly supply of services. The private sector is restricted not only in terms of the types of telecommunications systems which they may establish but also in terms of the use to which these systems may be put. There is restriction on both systems and services (i.e. the carriage and traffic content) of alternative networks.
26. A telecommunications network can be likened to a network of roads and intersections. Motorists and transport companies use a nation's highways to travel from place to place, to carry goods and provide services. So too, the general public and 'information providers' use a telecommunications system or network to transmit communications signals from place to place. Highway authorities do not control the use of the roads or the design of the vehicles so long as the vehicles comply with technical, safety and traffic standards appropriate to the type of road.

27. Telecom not only ensures that terminal equipment does not jeopardise network safety and integrity but it also restricts use and the information content of traffic. In the past, these controls were represented as necessary for a monopoly planner and developer.
28. Some submissions endeavoured to differentiate the ordinary telephone from the new services by classification of 'basic' and 'enhanced'; others by creating a group of value added services; others sought to define augmented services (paragraph 4.11). Any arrangement which requires the differentiation by class of traffic or type of service will be administratively complicated and, in the longer term, unworkable due to changing technology.
29. What might be an 'additional feature' or an 'enhanced' service today may be incorporated in tomorrow's basic telephone.
30. The introduction of market forces in areas currently subject to control by Telecom will require changes in Telecom's operational policies, including prices, and in its organisational arrangements.

STANDARDS

31. At present the telecommunications network and terminal equipment standards are proclaimed and controlled by Telecom. If one service provider controls the standards to which its competitors must comply fair competition may be prevented.
32. Public interest requires that the needs of users and manufacturers should be considered as well as those of the network operator in the preparation of standards and that they should be subject to public review.
33. The responsibility for establishment of standards should transfer from Telecom to the Minister and the Minister should appoint the Standards Association of Australia to undertake the task (paragraph 3.30).
34. The Committee notes concerns expressed about delays in approval of equipment by Telecom and the possibility of delays in preparation of standards by the SAA.
35. The Committee recognises the time required to gain consensus for a standard. It stresses that all parties involved have a national responsibility to co-operate to minimise delays in the approval of standards.

NETWORKS

36. The areas of competition for Telecom can be grouped into the following categories:
- . resale of capacity leased from Telecom;
 - . independent networks;
 - . network interconnection;
 - . terminal equipment and wiring in customers' premises;
 - . telecommunications services.

Leased networks

37. Telecom generally prohibits resale of leased capacity, restricts the attachment of terminal equipment and excludes interconnection with the public switched telephone network (paragraph 2.8). It has recently recognised the merit of reducing the restrictions on 'leased lines' but wishes to provide a relaxation only to 'common interest groups' (paragraph 2.21).
38. The Committee has concluded that any attempt to limit resale of leased capacity by classification of customers or traffic would be self defeating. Artificial arrangements could quickly be designed to circumvent the regulations (paragraph 2.22).
39. The Committee finds that resale of capacity of leased lines offers several advantages (paragraph 2.28):
- . improves utilisation of network;
 - . enhances customer convenience, choice and economics;
 - . increases market value of leased lines and revenue opportunity to Telecom;
 - . encourages innovative services;
 - . results in a fairer price structure.
40. There will be some diversion of traffic from Telecom's public switched telephone network but this should not result in a significant loss of revenue to Telecom because the market value of leased lines will increase as a result of the increase in traffic on leased lines (paragraph 2.27).

41. Concern has been expressed that an entrepreneur might lease capacity solely for resale and thereby make profits out of Telecom's assets. The Committee accepts that retailers of network capacity should have the opportunity to make a profit in proportion to the service they render (paragraph 2.26) and notes that Telecom's profitability is protected by its control of the leasing price structure. The customer's choice is between purchasing directly or indirectly from Telecom. Accordingly, unrestricted resale of leased lines should be permitted provided the technical and safety standards are adhered to (paragraph 2.33).

Independent networks

42. The licensing authority for telecommunications systems should be transferred from Telecom to the Minister. The Committee does not envisage a proliferation of independent networks. It recognises that, consistent with its theme for creating an environment for orderly change, there may be a need for specialised networks which cannot at present be foreseen (paragraph 2.74).
43. The Committee notes the arrangements whereby when OTC wishes to gain access to a subscriber in Australia it does so by the use of Telecom's network and similarly if Telecom wishes to go overseas it uses OTC's systems, and sees merit in maintaining this relationship.

AUSSAT (Satellite)

44. The establishment of AUSSAT will introduce competition between it and Telecom for some long distance traffic (paragraph 2.56). The Committee is satisfied that this will not damage Telecom provided Telecom's prices are restructured. Benefits will flow to customers from the choice available and the operation of market forces.
45. It is important that AUSSAT adopts a constructive complementary trading relationship to Telecom. A failure to do this would not only lead to a duplication of resources but could lead to destructive competition (paragraph 2.62).
46. If AUSSAT requires local distribution capacity it should:
- connect as a normal subscriber to the Telecom system;
 - lease lines from Telecom;
 - buy capacity from one of Telecom's lessees; or
 - buy capacity from an independent licensed network operator.
47. AUSSAT should not be licensed to construct its own local terrestrial networks. This arrangement avoids AUSSAT cross subsidising terrestrial distribution from its satellite monopoly and conforms to the criteria of fair competition (paragraph 2.61).

Network interconnection

48. Many of the private networks (leased or independent) desire interconnection with the public switched network in order to provide better services to customers (paragraph 2.78).
49. The Committee is satisfied that Telecom's reasonable commercial interests are protected if it receives timed local call revenue at each point of interconnection as well as any other normal service charge. The Committee recommends unrestricted interconnection for networks based on leased Telecom capacity (paragraph 2.94). For independent networks, the right of interconnection should require the endorsement of the Minister as a condition of licence but be otherwise unrestricted (paragraphs 2.97 and 2.98).

TERMINAL EQUIPMENT AND WIRING IN CUSTOMERS' PREMISES

50. Telecom, by its policy of permitted attachments, has accepted the desirability of private enterprise participation in the terminal equipment market but has excluded it from wiring in customers' premises (paragraph 3.8).
51. The Committee is aware from submissions that this policy is not meeting customer needs (paragraph 3.15). The Committee has therefore considered whether freer participation by the private sector would accelerate the availability of improved services and how the market should be structured in view of Telecom's current dominance in terminal equipment (paragraph 3.33).
52. The equality of access is enhanced if the network operator does not compete in the provision of 'user facilities' such as terminal equipment and wiring in customers' premises. The possibility of predatory pricing through cross subsidisation is thereby minimised (paragraph 3.47).
53. If Telecom is allowed to compete in the terminal equipment market whilst retaining a virtual monopoly in networking, there is a risk that Telecom management might see its efficiency, as judged by the public, to be its achievements in the competitive terminal equipment market and might divert its resources to achieve dominance in this market to the detriment of the development of the network (paragraph 3.51).
54. Telecom as a network operator should promote terminal equipment as part of marketing the use of its network and will need to maintain an interest and liaison with manufacturers in respect of the performance of the very complex equipment (e.g. some PABX's) (paragraph 11.40).
55. The objective should be for effective participation by the private sector in the supply and maintenance of wiring in customers' premises and terminal equipment (paragraph 3.44).
56. The Committee concludes that:
 - . Telecom should be designated as the provider and operator of the national terrestrial network (paragraph 2.48).

- Marketing of terminal equipment should be conducted by an organisation separate from the network operator ('Telequip') (paragraph 3.50).
 - Private enterprise should be free to supply and maintain terminal equipment and wiring in customers' premises (paragraph 3.44).
 - Wiring in customers' premises should be supervised by a licensed technician ('teletrician') (paragraph 3.58).
57. Some submissions have claimed that terminal equipment services are a profitable part of Telecom's operations. Others have suggested that they are cross subsidised from network revenues. If such services are profitable they will be able to grow within 'Telequip' as a separate organisation unhampered by the constraints of the development of the network but, correspondingly, unprofitable products and services should be modified or divested so that 'Telequip' is profitable.
58. If all those employed by Telecom in servicing 'user facilities' (more than 5 000) were transferred to a separate organisation it would be large by Australian standards and would allow Telecom to concentrate its technical and financial resources on the development of the network which must be its prime responsibility.
59. The telecommunications network should terminate at the customer's boundary or on the outside of the building with a device permitting isolating and remote testing (paragraph 3.65). Such equipment is in use overseas and is inexpensive. It would considerably reduce the cost of fault detection and repair of subscribers' lines and avoid the cost of abortive calls to premises in which the occupier is not at home (paragraph 3.69).
60. It is noted that Telecom appears to have capitalised much of the wiring in customers' premises. Such assets in Telecom's balance sheets are illusory and should be written off. All wiring inside premises should be the property of the owner (paragraph 3.72).

TELECOMMUNICATIONS SERVICES

'Videographic' services (including 'CTV')

61. 'Videography' is used as a generic term to include services providing their output in a written or graphic form. They include a variety of image, text and information retrieval systems, including 'videotex' and 'cable television' (paragraph 4.45).
62. Some 'videographic' services require a smaller transmission capacity (bandwidth) than other services. It is only the limited transmission capacity of the present telephone line which prevents transmission of 'broadband' services like 'cable television'. The transmission capacity and hence the boundary between 'narrowband' and 'broadband' will change with changes in technology (paragraph 4.43).

63. Any attempt to segregate a group of 'videographic' services for regulation purposes will create more problems than it solves (paragraph 4.40).
64. It is not possible to gauge public acceptance of some 'videographic' services until they are in use. To restrict the variety of services would impose an arbitrary judgement which is not in the public interest. Competition should be allowed so that customers can make their own choice.
65. In order to provide equality of access to the telecommunications system for distribution, the ownership of the 'information service' should be separated from ownership of a public telecommunications system which carries the service (paragraphs 4.41 and 4.50).
66. It is important that the information services should conform to national standards for 'language' and 'protocol' so that the one receiving equipment can access any of the services of that type (paragraph 4.50).
67. In the case of Prestel the Committee's recommendation would mean that Telecom could own the 'gateway' equipment and should receive full commercial rates for the use of the telephone network including trunk call charges where applicable. The information provided by Prestel would be the responsibility of a company independent of Telecom (paragraph 4.51).
68. The Committee recommends that the principles applied to the separation of 'system' from 'information content' should be the same for all forms of 'videography' including television program material delivered through large capacity cable systems ('CTV') (paragraphs 4.41 and 2.72).
69. The controls exercised over radiated television through the Broadcasting and Television Act have been noted. They have developed from the need to prevent exploitation of a scarce resource, namely the 'radio spectrum'. No such justification is valid for cable services.
70. The Committee has noted the report of the Australian Broadcasting Tribunal (August 1982) (paragraphs 2.63 and 4.36).
71. Radiated Subscription Television (RSTV) is not considered as a telecommunications system. Whilst it is capable of interactive communication between subscriber and the centre it cannot provide numerous switched simultaneous interactive private communication between subscribers which is a basic feature of a telecommunications network.
72. Subscription television by cable ('CTV') on the other hand is treated as a 'videographic' service as the distribution system has the potential for private switched interactive communication.
73. The Committee agrees with the ABT that any distribution system for 'cable television' should provide capacity for general telecommunications services.

74. If the distribution system is owned by the television program provider, complex regulations will be required to ensure that fair access is provided for other telecommunications services and/or competitive information services.
75. Subscription television by cable is only one of a complex range of information services and to attempt to differentiate between these services for legislative purposes would be a daunting task.
76. The Committee considers that to give privately owned cable operators an exclusive 'CTV' franchise as well as access to public thoroughfares and rights of way by legislation would extend to those interests an extraordinary privilege. The competition for such privilege would be unhealthy.
77. Where environmental and planning controls require organisations to reticulate below ground it is not in the public interest to permit a 'CTV' distribution licensee to do otherwise (paragraph 2.67).
78. The Committee considered whether a 'CTV' distribution licensee should be permitted to use Telecom's ducts. As many cable faults are caused during the drawing of additional cables in ducts, if ducts were shared it would be difficult to determine responsibility for such faults (paragraph 2.68). If it is desired to use Telecom's ducts for large capacity cables they should be owned by Telecom. Telecom should have construction undertaken by public tender so as to allay any suggestion of uncompetitive costs.

Public telephones

79. Telecom supplies 'Redphones' only on a leased basis and adjusted to the standard public telephone call fee. If a subscriber pays the telephone line facility charge and call charges, he should be permitted either to lease or buy a Redphone from Telecom or an independent supplier and to have the mechanism set to whatever fee he considers suits his business objectives (paragraph 4.61).
80. Telecom maintains that public telephones in 1981 suffered a loss of \$53 million. The Committee's financial consultants, Coopers & Lybrand Services, report a profit contribution of \$17 million. Coopers and Lybrand's assessment is based on the net contribution of the public telephones to network revenues which should not be overlooked in planning the policy for public telephones (Report of financial consultants, Volume 3 of Committee's Report).
81. Telecom should also consider the possibility of selling or leasing 'public' telephones to municipal authorities or community organisations who may want to provide additional public telephones. Under this arrangement the municipal authority or other community group would be responsible for coin collection and maintenance. The maintenance would be by a licensed 'teletrician' (paragraphs 3.60--3.65).

Telegrams

82. Australia Post operates as an agent for Telecom for this service. Telecom sets the prices for telegrams and supplies the equipment. The service is based on a 'TRESS' network installed in 1956 which is no longer appropriate for Australia's needs. The revenue in 1981 was \$33 million and traffic volume is declining. Telecom reports a loss of \$21 million.
83. The Committee considers that Australia Post should be a principal rather than an agent. It would buy network capacity at the normal prices and lease or buy terminal equipment to provide the type of service, whether telegram, telex, facsimile, or electronic mail, which it considered most appropriate for its market (paragraph 4.57).
84. Such an arrangement would allow Australia Post to demonstrate further initiative and improve its customer service.

Other services

85. A number of groups such as libraries, the Bureau of Meteorology, Royal Flying Doctor Service, Police, banking and insurance companies, occupational therapists, social services and others with specialised interests made submissions which the Committee found of great help in understanding the wide span of information needs of Australian society. The Committee considers that the recommendations provide a framework which will accommodate special services better than the present arrangements.

TELECOMMUNICATIONS MANUFACTURING INDUSTRY

86. It is in the customer's interest for the industry to have sufficient local content to provide proper local technical support for the installation and maintenance of the telecommunications equipment it supplies. The security of these supplies and skills are vital for the nation's commercial life as well as defence (paragraph 5.5).
87. At the same time there is a need to allow sufficient flexibility for the importation of special purpose equipment and the initial supplies of newer equipment on which the future telecommunications industry will be built.
88. The Australian industry is unlikely in the light of its development to date to have the resources to fund the very large development costs of major telecommunications systems. On the other hand, there are opportunities for Australia to develop and export terminal equipment, minor systems and software where local requirements or ingenuity have enabled Australian manufacturers to be ahead of their international competitors.

89. There has been substantial public support for Telecom's policy of requiring its suppliers to maintain a high local content particularly by those who now supply Telecom (paragraph 5.23).
90. Telecom's responsibility is to purchase in accordance with any Government policy which applies equally to all purchasers, and to support a level of local content which Telecom considers to be in its own business interest. There can be sound commercial advantages in supporting local facilities for the service and repair of equipment.
91. Unless Telecom adopts this policy it could be at a disadvantage relative to its competitors and there would be the potential to create a conflict of interest between it and the Government of the day (paragraph 5.32).
92. If Government support to the Australian manufacturing industry ultimately proves necessary Government might consider allowing duty remission for imports by telecommunications manufacturing companies which have a substantial local content (paragraph 5.33).

PRICING POLICIES

93. Telecom's pricing policies follow the concept of a universal service at a uniform price (paragraph 6.31). The supporters of this concept, including those overseas PTT's which enjoy a monopoly, justify it on the grounds of public benefit (paragraph 6.16).
94. There is a benefit to those subscribers that are subsidised but there is an equal penalty to those who finance the subsidy (paragraph 6.25). The equity of such an arrangement is questionable when the subscribers, by virtue of a statutory monopoly, have no choice.
95. Uniform pricing is a euphemism for 'cream skimming' one section of subscribers in order to provide patronage to another. The patronage is justified on the basis of 'perceived need' but the pricing mechanism fails to restrict the subsidy to those in need.
96. The alternative to uniform pricing is cost related pricing (paragraph 6.29). Cost related pricing does not prevent a large measure of uniformity. For example, a uniform local call fee throughout Australia would not be contrary to a policy of cost related pricing.
97. Cost related pricing policies may adopt different rates of profit contribution from different services but would minimise the pricing of services below direct (separable) costs and the consequent inefficient use of resources that this creates.
98. The Committee supports cost related pricing because it results in improved allocation of national resources and is less discriminatory (paragraph 6.46).

99. Telecom claims that the cross subsidisation, as implemented through the price structure, is a reflection of the national development policy and can be achieved most efficiently for the nation by Telecom (paragraph 6.8).
100. A number of other submissions urged that the responsibility for cross subsidy policy should remain with Telecom and not be transferred to the Government (paragraph 6.85).
101. Responsibility is already with Government. If it had been intended that Telecom be responsible for cross subsidy policy the Act would not require that changes to telephone rentals and call charges be approved by the Minister (paragraph 6.86).
102. The Committee recommends that Telecom should provide subsidy only where it supports its business interests. Financial support for socially desirable objectives should be provided by Government from sources external to Telecom (paragraph 6.87).
103. Telecom's pricing structure includes some unjustified price discrimination which is inequitable and contrary to the intent of Trade Practices legislation (paragraph 6.52).
104. There is a discrimination against the small user of trunk services due to the magnitude of the difference between STD prices and the charges paid by leased line users, including television stations, which would not be sustainable in a competitive environment. The Committee's recommendations on leased lines will lead to a reduction in these discounts (paragraph 6.54).
105. If the present situation is the consequence of the application of pricing policies based on the theory of 'perceived values' and 'perceived needs' applied where competition is absent, then the value of competition is apparent.
106. The Committee is satisfied that the present level of cross subsidy is not in the public interest and can be substantially reduced in a socially acceptable way by restructuring of the prices with trunk call rates reduced and some rentals increased (paragraph 6.71).
107. Since the profit contribution from call revenue per unit of investment in the network is much greater than the profit contribution from rental revenue per unit of investment in subscribers' lines it would be of advantage to both Telecom and its customers to encourage increases in calls by offering discounts for calls in excess of a basic amount per quarter (paragraph 6.75).
108. The price of a local call made within a unit charge area is the same regardless of the duration of the call. If local calls were charged on a unit price for each three minutes, the call unit fee could be reduced by 40 percent without reducing the overall revenue. The Committee considers that timed local calls should be introduced as soon as practicable (paragraph 6.79).

ORGANISATION MANAGEMENT AND MARKETING

109. Customers have commented favourably on the recent improvements in customer service following the establishment of commercial services departments in Victoria and New South Wales (paragraph 7.25).
110. However, the policy of a universal service at a uniform price produces a lack of emphasis on relating the quality of service to the cost. Whilst this is understandable it nonetheless detracts from the effectiveness of management (paragraph 7.37).
111. For the successful adoption of the Committee's recommendations Telecom will have to develop greater business orientation and review the management and marketing structures, roles and responsibilities (paragraph 7.50).
112. A lack of diversity of experience in top management was indicated by a survey of the top 20 managers in Telecom whose average age of joining was 16.5 years and average length of service was 37.4 years. An executive recruitment program which targeted at 10--20 percent external appointments would ensure a secure career path for Telecom's employees whilst achieving cross fertilisation with the outside world (paragraph 7.52).
113. The introduction of customer call charge recording should be accelerated (paragraph 7.60).

STAFFING AND INDUSTRIAL RELATIONS

114. The attitude of the telecommunications unions makes changes of work content difficult. If more of Telecom's employees were able to identify their interests with those of Telecom's the serious industrial unrest evident in recent years might be avoided in the future.
115. Consultative councils for communication between management and employees are to be encouraged in every district. To have only one and to prescribe that ten members are 'representatives of employee organisations' rather than employees is to limit its effectiveness (paragraph 8.27).
116. Notwithstanding that the Vernon Report recommended that Telecom should be independent of public service controls its management is required to conform to the requirements of the 'Co-ordination Committee'. The Committee considers that Telecom management should be solely responsible for relations with its employees (paragraph 8.38).

FINANCIAL POLICIES

117. If Telecom is to be freed from detailed financial supervision by the Government the Act should include sound financial objectives which recognise that businesses in high growth industries, such as telecommunications, need higher returns on investment than low growth industries in order to generate the funds required to keep pace with developments (paragraph 9.32).
118. The Committee does not consider return on investment is an appropriate corporate criterion as it will change with changes in the rate of growth of the business (paragraph 9.38).
119. The Committee recommends as the financial objective that Telecom should provide sufficient operating surplus after tax, interest, and dividend which, together with loans and other forms of debt financing, will finance the assets required to meet the increase in demand for its services and that Telecom's interest liability should not exceed 50 percent of its operating surplus before tax, interest, and dividend (paragraph 9.34).
120. This level of interest cover is required to ensure that it will obtain, even under adverse conditions, adequate financial resources to meet its debt liabilities and a credit rating to enable it to raise funds at attractive interest rates.
121. Except for revaluation of \$1 287.5 million in 1975 and large negative adjustments for changed service lives in 1979 and 1981 Telecom has maintained its fixed assets on an historical cost basis. The negative adjustment for changed service lives raises questions as to the adequacy of the depreciation rates. If they are too low, which is the view of the Committee, then the profit will be overstated (paragraph 9.40).
122. With continuing inflation and substantial technological change, historical costs will lead to misleading conclusions as to the profitability of the business and the effectiveness of its use of resources. In view of Telecom's high capital to sales ratio (3.2:1) the operating cost needs to be adjusted to reflect current costs and the useful life of the assets.
123. Telecom has advised that if the principles of current cost accounting had been applied from 1 July 1975 the additional depreciation charged in 1980--81 would be \$235 000 000 which would have virtually eliminated their profit (paragraph 9.41). However, the revaluations were based on the use of Telecom's capital works index (CWI) which the Committee considers inappropriate as it does not take sufficient account of technological change (paragraph 9.42).
124. It was put to the Committee that Telecom could substantially reduce its prices if its internal funding (73 percent in 1981) was reduced and the loans increased.

125. The financial models prepared by Coopers and Lybrand demonstrate that, using an interest rate of 16 percent, if the internal funding is suddenly reduced there is a substantial reduction in prices but this effect progressively lessens with time. After ten years the difference in the price of the product (adjusted for inflation) for a change in internal funding from 100 percent to 60 percent is:
- . one percent for a volume growth of five percent per year;
 - . four percent for a volume growth of ten percent per year;
- provided that the fixed asset inflation is less than the general cost inflation -- which is normally the case for capital goods (paragraph 9.48).
126. The Committee considers that Telecom's internal funding ratio is appropriate.
127. Some submissions questioned what they considered was large capital expenditure.
128. McKinsey & Co. concluded "adopting the recommended policies is likely to involve a moderate increase in capital expenditure".
129. The consultants' financial models indicate that the capital expenditure in the fifth year will be 2.5 times the amount of depreciation if the volume growth is five percent per year and 3.6 times the depreciation if the volume growth is ten percent per year. This compares to 2.1 for Telecom in 1981.
130. Telecom might be well advised to increase its capital expenditure by as much as 50 percent if customers' requirements are to be met. Such an assessment is very dependent on the model assumptions. The assessment would be increased by the extent of understatement of depreciation and would be reduced by any underestimate of technological capacity gains or overstatement of future inflation. Nevertheless, the model still affords a useful guide (paragraph 9.49).
131. In 1981 Telecom spent \$224 million (22 percent of total capital expenditure) on customer equipment. Much of this could be provided by private enterprise which would then allow Telecom to invest more in the network.
132. The faster the growth of the business the higher must be the prices to generate the profit to finance the growth. The financial model demonstrates that under the conditions of the model (F/A 8 percent) the prices (at the end of ten years) of a telecommunications system having five percent growth per year will be some 15 percent higher than a system with no growth and one with ten percent growth per year will have prices 28 percent higher than one with no growth (paragraph 9.49).
133. If interest rates were lower and the business was not so capital intensive the profit margins for growth would be reduced.
134. OTC pays payroll tax, Commonwealth taxes and duties and AUSSAT will be liable for taxes and duties. Telecom is subsidised to the extent that it avoids tax which results in a subsidy to the large user of the system at the expense of the small user and the rest of the community (paragraph 9.31).

135. In order to encourage fair competition and social equity the Committee considers that Telecom should be liable for taxes and duties.
136. Coopers and Lybrand have estimated that Telecom's liability for tax, other than company tax, in 1981 would have been \$257 million of which \$128 million would be capitalised and \$129 million would be a charge to operating expenses. This is equivalent to five percent of revenue.
137. As a result of the 20 percent depreciation rates for tax purposes announced by the Government in July 1982, Telecom is not likely to be liable for company tax whilst these rates apply.
138. Coopers and Lybrand reported that Telecom's product accounting system was unreliable for the uses being made of the data externally (paragraph 9.61).
139. The problem arises from using an approach which requires substantial subjective apportionment of both costs and revenues between the products. The Committee considers (paragraph 9.63) that Telecom should adopt a primary allocation in which revenue and direct costs are made to three segments, namely:
- . terminal equipment;
 - . subscribers' lines;
 - . network.

CAPITAL WORKS AND NETWORK MAINTENANCE

Construction

140. Some 28 200 (30 percent) of Telecom's employees in 1981 were engaged in network construction and associated capital works.
141. The Committee's engineering consultant (Mr Skey) comments (paragraph 10.33):
- "Telecom is unusual, if not unique, in employing its own staff for virtually all exchange installation work, ductwork, and cable installation."
142. The supporters of the current practice claim that private enterprise is unable to meet Telecom's requirements. This is not substantiated by overseas practice or experience in Australia prior to 1973 when private contractors were used.
143. This practice results in duplication of some construction equipment already available from private enterprise. It leads to unnecessary expense when construction labour is employed at sites remote from their homes rather than drawn from local contractor sources. The present arrangement prevents flexibility in construction programs and is an important factor in Telecom's inability to expand its rate of investment (paragraph 10.34).

144. The Committee concludes that Telecom should contract out a target of 50 percent of capital works (paragraph 10.35).
145. The Government's administrative arrangements require Telecom to use the Department of Transport and Construction for buildings and engineering facilities (paragraph 10.55).
146. A centralised construction service is useful to provide a service to those government departments whose activities in this field are so small that they cannot maintain a proper level of in-house resources.
147. Telecom is a large constructor in its own right and to require it to use the Department of Transport and Construction is only to duplicate some of the planning, costing, procurement, and supervision functions. The Committee recommends that Telecom should be granted exemption from these requirements.

Country services

148. The Committee had studies carried out to determine how the quality and availability of telephones in the country compared to metropolitan areas (paragraph 10.36 and Volume 3, Section 3 of Committee Report).
149. In 1959 the Postmaster-General's Department established a program of converting the 389 000 manual services to automatic. By June 1981 only 61 000 (1.2 percent of subscribers) manual services remained. Telecom plans to complete the conversion by 1990 (paragraph 10.43).
150. In view of the capital investment required for this program the Committee considers this is a creditable performance. It recognises that this is small consolation for those waiting for conversion.
151. Telecom has estimated that to convert the remaining 61 000 subscribers to automatic will cost \$204 million and the subscribers' contribution, under the policy introduced in June 1982, will be \$0.6 million (0.3 percent of cost). This is a heavy financial burden which could be reduced if Telecom adopted 'cost related' pricing. The additional revenue would permit an acceleration of the program (paragraph 10.47).
152. The Committee was advised that the standards of performance of automatic services in country areas are satisfactory and comparable to metropolitan services. On the other hand, manual services, which are mostly magneto services, are of a substantially inferior quality to automatic services (paragraph 10.44).
153. The program of conversion from manual to automatic will not only improve the quality but will also substantially reduce the cost of maintenance of these services (paragraph 10.45).
154. It can be misleading to lean too heavily on statistics of unsatisfied demand for new connections: most unsatisfied demand relates to connections in process at the date of statistical collation. Deferred applications provide a more accurate reflection of unsatisfied demand.

155. Ninety-six percent of deferred applications (beyond three months) are located in the country areas and 83 percent of these deferments are due to lack of availability of external plant (lines). This is a reflection of the magnitude of investment required for this work.

Australian Broadcasting Commission

156. The Committee notes the Government's announcement of 4 July 1982 regarding transfer of the responsibility for construction, operation and maintenance of ABC transmitters and endorses transfer of the function from Telecom (paragraph 10.60).

Workshops

157. Some 2 800 employees are employed in Telecom's workshops which had a turnover of \$95 million in 1981.
158. It is reasonable for Telecom to maintain workshops to carry out equipment maintenance and jobbing work where this cannot reasonably be done by outside contractors. Telecom's proclaimed policy of seeking outside suppliers should be continued and independent contractors or joint ventures should be encouraged (paragraph 5.44).

IMPLEMENTATION

Incorporation of Telecom as a public company

159. Telecom is a business enterprise capable of financing its own future and one which will be subject to increasing competition. It should have a business environment comparable with AUSSAT and other independent licensed networks (paragraph 11.15).
160. The present treatment of Telecom as a statutory authority fails to recognise the distinction between a 'business undertaking' and a 'statutory authority' (paragraph 11.16).
161. The Government channels funds through a statutory authority in order to achieve a specific socially or economically desirable objective. It is an essential feature of a statutory authority that it provide a public service which is not fully commercially marketable and from which the Government sometimes elects not to recover all its costs. It is appropriate to control what is a net expense of public funds by Ministerial direction of contracts, expenditure, prices and number of employees. A business enterprise, on the other hand, should price its services to recover its costs and retain sufficient surplus which, together with loans, enables it to meet the future needs of its market.
162. Since there is not a net cost to the Government, ministerial intervention in Telecom on a day to day basis is not necessary on financial grounds.

163. Telecom should be freed from existing financial, purchasing and employment policy controls of Government (paragraph 11.13).
164. The Committee concludes that Telecom should be incorporated as a public corporation (Telecom Australia Limited) 100 percent owned by the Commonwealth and Government policies be transmitted solely through the Board (paragraphs 11.17 and 11.32).
165. The Board of Directors should appoint the chief executive and his deputy (which is in line with the Government's decision in respect of the ABC). The Board should determine conditions of their employment rather than the Remuneration Tribunal. The chief executive should automatically become a member of the Board following his appointment (paragraph 8.41).
166. It follows from the establishment of Telecom as a public company that existing administrative law statutes should not apply to Telecom (paragraph 11.13).
167. The Committee was advised that Telecom had provided in its accounts sufficient funds to meet its present accumulated superannuation liability. These funds should be sufficient to cover Telecom's liability arising from the transfer of existing staff to an independent fund (paragraph 8.46).

Legislative changes

168. The Wireless Telegraphy Act 1905 gives the Minister authority over radio communications. The Telecommunications Act 1975 gives Telecom control over all telecommunications except radio communications, whilst broadcasting intended for reception by the general public is separately regulated by the Broadcasting and Television Act 1942.
169. The Committee notes that radio communications are being increasingly incorporated in telecommunications systems and proposes that this convergence of radio and telephony should be recognised in the legislation by converging the Wireless Telegraphy Act and the Telecommunications Act (paragraph 12.15). The Committee's consultants, Allen Allen and Hemsley, prepared a draft Bill to give effect to this proposal (Appendix C to the Committee's Report).
170. The draft Bill also provides for Telecom and AUSSAT to be authorised as national common carriers and the Minister to license other telecommunications systems (paragraph 12.16).
171. The draft Bill establishes an authority for technical and safety standards for both telecommunications equipment and transmitters (paragraph 12.28).
172. A procedure for licensing technicians ('teletricians') to install and maintain telecommunications installations and terminal equipment is established. The Licensing Board would also be responsible for the issue of certificates of proficiency for operators of transmitters.

173. A licence will not be required to connect terminal equipment provided it is installed and maintained by licensed 'teletricians' and conforms to the approved standards. Approved plug-in appliances will be able to be connected by the user.
174. Consideration should be given to the issue of 'umbrella' licences in which a remote transceiver does not require a licence separate from the central transmitter licence.
175. When the new Act is introduced the arrangements for radio frequency management should be reviewed (paragraph 12.29).
176. The Telecommunications Bill has been drafted in a manner which would permit all broadcasting transmitters to be licensed under the new Telecommunications Act as proposed for large capacity cable systems and would permit broadcast 'content' or 'services' to be separately regulated under a very much simplified Broadcasting and Television Act 1942 (paragraph 12.25).

Transition

177. During the transition period:
- . public standards for equipment, wiring and interconnection will need to be published (paragraph 13.12);
 - . 'teletricians' will need to be licensed (paragraph 13.11);
 - . the employees and assets employed by Telecom in the supply, maintenance and installation of terminal equipment and wiring in customers' premises will need to be reorganised to permit effective private sector participation (paragraph 13.19);
 - . the authority to license telecommunications systems currently authorised by Telecom will need to be transferred to the Minister.

RECOMMENDATIONS

NETWORKS

Resale of leased Telecom capacity

- . UNRESTRICTED USE AND RESALE OF LEASED TELECOM CAPACITY SHOULD BE PERMITTED.
(R1)
- . OPERATION AND USE OF NETWORKS BASED ON LEASED TELECOM CAPACITY SHOULD NOT BE SUBJECT TO LICENSING OR OTHER FORM OF AUTHORISATION OR REGULATION.
(R2)
- . PRICES FOR LEASED LINES SHOULD BE NON DISCRIMINATORY.
(R3)

Establishment of independent networks

- . INDEPENDENT NETWORKS SHOULD BE PERMITTED SUBJECT TO MINISTERIAL AUTHORISATION.
(R4)
- . THERE SHOULD BE NO RESTRICTIONS ON THE USE OF INDEPENDENT NETWORKS IN RESPECT OF THE CLASSES OF TRAFFIC CARRIED.
(R5)
- . INDEPENDENT NETWORKS ENGAGING IN COMMON CARRIER ACTIVITIES SHOULD BE SUBJECT TO AN ENDORSEMENT TO THAT EFFECT AS A CONDITION OF AUTHORISATION.
(R6)
- . TELECOM SHOULD BE PERMITTED TO COMPETE ON AN EQUITABLE BASIS WITH INDEPENDENT NETWORK OPERATORS ENGAGED IN COMMON CARRIER ACTIVITIES.
(R7)

National communications satellite system

- . AUSSAT SHOULD NOT BE PERMITTED TO OWN LOCAL TERRESTRIAL NETWORKS.
(R8)
- . AUSSAT SHOULD BE PERMITTED TO OPERATE LEASED TERRESTRIAL NETWORKS.
(R9)
- . USERS SHOULD BE PERMITTED TO LEASE SATELLITE CAPACITY FOR INCORPORATION IN LEASED OR INDEPENDENT NETWORKS.
(R10)

- . NO RESTRICTIONS SHOULD BE PLACED ON THE CLASSES OF TRAFFIC CARRIED OVER, OR THE USE OF LEASED OR INDEPENDENT NETWORKS USING SATELLITE CAPACITY.
(R11)
- . LESSEES OF SATELLITE CAPACITY SHOULD BE FREE TO CHOOSE THEIR SOURCE OF SUPPLY, INSTALLATION AND MAINTENANCE OF EARTH STATIONS AND ASSOCIATED TERMINAL EQUIPMENT.
(R12)
- . PRICING POLICIES OF A COMMON CARRIER OPERATOR OF AN INDEPENDENT NETWORK SHOULD BE NON DISCRIMINATORY AND IN ACCORDANCE WITH LISTED PRICES WHICH MAY INVOLVE VOLUME OR PERIOD DISCOUNTS.
(R13)

Network standards

- . TELECOM NETWORKS AND INDEPENDENT NETWORKS SHALL CONFORM TO APPROVED TECHNICAL STANDARDS.
(R14)

Cable networks (including 'CTV')

- . THE ENVIRONMENTAL AND PLANNING STANDARDS AND CONTROL SHOULD APPLY TO A 'CTV' NETWORK LICENSEE TO THE SAME EXTENT AS OTHER 'PUBLIC PURPOSE' ORGANISATIONS.
(R15)
- . TELECOM SHOULD OWN AND BE RESPONSIBLE FOR MAINTENANCE OF ALL CABLE AND EQUIPMENT IN TELECOM DUCTS.
(R16)

Interconnection

- . INTERCONNECTION SHOULD BE PERMITTED BETWEEN LEASED TELECOM NETWORKS AND NATIONAL TERRESTRIAL PUBLIC SWITCHED NETWORKS, SUBJECT TO:
 - (a) COMPLIANCE WITH APPROPRIATE TECHNICAL STANDARDS;
 - (b) PAYMENT OF A TIME-BASED LOCAL CALL FEE AT EACH POINT OF INTERCONNECTION AND ANY OTHER APPROPRIATE FACILITY CHARGES.
(R17)
- . INTERCONNECTION SHOULD BE PERMITTED BETWEEN INDEPENDENT NETWORKS AND THE NATIONAL TERRESTRIAL PUBLIC SWITCHED NETWORK ON THE SAME BASIS AS LEASED NETWORKS, PROVIDED THAT:
 - (a) MINISTERIAL AUTHORISATION HAS BEEN GIVEN FOR INTERCONNECTION;

(b) THE INTERCONNECTION AGREEMENT IS AVAILABLE ON PUBLIC RECORD.
(R18)

- INTERCONNECTION BETWEEN NETWORKS AND THE NATIONAL TERRESTRIAL PUBLIC SWITCHED NETWORKS SHOULD BE AT THE LOCAL EXCHANGE LEVEL.
(R19)

TERMINAL EQUIPMENT

Market structure

- THE PRIVATE SECTOR SHOULD BE PERMITTED TO PARTICIPATE IN ALL ASPECTS OF TERMINAL EQUIPMENT MARKETING.
(R20)
- THE PRIVATE SECTOR SHOULD BE PERMITTED TO PARTICIPATE IN WIRING IN CUSTOMERS' PREMISES.
(R21)

Responsibility for technical standards

- RESPONSIBILITY FOR TECHNICAL STANDARDS FOR TERMINAL EQUIPMENT SHOULD BE TRANSFERRED FROM TELECOM TO AN INDEPENDENT STANDARDS AUTHORITY AND THAT THE STANDARDS ASSOCIATION OF AUSTRALIA (SAA) BE SO DESIGNATED.
(R22)

Licensing of technicians

- A TECHNICIAN LICENSING AUTHORITY SHOULD BE ESTABLISHED TO LICENSE PERSONS ENGAGED IN INSTALLATION AND MAINTENANCE OF TERMINAL EQUIPMENT AND WIRING IN CUSTOMERS' PREMISES.
(R23)

Telecom's network interface

- TELECOM'S NETWORK INTERFACE SHOULD BE AT A JUNCTION BOX AT THE BOUNDARY OF THE CUSTOMER'S PROPERTY OR ON THE OUTSIDE OF THE BUILDING AS APPROPRIATE.
(R24)
- A STANDARD PLUG AND SOCKET SHOULD BE REQUIRED AT THE TERMINAL INSTALLATION POINT WITHIN CUSTOMER PREMISES WHERE APPROPRIATE.
(R25)

- . TELECOM SHOULD WRITE OFF THE CAPITALISED COSTS OF WIRING WITHIN CUSTOMER PREMISES.
(R26)

SERVICES

Separation of 'system' and 'service'

- . NETWORK OR SYSTEM PROVIDERS, INCLUDING TELECOM, SHOULD NOT PROVIDE INFORMATION OR ENTERTAINMENT SERVICES UNLESS:
 - (a) THE SERVICES ARE NETWORK-BASED;
 - (b) THE SERVICES RELATE TO THE CONDUCT OF THEIR BUSINESS.
- (R27)

'Videographic' services (including 'videotex')

- . TELECOM SHOULD BE PERMITTED TO OFFER PUBLIC LEASED NETWORK CAPACITY AND 'GATEWAY' FACILITIES TO INFORMATION AND 'VIDEOGRAPHIC' SERVICE PROVIDERS ON A NON EXCLUSIVE AND COMMERCIAL BASIS.
(R28)
- . ANY SUBSIDY TO SUPPORT A NATIONAL 'VIDEOTEX' SERVICE SHOULD BE PROVIDED DIRECTLY BY GOVERNMENT.
(R29)

Recorded information services

- . RECORDED INFORMATION SERVICES NOW PROVIDED BY TELECOM SHOULD BE REVIEWED IN LINE WITH THE COMMITTEE'S RECOMMENDATIONS ON SEPARATION OF NETWORK OWNERSHIP AND SERVICES PROVISION.
(R30)
- . TELECOM SHOULD NOT BE RESTRICTED IN DEVELOPING NETWORK CAPABILITY FOR NETWORK-BASED INFORMATION SERVICES.
(R31)

Public access telephones

- . CURRENT TELECOM PRACTICE OF SUPPLYING PUBLIC ACCESS TELEPHONES SHOULD CONTINUE.
(R32)
- . LOCAL COUNCILS, AUSTRALIA POST OR COMMUNITY ORGANISATIONS SHOULD BE FREE TO PROVIDE PUBLIC TELEPHONE SERVICES.
(R33)

'Redphones'

- . LEASED COIN OPERATED TELEPHONES ('REDPHONES' AND OTHERS) SHOULD BE REGARDED AS PART OF THE OPEN TERMINAL EQUIPMENT MARKET.
(R34)
- . 'REDPHONES' SHOULD BE OFFERED ON EITHER A SALE OR LEASE BASIS.
(R35)
- . TELECOMMUNICATIONS SERVICES OFFERED TO THE PUBLIC THROUGH SUCH FACILITIES SHOULD BE SO OFFERED WITHOUT RESALE PRICE MAINTENANCE.
(R36)

Public telegram service

- . SUBJECT TO STATUTORY AMENDMENTS, AUSTRALIA POST SHOULD ASSUME THE ROLE OF PRINCIPAL RATHER THAN AGENT IN THE MANAGEMENT OF THE PUBLIC TELEGRAM SERVICE WITH THE TELEGRAPH NETWORKS (TRESS) PROVIDED BY TELECOM ON A LEASED CAPACITY BASIS.
(R37)

EFFECTS ON THE AUSTRALIAN MANUFACTURING INDUSTRY

Telecom's purchasing

- . THE GOVERNMENT'S PREFERENCE AND OFFSETS POLICIES SHOULD APPLY TO TELECOM ONLY TO THE SAME EXTENT AS THEY APPLY TO THE PRIVATE SECTOR.
(R38)
- . MINISTERIAL APPROVAL SHOULD NOT BE REQUIRED FOR ANY TELECOM CONTRACTS.
(R39)
- . TELECOM SHOULD NOT BE REQUIRED TO USE THE SERVICES OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES.
(R40)

Support for Australian manufacture

- . TELECOM SHOULD SUPPORT THE LOCAL MANUFACTURING INDUSTRY ONLY WHEN IT IS IN TELECOM'S COMMERCIAL INTEREST OR WHEN A GENERAL GOVERNMENT POLICY FOR INDUSTRY APPLIES.
(R41)

- . SHOULD GOVERNMENT WISH TO PROVIDE SUPPORT TO THE LOCAL MANUFACTURING INDUSTRY CONSIDERATION SHOULD BE GIVEN TO REMISSION OF DUTY ON IMPORTS BY THOSE MANUFACTURING COMPANIES WHOSE SALARIES AND WAGES EXCEED 30 PERCENT OF TOTAL SALES; ALTERNATIVELY, DUTY REMISSION COULD BE GIVEN TO THOSE COMPANIES WHOSE LOCAL CONTENT EXCEEDS TWO-THIRDS OF TOTAL SALES.

(R42)

Research and development

- . TELECOM'S RESEARCH, DEVELOPMENT AND INNOVATION PROGRAMS SHOULD CONCENTRATE ON APPLIED NOT PURE RESEARCH AND RELATE TO NETWORK DEVELOPMENT AND SPECIAL TRANSMISSION SYSTEMS AND APPLICATIONS. IT SHOULD CONTRACT OUT PURE RESEARCH.

(R43)

Telecom's workshops

- . THE POSSIBILITY OF JOINT VENTURES WITH THE PRIVATE SECTOR SHOULD BE EXPLORED.

(R44)

- . WORKSHOP ACTIVITY SHOULD CONTINUE SO LONG AS IT IS COST EFFECTIVE.

(R45)

TELECOM'S OPERATION POLICIES AND ORGANISATIONAL EFFECTIVENESS

PRICING

Cost related pricing

- . TELECOM'S PRICING POLICY SHOULD:
 - (a) REFLECT COSTS TO A SUBSTANTIAL DEGREE;
 - (b) MINIMISE PRICE DISCRIMINATION;
 - (c) ADOPT TIMED LOCAL CALLS.

(R46)

Subsidisation of services

- CROSS SUBSIDISATION SHOULD BE REDUCED TO LEVELS WHICH TELECOM CAN ABSORB YET REMAIN COMPETITIVE.
(R47)
- DIRECT SUBSIDY FUNDED FROM SOURCES EXTERNAL TO TELECOM SHOULD BE INTRODUCED FOR ANY CLASS OF SUBSCRIBER WHICH GOVERNMENT WISHES TO ASSIST.
(R48)

Fixing telecommunications prices

- THE MINISTER SHOULD NOT BE RESPONSIBLE FOR AUTHORISING STANDARD TELEPHONE RENTALS OR CALL CHARGES.
(R49)

ORGANISATION MANAGEMENT AND MARKETING

Organisation

- TELECOM SHOULD DEVELOP GREATER BUSINESS ORIENTATION.
(R50)
- TELECOM SHOULD DEVELOP MANAGEMENT INFORMATION SYSTEMS TO SUPPORT THE MANAGEMENT STRUCTURE.
(R51)
- A NATIONAL MARKETING ORGANISATION SHOULD BE ESTABLISHED WITH BOTH PRODUCT AND MARKET SPECIALISATION.
(R52)
- ROLES, RESPONSIBILITIES, AUTHORITIES AND ACCOUNTABILITIES OF HEADQUARTERS MANAGEMENT GROUPS COMPRISING COMMERCIAL SERVICES, ENGINEERING AND OPERATIONS SHOULD BE REVIEWED.
(R53)

Management development

- TELECOM SHOULD DEVELOP ITS SENIOR EXECUTIVE TEAM WITH GREATER EMPHASIS ON MARKETING AND BUSINESS MANAGEMENT SKILLS AND FOR THAT PURPOSE ADOPT AN EXECUTIVE RECRUITMENT POLICY OF 10--20 PERCENT EXTERNAL APPOINTMENTS.
(R54)

Marketing

- . TELECOM'S MARKETING STRATEGIES SHOULD BE DIRECTED TOWARDS INCREASED USE OF THE NETWORK.
(R55)

Customer relations

- . TELECOM SHOULD ACCELERATE THE INTRODUCTION OF CCR (CALL CHARGE RECORDING).
(R56)
- . TELEPHONE INFORMATION MANAGEMENT SYSTEMS (TIMS) SHOULD BE ACTIVELY PROMOTED.
(R57)
- . TELECOM SHOULD NOT BE SUBJECT TO COMMONWEALTH ADMINISTRATIVE LAW STATUTES, INCLUDING:
 - OMBUDSMAN ACT 1976;
 - ADMINISTRATIVE APPEALS TRIBUNAL ACT 1975;
 - ADMINISTRATIVE DECISIONS (JUDICIAL REVIEW) ACT 1977;
 - FREEDOM OF INFORMATION ACT 1982.
(R58)
- . TELECOM SHOULD NO LONGER HAVE IMMUNITY FROM SUIT AS NOW PROVIDED BY S.101 OF THE TELECOMMUNICATIONS ACT 1975.
(R59)
- . TELECOM'S USER GROUP CONSULTATIVE MACHINERY SHOULD BE FURTHER DEVELOPED.
(R60)
- . TELECOM SHOULD CONTINUE ITS CONSULTANCY SERVICES ONLY IN SUPPORT OF SALES; IN THE AREA OF PROJECT AND SYSTEM DESIGN CONSULTANCY IT SHOULD ENCOURAGE AND FACILITATE THE GROWTH OF PRIVATE SECTOR CAPABILITIES.
(R61)
- . TELECOM SHOULD IMPROVE THE AVAILABILITY OF INFORMATION ON TARIFFS, SERVICE CHARGES AND SYSTEM DEVELOPMENTS.
(R62)

STAFFING AND INDUSTRIAL RELATIONS

Personnel policies

- . PERSONNEL POLICIES AND PROCEDURES IN RELATION TO TELECOM'S STAFF RECRUITMENT, TRAINING, PROMOTION, APPEALS, TRANSFERS, DISCIPLINE AND DISMISSAL SHOULD BE DETERMINED BY THE BOARD OF TELECOM; EXISTING STATUTORY REGULATIONS OF THESE MATTERS UNDER THE TELECOMMUNICATIONS ACT 1975 SHOULD BE REPEALED.
(R63)

Chief executive

- . THE BOARD OF TELECOM SHOULD APPOINT ITS CHIEF EXECUTIVE AND TOP AIDE AND FIX THEIR TERMS AND CONDITIONS OF EMPLOYMENT; TO GIVE EFFECT TO THIS RECOMMENDATION:
 - (a) THE RELEVANT STATUTORY APPOINTMENT PROVISIONS OF THE TELECOMMUNICATIONS ACT 1975 SHOULD BE REPEALED;
 - (b) TELECOM'S TOP EXECUTIVE APPOINTMENT SHOULD NOT BE SUBJECT TO THE PROVISIONS OF THE REMUNERATION TRIBUNAL ACT 1973.
(R64)

Co-ordination with other areas of Commonwealth employment

- . TELECOM SHOULD NOT BE SUBJECT TO INDUSTRIAL CO-ORDINATION PROCEDURES IMPOSED BY GOVERNMENT THROUGH ITS INDUSTRIAL CO-ORDINATION COMMITTEE.
(R65)
- . GOVERNMENT POLICIES IN RELATION TO EMPLOYMENT AND INDUSTRIAL RELATIONS SHOULD BE COMMUNICATED BY THE MINISTER DIRECT TO TELECOM'S BOARD OF DIRECTORS.
(R66)
- . TELECOM SHOULD NOT BE SUBJECT TO GOVERNMENT DIRECTION ON STAFFING LEVELS.
(R67)
- . TELECOM SHOULD NOT BE SUBJECT TO GENERAL STATUTES REGULATING COMMONWEALTH EMPLOYMENT, AND IN PARTICULAR:
 - COMMONWEALTH EMPLOYEES (EMPLOYMENT PROVISIONS) ACT 1977;
 - PUBLIC SERVICE AMENDMENT ACT 1978;
 - COMMONWEALTH EMPLOYEES (REDEPLOYMENT AND RETIREMENT) ACT 1979.
(R68)

Staff benefit and superannuation schemes

- . TELECOM SHOULD NOT BE SUBJECT TO GENERAL COMMONWEALTH STATUTES PROVIDING FOR EMPLOYEE BENEFITS AND ENTITLEMENTS, AND IN PARTICULAR:
 - SUPERANNUATION ACT 1922 AND SUPERANNUATION ACT 1976;
 - LONG SERVICE LEAVE (COMMONWEALTH EMPLOYEES) ACT 1976;
 - COMPENSATION (COMMONWEALTH GOVERNMENT EMPLOYEES) ACT 1971;
 - MATERNITY LEAVE (COMMONWEALTH EMPLOYEES) ACT 1973.
(R69)
- . TELECOM SHOULD ESTABLISH ITS OWN SUPERANNUATION SCHEME UNDER A SEPARATE TRUST DEED AND BE FREE TO ADJUST ITS RETIREMENT BENEFITS SCHEME TO MATCH THOSE GENERALLY APPLICABLE IN INDUSTRY.
(R70)
- . THE GOVERNMENT, NOT TELECOM, SHOULD MEET THE COST OF ANY BENEFITS GUARANTEED BY THE GOVERNMENT WHICH ARE NOT COVERED IN TELECOM'S RETIREMENT BENEFITS SCHEME.
(R71)

Consultative Council

- . STATUTORY PROVISIONS RELATING TO THE TELECOMMUNICATIONS CONSULTATIVE COUNCIL SHOULD BE REPEALED.
(R72)

FINANCE

Financial objectives

- . THE STATUTE SHOULD IMPOSE ON TELECOM A FINANCIAL OBJECTIVE THAT TELECOM SHOULD GENERATE SUFFICIENT PROFIT AFTER INTEREST, DIVIDEND AND TAX WHICH TOGETHER WITH LOANS WILL FINANCE THE ASSETS REQUIRED TO MEET THE DEMAND FOR ITS SERVICES.
(R73)
- . THE MINIMUM INTEREST COVER (THE RATIO OF OPERATING PROFIT BEFORE INTEREST AND TAX TO INTEREST LIABILITY) SHOULD NOT BE LESS THAN TWO.
(R74)

Financial controls

- . TELECOM'S BORROWINGS SHOULD NOT BE SUBJECT TO LOAN COUNCIL APPROVALS.
(R75)
- . TELECOM'S LOAN RAISINGS SHOULD NOT BE GUARANTEED BY GOVERNMENT.
(R76)
- .
- . TELECOM SHOULD HAVE THE SAME FREEDOM AS PRIVATE ENTERPRISE TO BORROW OVERSEAS AND TO ENGAGE IN A RANGE OF COMMERCIAL FINANCING METHODS (INCLUDING LEASE-BACK AGREEMENTS) APPROPRIATE TO ITS REQUIREMENTS.
(R77)
- . TELLCOM SHOULD PREPARE ANNUALLY A THREE YEAR FINANCIAL PLAN.
(R78)

Taxation

- . TELECOM SHOULD PAY ALL TAXES, RATES AND CHARGES UNDER ANY LAW OF THE COMMONWEALTH, A STATE OR A TERRITORY AND SHOULD NOT BE CLASSED AS A PUBLIC AUTHORITY FOR THE PURPOSES OF THE INCOME TAX ASSESSMENT ACT 1936.
(R79)

Depreciation practices

- . TELECOM'S DEPRECIATION PROVISION SHOULD REFLECT THE CURRENT COST AND LIFE OF CAPITAL ASSETS.
(R80)

Investment analysis

- . CAPITAL PROJECTS SHOULD BE SUBJECT TO INVESTMENT APPRAISAL RELATED TO THE COST OF FINANCING.
(R81)

Product costing

- . TELECOM'S PRODUCT COSTING SYSTEMS SHOULD BE REVIEWED TAKING INTO ACCOUNT THE ALTERNATIVE PRIMARY PRODUCT COSTING SYSTEM SUGGESTED BY THE COMMITTEE'S CONSULTANTS.
(R82)

Management accounting systems

- . TELECOM SHOULD DEVELOP DELEGATED PROFIT RESPONSIBILITY AND ACCOUNTABILITY CENTRES.
(R83)

CAPITAL WORKS AND NETWORK MAINTENANCE

Network development

- . TELECOM'S CURRENTLY PLANNED PROGRAM FOR INTRODUCTION OF AXE DIGITAL EXCHANGES SHOULD BE ACCELERATED.
(R84)

Use of contractors

- . TELECOM SHOULD REVIEW ITS PRESENT POLICIES ON USE OF ITS OWN WORKFORCE FOR CAPITAL WORKS AND ADOPT A TARGET OF 50 PERCENT USE OF CONTRACTORS.
(R85)

Rural services

- . TELECOM'S RURAL CONVERSION PROGRAM SHOULD BE ACCELERATED.
(R86)

Use of other public sector resources

- . TELECOM SHOULD NOT BE SUBJECT TO THE LANDS ACQUISITION ACT 1955 AND IN CONSEQUENCE:
 - (a) SHOULD HANDLE ITS OWN PROPERTY MATTERS INDEPENDENTLY OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES;
 - (b) SHOULD NOT USE COMMONWEALTH POWERS OF COMPULSORY ACQUISITION.
(R87)
- . TELECOM SHOULD USE PRIVATE SECTOR PROPERTY MANAGEMENT RESOURCES.
(R88)
- . TELECOM SHOULD BE SUBJECT TO LOCAL GOVERNMENT PROPERTY AND PLANNING CONTROLS.
(R89)
- . TELECOM SHOULD MANAGE ITS OWN BUILDING WORKS AND SERVICES.
(90)

IMPLEMENTATION

TELECOM AUSTRALIA LIMITED

Incorporation

- . THE AUSTRALIAN TELECOMMUNICATIONS COMMISSION SHOULD BE ABOLISHED AND REPLACED BY AN INCORPORATED COMPANY -- 'TELECOM AUSTRALIA LIMITED' -- OWNED 100 PERCENT BY THE COMMONWEALTH GOVERNMENT.
(R91)

Company memorandum and articles of association

- . THE MEMORANDUM AND ARTICLES OF ASSOCIATION OF TELECOM AUSTRALIA LIMITED SHOULD BE DEVELOPED ALONG THE LINES OF THE DRAFT DOCUMENTATION INCLUDED IN APPENDIX B TO VOLUME 1 OF THIS REPORT. THE COMPANY:
 - (a) SHOULD HAVE ALL NECESSARY POWERS TO PROVIDE TELECOMMUNICATIONS SYSTEMS IN AUSTRALIA IN ACCORDANCE WITH RELEVANT STATUTORY AUTHORISATIONS;
 - (b) MAY ENTER JOINT VENTURES OR PARTNERSHIPS AS WELL AS FORM OR PARTICIPATE IN THE FORMATION OF SUBSIDIARY COMPANIES WHICH HAVE AS AN OBJECT THE OPERATION OF TELECOMMUNICATIONS SYSTEMS;
 - (c) SHOULD PLACE WITH ITS BOARD OF DIRECTORS FULL RESPONSIBILITY FOR MANAGEMENT OF THE BUSINESS OF THE COMPANY.
(R92)

Transfer of Telecom's staff, assets and liabilities

- . ALL TELECOM STAFF SHOULD BE TRANSFERRED WITHOUT LOSS OF EXISTING RIGHTS, BENEFITS AND ENTITLEMENTS.
(R93)
- . AN APPROPRIATE INITIAL EQUITY STRUCTURE OF THE COMPANY SHOULD BE ESTABLISHED BY THE CONVERSION TO SHAREHOLDER FUNDS OF PART OF THE EXISTING TELECOM DEBT TO THE COMMONWEALTH: A ONE-TO-ONE RELATIONSHIP SHOULD BE ESTABLISHED BETWEEN THE COMPANY'S DEBT CAPITAL AND SHAREHOLDERS' FUNDS.
(R94)

Relationship with the Commonwealth

- . THE COMMONWEALTH'S RELATIONSHIP WITH THE COMPANY SHOULD BE ONE OF SHAREHOLDER TO COMPANY.
(R95)

- . STATUTORY POWERS OF MINISTERIAL DIRECTION SHOULD NOT EXTEND TO THE COMPANY'S TELECOMMUNICATIONS PRICES, COMPANY MANAGEMENT OR STAFFING, PURCHASING POLICIES OR CONTRACTS FOR GOODS AND SERVICES.
(R96)
- . TELECOM'S STAFF AND ASSETS ASSOCIATED WITH THE MARKETING OF TERMINAL EQUIPMENT SHOULD BE TRANSFERRED TO A SEPARATE ORGANISATION ('TELEQUIP'); WIRING IN CUSTOMERS' PREMISES SHOULD BE REORGANISED IN SUCH A WAY AS TO PERMIT EFFECTIVE PRIVATE SECTOR PARTICIPATION IN THAT FIELD.
(R97)

NEW TELECOMMUNICATIONS ACT

Legislative proposals

- . THE TELECOMMUNICATIONS ACT 1975 AND WIRELESS TELEGRAPHY ACT 1905 BE REPLACED BY A NEW TELECOMMUNICATIONS ACT ALONG THE LINES OF MODEL LEGISLATION INCLUDED IN APPENDIX C OF THE COMMITTEE'S REPORT.
(R98)

Advisory council

- . A NATIONAL TELECOMMUNICATIONS ADVISORY COUNCIL BE ESTABLISHED.
(R99)

TRANSITIONAL ARRANGEMENTS

Legislative timetable

- . ENACTMENT OF THE NEW TELECOMMUNICATIONS LEGISLATION SHOULD HAVE FIRST PRIORITY.
(R100)

Role of Advisory Council

- . THE PROPOSED NATIONAL TELECOMMUNICATIONS ADVISORY COUNCIL SHOULD ASSIST GOVERNMENT BY SUPERVISING IMPLEMENTATION.
(R101)

Telecom's existing standards

- . TELECOM'S EXISTING STANDARDS FOR TELECOMMUNICATIONS EQUIPMENT SHOULD BE ADOPTED BY THE STANDARDS AUTHORITY AS 'INTERIM' STANDARDS TO BE PUBLISHED WITHIN ONE YEAR.
(R102)

Timing of liberalisation

- . LIBERALISATION OF THE TERMINAL EQUIPMENT MARKET NOT OCCUR UNTIL:
 - (a) 'INTERIM' STANDARDS ARE PUBLISHED BY THE STANDARDS AUTHORITY;
 - (b) THE TECHNICIAN LICENSING BOARD HAS COMMENCED OPERATIONS;
 - (c) TELECOM STAFF, ASSETS AND LIABILITIES HAVE BEEN TRANSFERRED TO TELECOM AUSTRALIA LIMITED OR THE PROPOSED INDEPENDENT TELECOMMUNICATIONS EQUIPMENT COMPANY;
 - (d) TELECOM WRITES OFF INTERNAL HOUSEHOLD WIRING AND OFFERS SUBSCRIBERS THE OPTION OF PURCHASE OR RENTAL OF EXISTING TELEPHONE HANDSETS;
 - (e) STANDARDS ARE AVAILABLE FOR STANDARD TERMINATING PLUG AND SOCKET CONFIGURATIONS AT TERMINAL INSTALLATION POINT AND FOR A STANDARD TERMINATING JUNCTION BOX FOR A NETWORK INTERFACE EXTERNAL TO SUBSCRIBER PREMISES.
(R103)

CHAPTER 1

BACKGROUND

THE TELECOM MONOPOLY

Present arrangements

- 1.1 By its charter, as derived from the Telecommunications Act 1975, the Australian Telecommunications Commission (Telecom) is responsible for the provision, maintenance and operation of telecommunications services within Australia ". . . as will best meet the social, industrial and commercial needs of the Australian people . . .". It is required to make its services available throughout Australia as far as is reasonably practicable.
- 1.2 Other persons may not construct, maintain or operate telecommunications installations within Australia unless authorised by Telecom or are otherwise permitted to do so by the Telecommunications Act 1975 or by other related Commonwealth statutes: the Wireless Telegraphy Act 1905 or the Broadcasting and Television Act 1942. No person may attach a line or piece of equipment to the public switched telecommunications networks unless authorised by Telecom.
- 1.3 These statutory arrangements effectively assign to Telecom monopoly status in the provision of most public telecommunications services. Private sector participation is limited and is permitted by Telecom and Government only upon terms and conditions consistent with Telecom's own commercial interests.

Views on present arrangements

- 1.4 Submissions to the Committee reflected a wide range of views on the extent of private sector participation. Some argued for significant relaxation of Telecom's public monopoly. They typically were the views of those committed to concepts of free enterprise and open competition, and sometimes business interests seeking business opportunities.
- 1.5 Others sought to preserve the public monopoly. That view typically came from those who saw value in a public utility capable, by reason of its monopoly over pricing and services, of delivering a universal telecommunications service at a uniform 'cross subsidised' price.
- 1.6 Others favoured a middle ground involving limited relaxation of the present arrangements without major change in the directions of Telecom's current policies.
- 1.7 Telecom advocated relaxation of its monopoly under regulated conditions which would permit management of the speed of change.

THE PUBLIC INTEREST

Perspective

- 1.8 The Committee has a fundamental responsibility to ensure that its recommendations support the public and national interest.
- 1.9 Telecommunications has a direct impact on the public interest because it affects users, employees, manufacturers, Government and the Australian people generally. A concern with the public interest is reflected in submissions to the Committee which saw the national objectives in telecommunications to be:
- . universal availability of service at reasonable cost;
 - . secure and remunerative employment within the telecommunications service industry;
 - . the creation of a sound Australian manufacturing base through local sourcing of telecommunications equipment wherever possible.
- 1.10 The Committee notes that these objectives have largely been achieved in Australia. In examining possible changes in the present balance of public and private sector participation, it is concerned to ensure that Australia's current achievements in telecommunications services are not jeopardised.
- 1.11 A critical question for the Committee is whether these public interest considerations remain as a sufficient statement of national objectives having regard to the fundamental changes now occurring in telecommunications technology, market demand and in the general economic and social environment.

National objectives

- 1.12 Telecommunications services are as much a part of the national infrastructure as roads, ports and railways. Quality and security of telecommunications have a widespread influence on industry, commerce, health, education and community. A nation's economic development is linked to the rate of development of its telecommunications services. The link becomes more direct as information assumes increasing importance for all sectors of the national economy. Innovation in telecommunications services contributes directly to national growth.
- 1.13 The Committee notes the continuing advances in telecommunications technology which have led to a transition from electromechanical to electronic switching systems. Rapid decline in equipment and

system size as well as unit costs is occurring. Microwave, satellite and optical fibre technologies have increased the variety and capability of transmission and switching systems with an accompanying steady decrease in costs. Transmission of voice, data and video signals are combining within a single digital technology. In terminal equipment, economic and technological factors are interacting to create a rapidly growing demand for equipment of increasing diversity and sophistication.

- 1.14 The new technologies enable service innovation which can have social and economic benefits for a nation.
- 1.15 The question for this Committee is how best can Australia realise the potential benefits of innovation.
- 1.16 Technological developments are both posing threats and presenting opportunities world wide. Technology and innovation inevitably accelerate the process of obsolescence. A national telecommunications infrastructure inhibited by obsolescence impairs national growth and hinders international competitiveness. Substantial inputs of capital and manpower continue to be required. Australia will otherwise fail to update its communications infrastructure to the detriment of our national interest.
- 1.17 The Committee identifies the following broad national objectives for telecommunications:
- to give all Australians the opportunity to access telecommunications services at a fair cost;
 - to maintain a level, range and quality of telecommunications services which permit Australian industry and commerce to remain internationally competitive;
 - to achieve growth in telecommunications services at least comparable with that of other developed countries as a means of providing employment in the telecommunications industries and in the many industries which employ those services;
 - to ensure that the benefits of technological innovation in telecommunications and related information services are made available as widely as possible throughout the Australian community;
 - to promote a sustainable industry base for local manufacture, assembly, product development and software adaptation and development;
 - to ensure maximum reliability of telecommunications services.

- 1.18 These objectives are generally consistent with views expressed to the Committee. There was far less agreement in submissions on the path by which these objectives might be achieved. There was a marked polarity of views on the desirability of a continued public monopoly and the benefits of open competition in telecommunications supply.
- 1.19 Australia is not alone in reviewing the relevance of monopoly and regulation in the delivery of a nation's telecommunications. Volume 2, Section 8 of the Committee's Report reviews current developments in the United States, Canada, United Kingdom, West Germany, Sweden, France and Japan.
- 1.20 Each country is questioning the ways and means by which technological innovation in telecommunications can best be harnessed for national purposes. Decisions on appropriate institutional arrangements within the new telecommunications era are very much conditioned by geographical and social circumstances. Similarly, international economic aspirations influence views on the respective roles of public and private sectors, as do prevailing national and political ideologies.
- 1.21 The Committee concludes that Australia should find its own particular answer for its telecommunications services.
- 1.22 The strategic issue is whether the national interest is better served by a more competitive environment in the telecommunications industry.

COMPETITION AND THE NATIONAL INTEREST

Options

- 1.23 Increased private sector involvement is possible in a number of areas of telecommunications, in particular:
- . use and resale of leased Telecom line capacity;
 - . establishment and use of independent networks;
 - . sale, installation and maintenance of wiring in customers' premises and terminal equipment.
- 1.24 The increased participation could assume a variety of forms:
- . limited or full competition with Telecom;
 - . the servicing of different market segments by Telecom and the private sector;
 - . the establishment of various forms of partnership or joint ventures between Telecom and the private sector;
 - . the exclusion of Telecom from particular markets which the private sector might satisfactorily service.

Private sector resources might also be used more extensively by Telecom for its capital works and maintenance programs.

- 1.25 The Committee examines the options in detail in subsequent chapters of this Report, having regard in each case to the effects on resources, the public interest and achievement of national objectives.

Pressures for change

- 1.26 Overall, the Committee is convinced that technological and environmental change is exerting such strong pressures on the provision of telecommunications services that attempts simply to retain the status quo or to retract to a total public monopoly would be self defeating and contrary to the public interest, both in its immediate concern with consumer service and in its broader and longer term nexus with national objectives.
- 1.27 The Government's recent decision to establish a national communications satellite system under the management of AUSSAT makes some increased competition inevitable.
- 1.28 Telecom's role as national terrestrial network provider is its primary trust. Its performance ultimately should be measured by its ability to provide a thoroughly modern and reliable national infrastructure.
- 1.29 The Committee finds merit in the concentration of Telecom's resources on the national terrestrial network but notes that this is impracticable in the short term. Competitive alternatives in supply, installation and maintenance of telecommunications equipment must first be allowed to develop. The Australian market is widely dispersed. For low density areas in particular, the continued involvement of the public sector in the provision of most customer services is in the interests of consumers in the short term.
- 1.30 In the Committee's review of institutional alternatives developed in subsequent chapters much weight has been given to ways and means by which Telecom might give greater priority to its responsibilities for network development.

'Natural monopoly'

- 1.31 Public monopoly provision of national telecommunications has frequently been defended on the grounds of 'natural monopoly'. Littlechild defines a 'natural monopoly' as:

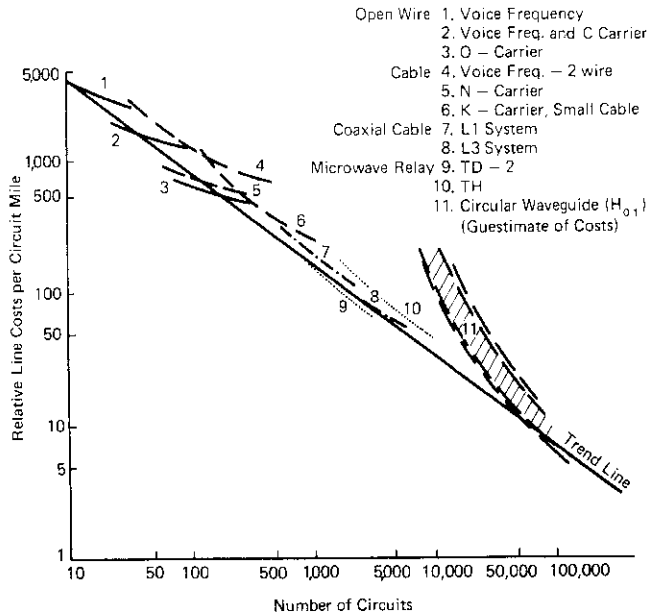
"... an industry in which economies of scale are so great, compared to the size of the market, that it is inefficient to have more than one firm producing the industry's output, and, in fact, only one firm would be able to survive in such an industry."¹

1. Littlechild, S.C. -- 'Elements of Telecommunications Economics', London 1979

Some submissions to the Committee asserted that the cost function for telecommunications systems meets this condition for a 'natural monopoly' and that the entry of other competitors would only increase the costs of producing total industry outputs. A related argument is sometimes raised based on 'economy of scope' wherein a single supplier of multi products exhibits a cost function justifying exclusion of other product suppliers.

- 1.32 The Committee finds little consensus among economists on the existence or otherwise of 'natural monopoly' in telecommunications systems. The results of particular economic analyses in this field internationally appear to be heavily influenced by underlying assumptions, for example, whether or not the potential competitor is assumed to adopt similar quality and range of service objectives and applies similar technologies. These are clearly important considerations in a rapidly changing and diversifying telecommunications environment.
- 1.33 The several facets of transmission, local networks and customer equipment need separate consideration from the viewpoint of 'natural monopoly'.
- 1.34 The Committee concludes from its examination of recent studies in telecommunications economics that:
- while there is some support for the view that economies of scale are present in trunk transmissions and in local networks these scale economies do not appear to be of such significance as to justify an exclusion of competition and the potential benefits which competition might bring -- indeed the scale economies are indistinguishable from those found in various heavy engineering and capital intensive industries which follow the 'six tenths' rule and where competition is normal (see Figure 1.1 and accompanying commentary);
 - there is no support for the view that significant economies of scale or scope are present in supply, installation and maintenance of terminal equipment;
 - technological advances in telecommunications are both reducing cost of entry and permitting service responses increasingly tailored to the varied needs of different customers -- hence displacing the relevance of 'natural monopoly' and arguments of scale and scope economies in favour of the separable issues of customer choice, innovation and diversity in the sources of supply.
- 1.35 The Committee considers that the changing economic and customer service environment of telecommunications is one in which any general assumption of 'natural monopoly' conditions must be challenged.

Figure 1.1: Trend line of costs of a communications line installation.



Committee comment:

The 'six-tenths rule' is commonly used in cost estimations for process plants, motors tanks and other equipment. The 'six-tenths rule' states that if the cost of a given piece of equipment is known at one capacity, the cost of a similar unit x times as large may be approximated as $x^{0.6}$ times the price of the initial piece of equipment.

$$E_b = E_a \left(\frac{C_b}{C_a} \right)^{0.6}$$

where c_a = capacity of equipment a

c_b = capacity of equipment b

E_a = purchased cost of equipment a

E_b = purchased cost of equipment b

(R.S. Aries & R.D. Newton, Chemical Engineering Cost Estimation, London (1955))

Economies of scale in telecommunications installations conform to the 'six-tenths rule': e.g.

for:

Number of circuits	=	100	10 000
Relative line costs	=	700	40

apply the 'six-tenths rule':

$$\frac{(10\ 000)^{0.6}}{(100)} = 16$$

$$40 \times 16 = 640$$

which approximates the actual costs illustrated in Diagram 1.1 of 700.

- 1.36 The Committee concludes that if existing telecommunications systems are capable of providing new and diverse services more efficiently than any competitive alternative, then their excellence will in no way suffer from exposure to that competition. On the other hand, if competitive delivery of services in any facet of telecommunications proves commercially viable then the beneficiaries must ultimately be the Australian public who then receive:
- competitively priced services;
 - faster and more innovative service;
 - diversity in product choice;
 - greater assurance of service continuity and reliability.
- 1.37 The Committee is satisfied that the economies of scale and scope in telecommunications are not abnormally large and do not support a 'natural monopoly'. It concludes that a monopoly in any facet of telecommunications should be protected by statute only if specifically argued and confirmed as securing significant public benefits not achievable through competition.

Social equity and public access

- 1.38 A number of submissions to the Committee draws a further line of argument in favour of a protected monopoly on the basis of social equity and public access. That argument develops the view that competition in telecommunications services, even if creating a climate for prompt and cost effective services for areas or products where favourable markets exist, cannot or will not do so where profits are lacking. Consequently, access to quality telecommunications at reasonable prices is effectively denied to areas exhibiting high unit costs of supply.
- 1.39 On the other hand, a public utility not subject to competitive market pressures is able and usually obliged to provide universal services at prices uniform throughout the nation.
- 1.40 This argument has been put forward in submissions in relation to the provision of telecommunications services in non metropolitan areas throughout Australia which exhibit low population densities and high connection and operating costs per subscriber. Telecom now achieves goals of universal and affordable service through 'cross subsidisation' of its overall service costs. Telecom's practices in that regard are extensively reviewed in Chapter 6 of the Committee's Report.
- 1.41 The Committee concludes from its review of Telecom's pricing policies that existing price distortions should be reduced, whether or not greater elements of competition are to be introduced. Social equity is not achieved through cost cross subsidisation. Specific recommendations are made for alternative cost related pricing and for mechanisms of direct subsidy where issues of social equity need to be considered by Government.

- 1.42 Committee recommendations on greater private sector participation in the several telecommunications markets presume implementation of cost related pricing policies.

TELECOMMUNICATIONS SERVICES AND COMPETITION -- REGULATORY ASPECTS

Systems and services

- 1.43 The term 'telecommunications services' has a variety of meanings:

- The Australian legal meaning

The Constitution provides in section 51(v) that the Commonwealth Parliament may make laws for the peace, order and good government of the Commonwealth with respect to "postal, telegraphic, telephonic and other like services".

The concept of 'services' under this constitutional head of power has been interpreted by the High Court to embrace the means, as well as the organisation, of communication: R v. Brislan; ex parte Williams (1935) 54 CLR 262 and Jones v. the Commonwealth (No.2) (1964--5) 112 CLR 206. For the lawyer, 'services' includes both the relevant equipment or facilities as well as the application of that equipment -- the possible regulation of those 'services' therefore extending not only to the equipment but also to the manner in which it is used and to the purposes for which it may be used.

- The industry meaning

'Services' is a term frequently used as a catch all phrase covering supply, installation, operation and maintenance of a wide range of telecommunications installations and systems, transmission facilities and terminal equipment, together with the provision of particular 'customer services' (telex, data, voice telephony, image communications etc) made possible through the use of those installations and equipment.

- 1.44 The Committee notes this confusion of meaning and has found it necessary to develop its own analytical framework:

- the telecommunications network or system which provides traffic carrying capacity;
- information and communications services which are carried by the telecommunications network or system by actuation of various types of terminal equipment.

The Committee therefore distinguishes between 'carriage' and 'content'.

- 1.45 Telecommunications networks are the communications highways used for a variety of communications purposes (voice, telex, data, image etc). Classes of user services may be differentiated by the type of terminal equipment used to send or receive electromagnetic signals through the telecommunications networks.
- 1.46 Within Australia's existing national public switched telecommunications systems there is also differentiation by type of network (telephony, telex, telegraph, data). With progressive transition from electro-mechanical to digital transmission systems, however, differentiation by type of traffic will occur only at the terminal. The future 'information network' will denote one capable of delivering a multiplicity of services through the use of multi purpose subscriber terminals.

The distinction between 'carriage' and 'content'

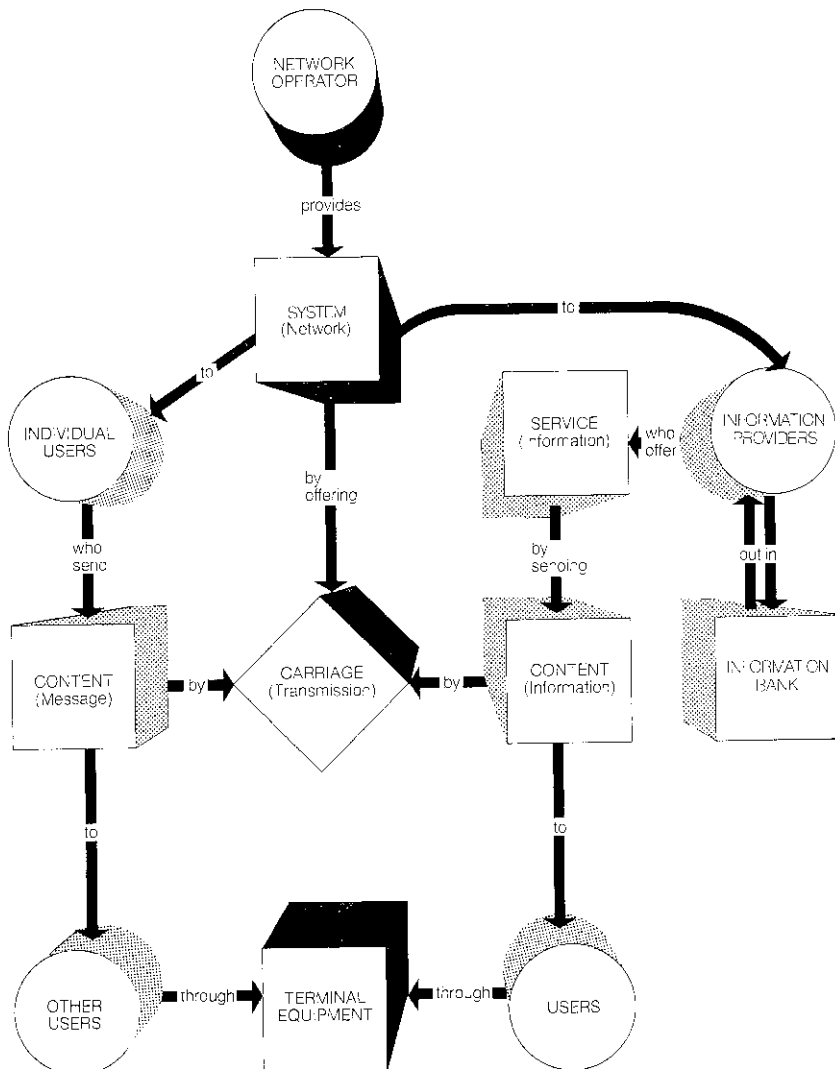
- 1.47 The Committee acknowledges the inherent difficulties associated with attempts to differentiate between types of telecommunications services. It recognises that the problems are by no means unique to Australia.
- 1.48 The fundamental problem of public regulation arises from attempts to cope with changing and converging technologies. The Committee considers that a distinction between 'carriage' and 'content' offers the only suitable basis on which to explore regulatory aspects of existing and future telecommunications services in a changing market environment. This regulatory interest has also been sharpened by the growing debate on whether a monopoly network provider should also be involved competitively in the provision of services which utilise its network.
- 1.49 The Committee notes the various attempts in other countries to distinguish the respective roles of the network provider and the new competitors according to classes of end users service or type of traffic. Separations are sometimes suggested on the basis of 'enhanced services' versus 'basic services'. Alternative formulations are sometimes suggested in terms of 'value added services'. Technological change makes such distinctions unworkable in the longer term. Convergence has enabled a complex package of information processing and distribution to be offered out of the network itself. This problem is typified by packaged 'videographic' services of which 'videotex' forms part.
- 1.50 In North America attempts have been made to erect a regulatory fence to separate those engaged in provision of such information or entertainment services ('information providers') and those who

facilitate their distribution through provision of network capacity. The Committee has also found it useful to make a distinction between the two. The Committee is nevertheless not persuaded that Australia should follow the North American example of complex regulatory processes to monitor the separation.

1.51

Figure 1.2 below is a schematic representation of the distinctions made between 'systems' and 'services' and between 'carriage' and 'content'.

Diagram 1.2: Schematic — Telecommunications Systems & Services



CHAPTER 2

NETWORKS

CHAPTER OVERVIEW

Scope

- 2.1 In this chapter, the Committee examines the extent to which the private sector could be more widely involved in operation and use of present and planned telecommunications networks. The chapter is divided into three sections:

SECTION I : LEASED TELECOM NETWORK CAPACITY

SECTION II : INDEPENDENT NETWORKS

SECTION III : INTERCONNECTION

Background

- 2.2 Committee examination takes account of:
- . present regulatory and administrative arrangements;
 - . the effect of those arrangements;
 - . relevant policy reviews by Telecom and Government.

Objectives

- 2.3 In Chapter 1, the Committee identifies the broad national interest objectives in telecommunications. The specific objectives relevant to this chapter are:
- . Australia needs a national telecommunications infrastructure which is:
 - up to date;
 - secure;
 - reliable;
 - accessible throughout Australia where practicable;
 - capable of delivering a wide range of services;

- consumers should be able to use alternative networks for special purposes;
- competition between alternative networks should not produce excess market capacity leading to wasteful duplication of resources within the national infrastructure.

Definitions

2.4 The following definitions have been adopted by the Committee:

- a network is a telecommunications system used for transmission of electromagnetic signals by wires, conductors, cables, fibre optics, radio waves or other means. It includes switching facilities which provide customer actuated connection between terminals;
- a terrestrial network is one based on terrestrial transmission systems. It may interconnect with a satellite network;
- a satellite network is one based on satellite transmission systems. It may involve some terrestrial transmission for local distribution of signals;
- an independent network is one in which all transmission and switching facilities are established, owned and operated independently of any other authorised or licensed network. It may involve either inter-city and/or intra-city transmission;
- a leased line is a transmission channel between two fixed points, leased from an authorised or licensed network operator, the use of which is controlled by the lessee;
- a leased network is one in which traffic is carried over leased lines. It may include switching facilities under the control of the lessee. It may involve inter-city and/or intra-city transmission;
- a terrestrial leased network is a leased network designed around capacity leased from the terrestrial network operated either by Telecom or by an independent network operator;
- a satellite leased network is a leased network designed around capacity leased from the national satellite system;
- interconnection is a facility enabling telecommunications traffic to flow between different networks;
- a private network may be either a leased or an independent network which is not interconnected with any authorised or licensed independent network;

- the national terrestrial network (NTN) is that network owned, operated and maintained by Telecom. It includes all national terrestrial public switched networks (NTPNs), together with any network capacity leased to or from other persons;
- the national satellite system (NSS) comprises the space segment and major city earth stations (MCES) of the communications satellite system to be owned, operated and maintained by AUSSAT Pty Ltd;
- a common carrier is an operator of an authorised or licensed independent network offering non discriminatory public access;
- the national terrestrial common carrier is Telecom;
- the national satellite common carrier is AUSSAT Pty Ltd (AUSSAT);
- a large capacity cable network is a distribution system capable of simultaneous transmission of some 50 television signals or telecommunications traffic carrying capability of equivalent bandwidth;
- a local microwave distribution system is a network using microwave radio transmission. Signal distribution may be point to point or point to multipoint.

(Note: Figures 2.1--2.5 on pages 57--60 illustrate different leased networks and interconnection configurations.)

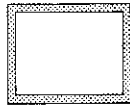
Existing regulatory arrangements

2.5 Establishment, operation and use of telecommunications networks and transmission systems in Australia are regulated under the following statutes:

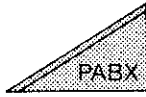
- Telecommunications Act 1975
- Wireless Telegraphy Act 1905
- Overseas Telecommunications Act 1946
- Broadcasting and Television Act 1942

The Telecommunications (General) By-Laws and the Wireless Telegraphy Regulations prescribe relevant terms and conditions. These are summarised in Volume 2, Section 1.

LEGEND



Intra-city leased network.



Main switchboard of leased network operator.



Tandem exchange.



Outdoor extension lines.



End user terminal



Intra-city leased lines connecting remote PABXs to main PABX.



Remote switchboard within leased intra-city network (without facility for connections into NTPN)

NTPN

Telecom common carrier network including public switched telephone network (NTPN), public switched telex network and public switched data network.



Leased line interconnecting different intra-city leased networks.



Intercity leased network.



Trunk exchange.



Local exchange — level of interconnection with NTPN



Local connecting unit.

Figure 2.1: Single user intra-city leased network.

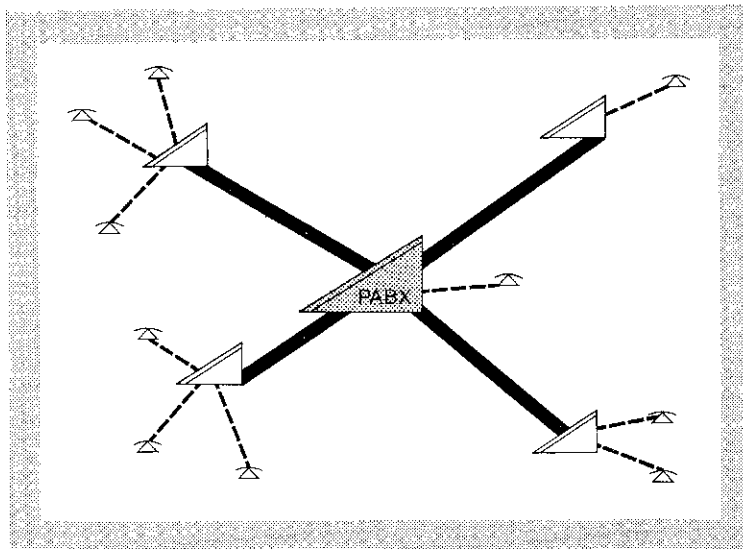


Figure 2.2: Interconnection between two different intra city leased networks.

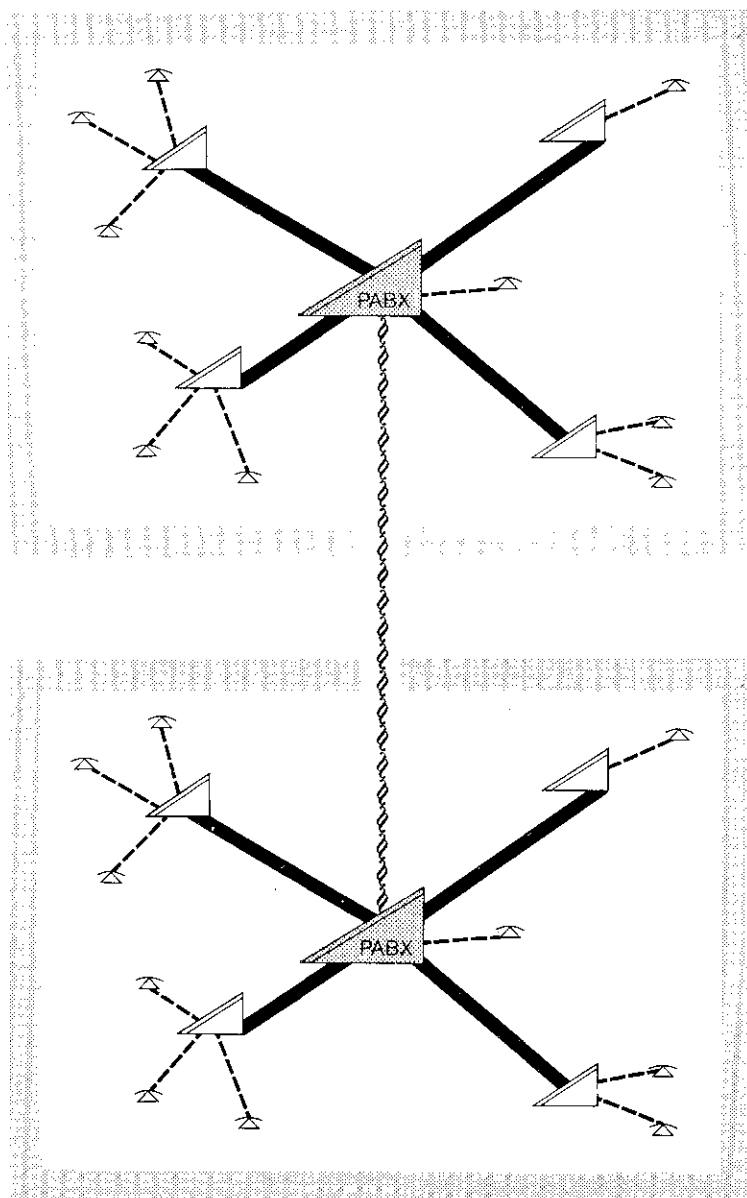
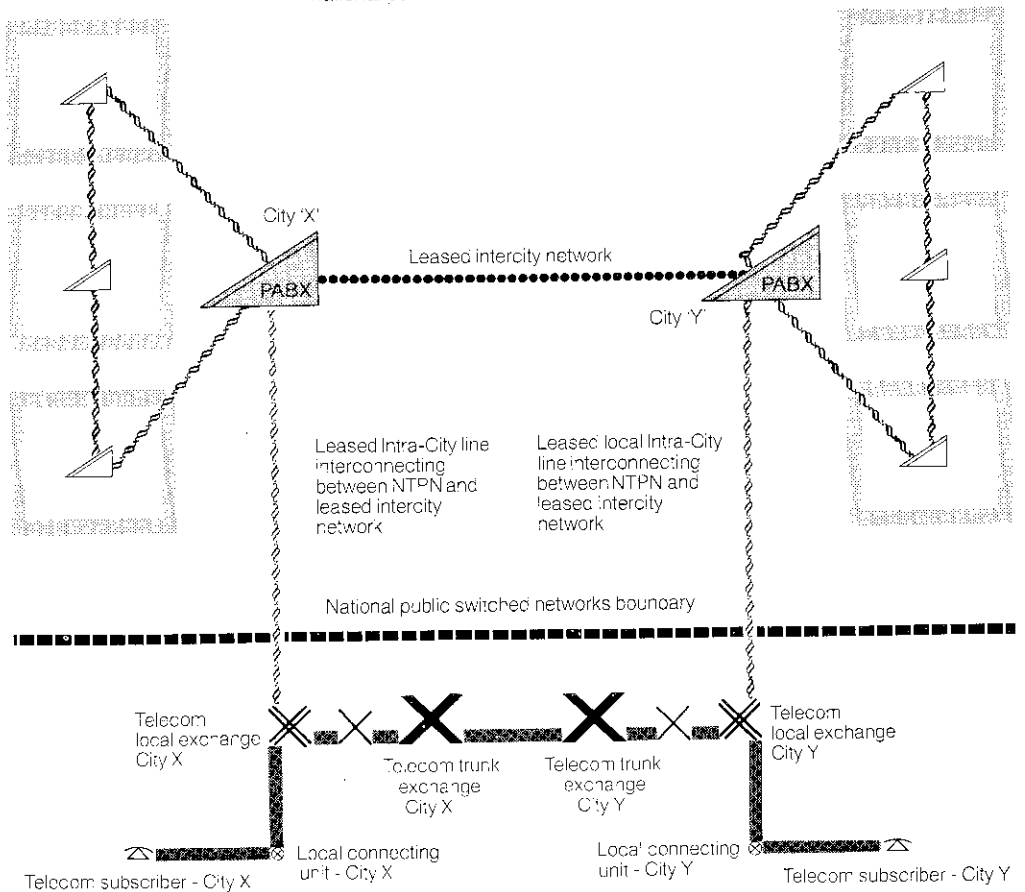


Figure 2.5: Interconnection between intercity leased network and a national public switched network.



SECTION I : LEASED TELECOM NETWORK CAPACITY

PRESENT ARRANGEMENTS

Telecom leased lines

2.6 Telecom provides the following types of leased transmission capacity:

- . telephone tie lines;
- . sound program relay lines;
- . data (DATEL) private lines;
- . television relay 'bearers';
- . private telegraph lines;
- . wideband (non television) circuits;
- . other specialised lines.

Most of the above are available over both local area and trunk charging distances. The exceptions are the last two categories which are available only as intra-city lines. Volume 2, Section 2 gives a more detailed description of the above.

2.7 Telecom estimates that at 30 June 1982, there were over 290 000 leased lines. These were subject to a total of over 66 000 individual leasing contracts made with about 10 000 different customers. Volume 1, Appendix A, gives details of the number of leased lines by category.

EXISTING POLICIES

Restrictions on use of leased lines

2.8 Telecom generally prohibits:

- . message switching on behalf of a third party with the exception of approved message answering services;
- . switched networks in competition with Telecom (i.e. for carriage of telephone, telex and data traffic) unless authorised under Section 13 of the Telecommunications Act 1975;

- attachment of terminal equipment to private leased lines unless provided or authorised by Telecom as a permitted attachment;
- sub letting of leased lines for resale of capacity for carriage of third party traffic.

Pricing policies

- 2.9 Telecom pricing policies and access charges for leased lines are based on the service capability of the line (e.g. data transmission at varying speeds). Prices do not relate to the times during which the lines are in use or to traffic volumes.
- 2.10 Different annual rentals apply to different categories of leased lines.
- 2.11 The complexity of rentals and access charges reflects the multiplicity of leased line categories and the terms and conditions governing their use. Volume 2, Section 4 gives more detailed information on the above. Telecom's pricing policies are discussed in Chapter 6.

Revenues derived from leased lines

- 2.12 Committee analysis of Telecom data indicates that:
- revenue from leased lines is less than five percent of Telecom's gross earnings but reflects high growth rates;
 - revenue from inter-city leased lines is less than 50 percent of total leased line revenue.
- 2.13 Telecom earnings from the various leased line categories are tabulated in Volume 1, Appendix A.

SUBMISSIONS

Views

- 2.14 Many submissions from major business users expressed dissatisfaction with some aspects of present arrangements which were perceived to be unnecessarily restrictive; in particular:
- constraints on use of leased lines in relation to:
 - supply, installation and maintenance of attachments (terminal equipment);
 - sharing of leased capacity;

-- interconnection between leased networks and national terrestrial public switched networks;

- . prohibition on resale of excess capacity;
- . restrictive pricing policies and practices.

2.15 Some submissions complained that Telecom had failed to meet the needs of particular classes of users. Some sought greater freedom in their own use of leased Telecom lines. Others sought alternative sources of supply.

2.16 Telecom submitted that it is already responding to these demands by adopting more flexible policies. It recognised a need for simplified arrangements.

COMMITTEE CONSIDERATION

Issues

2.17 Major issues considered by the Committee are:

- . the likely revenue impact of permitted resale of leased Telecom lines;
- . the practicability of distinguishing between lessees wishing to resell 'genuine' surplus leased line capacity and those wishing to lease bulk capacity for the prime purpose of competing with Telecom;
- . whether open resale of leased Telecom capacity would result in private exploitation of the national terrestrial network;
- . implications of open resale for all Telecom customers.

Impact on Telecom revenues

2.18 The Committee has analysed confidential information from Telecom relating to:

- . revenues from leased lines;
- . growth patterns;
- . impact of competitive resale on Telecom future revenues and gross earnings;
- . possible Telecom responses through revised pricing policies.

- 2.19 In Chapter 6, the Committee examines revised pricing policies for Telecom in a competitive market. Providing Telecom fixes charges for leased lines in accordance with the recommended policies, revenue loss to Telecom should be minimal. Indeed, gains in leased revenues may result. Leased lines, even with growth, will remain a minor contributor to Telecom's gross earnings in the foreseeable future.

Limitations on use

- 2.20 The Committee considered whether liberalisation in the use of leased lines should be restricted to 'common interest groups'. Such a restriction would require a clear and workable definition of that category of use.
- 2.21 Telecom has suggested the following definition:
- ". . . a body or group of bodies having a common financial structure or commercial interest other than telecommunications but with a need for frequent intercommunication in the conduct of their business".
- 2.22 The Committee considers that 'common interest' so defined would be easily circumvented, posing considerable administrative difficulties involving complex regulatory surveillance. Inflexibility and cost burdens would be inevitable.

Controls on use

- 2.23 In discussions with the Committee, Telecom opposed any arrangements which would produce 'full scale' competition with persons seeking to establish business undertakings based on resale of leased Telecom capacity. Telecom's view is that resale should be limited to genuine surplus capacity.
- 2.24 The Committee notes that if resale were to be limited to genuine surplus capacity, that condition would have to be clear and determinable. Any distinction made between a leased network operator having a reasonable case to justify resale of 'genuine' surplus capacity and one (a broker) leasing bulk capacity for the prime purpose of competing with Telecom as a provider of network capacity must be artificial. It could be circumvented easily by a broker joining with one particular customer, establishing a lease on the basis of that customer's usage, leasing bulk capacity, and then retailing any capacity surplus to that customer's requirements to other parties.

Potential for private exploitation of a national resource

- 2.25 The Committee notes Telecom's emphasis that in the national interest, given permitted resale of its network capacity, leasing charges to retail carriers should include a contribution towards the cost of providing unprofitable services.
- 2.26 The Committee accepts that some prospective resellers of leased network capacity may be seeking a profit opportunity. Profit can be limited by Telecom's responses in charges set for leased lines. Telecom is well placed to ensure that such profits do not result in private exploitation of the national terrestrial network at the expense of other users. This issue is discussed in relation to interconnection charges in Section III of this chapter -- paragraphs 2.84--2.88.

Implications of unrestricted resale for existing Telecom customers

- 2.27 The Committee considers that resale of leased capacity would improve utilisation of total national terrestrial network capacity. It would also force a commercially oriented price structure between casual and bulk leased line Telecom charges. Use of leased lines will increase and will result in increased market value to Telecom.
- 2.28 Other benefits of resale include:
- . greater flexibility for users;
 - . more economic utilisation of leased capacity;
 - . access to inter-city leased lines would be available for small volume users at costs below STD charges for trunk calls over public switched networks;
 - . release of additional capacity in public switched networks would diminish congestion on high utilisation trunk routes and consequently access to public switched networks for all other subscribers would be improved;
 - . stimulation of more innovative services.

OPTIONS FOR CHANGE

The alternatives

- 2.29 Options considered by the Committee are:
- (a) no change -- maintain the status quo;
 - (b) restrict resale of leased capacity to 'genuine' surplus capacity;
 - (c) permit unrestricted resale of leased Telecom capacity.

No change

- 2.30 The Committee finds that option (a) would not be in the best interests of Telecom, its employees or its customers because this would result in a slower rate of adoption of new technology.

Permitted resale subject to restrictions

- 2.31 The Committee rejects option (b) on the grounds that it would:
- discriminate in favour of some lessees;
 - fail to meet identifiable user requirements for increased choice and flexibility;
 - militate against the most efficient use of total capacity in the national terrestrial network;
 - perpetuate distortions in Telecom's pricing (Chapter 6 refers).
 - necessitate excessive and probably unworkable regulation.

Unrestricted resale

- 2.32 The Committee concludes that implementation of option (c) would benefit the national interest.

Recommendations

- 2.33 The Committee recommends that:
- UNRESTRICTED USE AND RESALE OF LEASED TELECOM CAPACITY SHOULD BE PERMITTED.
(R1)
 - OPERATION AND USE OF NETWORKS BASED ON LEASED TELECOM CAPACITY SHOULD NOT BE SUBJECT TO LICENSING OR OTHER FORM OF AUTHORISATION OR REGULATION.
(R2)
 - PRICES FOR LEASED LINES SHOULD BE NON DISCRIMINATORY.
(R3)
- 2.34 The above recommendations are subject to acceptance of recommendations on interconnection (Chapter 2, Section III) and revised pricing policies (Chapter 6 refers).

SECTION II : INDEPENDENT NETWORKS

PRESENT ARRANGEMENTS

Existing independent networks

- 2.35 There are currently 29 licensed independent networks. Details of these are given in Volume 2, Section 2.
- 2.36 The Wireless Telegraphy Act 1905 does not prevent establishment and operation of independent radiocommunications networks to facilitate communications of organisations for the purposes of their normal business undertakings, subject to compliance with appropriate technical standards. Their development has been inhibited by administrative policies and practices (Volume 2, Section 1 refers).

SUBMISSIONS

Competition in supply of transmission systems

- 2.37 Submissions from business users advocated changes in present arrangements:
- alternative transmission systems are necessary to ensure service continuity in the event of disruption due to natural, industrial or other causes;
 - Telecom is unable to provide transmission systems for specialised traffic requirements;
 - lengthy delays in provision of transmission systems for leased networks would be avoided;
 - private enterprise competitive carriers would be more responsive to user requirements.

Leased capacity in independent networks

- 2.38 Few submissions focused on this issue. Some of those that did advocated freedom for operators of 'private' networks (as defined by Telecom) to use or dispose of transmission capacity therein. Others wanted freedom to establish and use their own leased satellite networks.

- 2.39 Several submissions argued that competitive carriers should be allowed to use a mix of their own independent transmission and switching facilities, together with leased capacity in either the national terrestrial network and/or the national satellite system.

Private networks

- 2.40 A number of users expressed a view that Telecom customers should be able to establish their own 'private' or 'semi private' telecommunications networks using satellite, microwave, cable and/or other distribution modes. They sought freedom to use such networks including the right to provide services in competition with Telecom.

Pricing policies

- 2.41 Submissions confined comments on pricing policies to the planned national satellite system (NSS). They stressed that pricing policies and charges for access to NSS capacity should be non discriminatory.

TELECOM POLICY REVIEWS

Telecom in a competitive environment

- 2.42 In its public submission to the Inquiry, Telecom contended that its present responsibility as the national 'public common carrier' should continue on the following grounds:
- the increasing importance of the availability of common carrier services requires the establishment and development of a national telecommunications infrastructure which is:
 - of uniformly high quality in areas of dense and sparse population;
 - compatible with other national telecommunications infrastructure overseas;
 - engineered for security and resilience with provision of alternative routes and switching centres in the most economic manner;
 - the national carrier must be the 'carrier of last resort' with transmission capability to accommodate overflow traffic from independent networks.

Telecom and AUSSAT

- 2.43 Telecom conveyed the view that AUSSAT should not compete directly with Telecom in provision of public telecommunications services (Chapter 4 discusses this issue).
- 2.44 Telecom suggested that it should be able to use NSS transmission capacity as an alternative mode of distribution for present and potential services. It submitted that the satellite system should be complementary to, not competitive with, the national terrestrial network.

Telecom and operators of large capacity cable systems

- 2.45 In its submission to the ABT Cable Inquiry, Telecom proposed that it should have the role of providing, operating and managing the 'CTV' network transmission facilities and that other parties should provide and market information and program content.

COMMITTEE CONSIDERATION

Major issues

- 2.46 Major issues for the Committee in its examination of the extent to which the private sector could be involved in provision and use of independent networks are:
- the adequacy of existing transmission facilities in the national terrestrial network and Telecom's policies and performance in relation to its planning and development;
 - whether establishment and operation of a range of independent networks would result in uneconomic duplication of Telecom's national terrestrial network;
 - the potential for establishment of other intra-city and inter-city competitive independent networks to meet special needs;
 - the competitive implications of the NSS;
 - the implications of the recommendations of the ABT Inquiry into cable and subscription television services in Australia;
 - the impact of competitive independent networks on Telecom's national network planning and development.

The national terrestrial network

- 2.47 The Committee's assessment of the adequacy and performance of the existing Telecom network had regard to:
- the geographical characteristics and population distribution in Australia;
 - Telecom's obligations as national terrestrial common carrier;
 - the relative advantages and disadvantages of the above from the viewpoint of both Telecom and its customers (business, institutional and residential in urban and non urban locations);
 - relative performance of administrations and organisations providing national transmission systems in other developed countries.
- 2.48 A detailed overview of the national terrestrial network is given in Volume 2, Section 2. International comparisons are made in Volume 2, Section 8, together with the consultant's report in Volume 3, Section 1. The Committee finds that the national terrestrial network under Telecom's management compares favourably with that in the countries studied.

Duplication of national terrestrial network transmission systems

- 2.49 The Committee views the \$10 billion investment in the present national terrestrial network as a valuable national resource. It is an integral component of overall national economic, social and industrial support systems. Its duplication to any significant extent would be an inefficient allocation of resources.

Establishment of alternative intra-city and inter-city independent networks

- 2.50 Committee consideration of potential competition to Telecom from other intra- and inter-city independent network operators has taken account of the following:
- Telecom plans for further development of intra-city and inter-city transmission systems (Volume 2, Section 2 refers);
 - the distribution technologies that would be available for use in such independent networks (Volume 2, Sections 2 and 6 refer);
 - costs of such facilities.

Establishment of alternative independent networks

- 2.51 The Committee has considered the range of alternative independent networks which might be established in the future. The possibilities are:
- . inter-city -- terrestrial;
-- satellite;
 - . intra-city -- microwave radio;
-- large capacity cable including optical fibre.
- 2.52 The Committee is unaware of any commercial interest in establishing independent inter-city terrestrial networks, although there would not appear to be significant economic barriers to market entry.
- 2.53 The establishment of the national satellite system (NSS) is planned for 1985. Networks based on satellite capacity are discussed in paragraphs 2.58--2.59.
- 2.54 The Committee is aware of interest by the private sector in establishing intra-city networks based on microwave radio. These networks are the most likely systems for local distribution of satellite signals between major city earth stations (MCES) and user premises.
- 2.55 Large capacity cable networks could be established using either advanced coaxial cable or optical fibre transmission. Government endorsement of the ABT Cable Report recommendations would open the way to carriage of both 'cable television' and general telecommunications traffic. Relevant ABT Cable Report recommendations are discussed in paragraphs 2.62-- 2.71.

The competitive implications of the NSS

- 2.56 The establishment of the NSS to be owned and operated by AUSSAT will mean that some competition between AUSSAT and Telecom in carriage of some inter-city traffic is inevitable. Volume 2, Section 3 identifies the relevant classes of traffic.
- 2.57 The following government decisions on the NSS are noted:
- . establishment of AUSSAT as a wholly government owned company to establish, own and operate the NSS space segment and MCES (Volume 2, Section 1 refers);
 - . interim Memorandum and Articles of Association of AUSSAT (Volume 2, Section 1 refers);

- contractual relationship between AUSSAT and OTC (Volume 2, Section 1 refers);
- intention to convert AUSSAT into a public company with private equity capital of up to 49 percent;
- users of the national satellite system will be permitted to establish and operate their own earth stations.

2.58 Volume 2, Section 2 gives a technical overview of the national satellite system, together with a detailed outline of its transmission performance and traffic carrying capability. Volume 2, Section 3 outlines services which could be carried over that system.

Role and functions of AUSSAT

2.59 The Committee notes that:

- major users of the NSS will probably elect to establish their own leased satellite networks for end to end delivery of signals carried over the NSS;
- many major users will establish earth stations on their own premises and will have less requirement for any local terrestrial distribution of signals outside of their own premises;
- many smaller users will elect to access NSS capacity through MCES owned and operated by AUSSAT;
- smaller users will have a requirement for local terrestrial signal distribution between MCES and their own premises;
- in discussions with the Committee AUSSAT has indicated that it expects to establish its own local terrestrial distribution system to meet requirements of smaller users;
- by 1986 Telecom expects to have large capacity microwave radio systems which would meet the local distribution requirements of most smaller users;
- smaller users have submitted that there should be alternatives to Telecom in local distribution.

2.60 The NSS will provide the first major opportunity for increased private sector involvement in telecommunications networks. In Section I of this chapter, the Committee recommends unrestricted use and resale of leased Telecom capacity. The same freedom should apply to leased NSS capacity. This would lead to growth of competitive alternatives to Telecom and AUSSAT in provision of transmission capacity for end to end service delivery. Chapter 4 discusses competition in services carried over alternative networks.

- 2.61 The Committee considers that a monopoly provider in one telecommunications market should not be permitted to cross subsidise its activities in another related but competitive market segment, and hence inhibit the entry of competitors. Growth in competitive alternatives in local intra-city distribution of satellite signals will be assured only if AUSSAT is obliged to use Telecom's local networks or those established by other independent operators. AUSSAT should not construct its own independent local networks.
- 2.62 If AUSSAT were to duplicate the large capacity systems of Telecom and other operators, destructive competition through over supply of capacity would result to the detriment of the national interest.

Large capacity cable systems

- 2.63 The Committee has considered the following ABT recommendations on large capacity cable systems (referred to by the ABT as 'cable television' or 'CTV' systems):

"R5 That a flexible policy be adopted for the ownership of CTV reticulation systems, whereby public authorities and organisations (including Telecom) and the private sector would have the opportunity to own, either individually or jointly, CTV reticulation systems.

That Telecom not be given the exclusive right to own CTV reticulation systems."

"R6 That a flexible policy be adopted for the construction and maintenance of CTV reticulation systems whereby public authorities and organisations (including Telecom) and the private sector would have the opportunity to construct and maintain CTV reticulation systems in accordance with any technical standards or requirements determined for such systems.

That Telecom not be given the exclusive right to construct and maintain CTV reticulation systems . . ."

"R8 That a licence be granted which authorises a person to operate a CTV system rather than persons being licensed to operate or provide services on individual channels that form part of the system."

"R9 That a designated amount of the channel capacity of a CTV system be required to be available for leased use by persons other than the licensee."

"R10 That the licensing process for CTV be based, as far as practicable, on the same principles and procedures as those applicable to the commercial and public broadcasting sectors of the broadcasting system and be administered by a single Federal Regulatory Authority.

That flexible and comprehensive criteria that address the various areas involved in the establishment and operation of a CTV system be determined and incorporated in the licensing process for CTV."

"R19 That CTV systems be required to set aside some minimum part of their channel capacity to carry signals for upstream communications . . ."

"R21 That the planning and regulatory process established for the implementation of CTV be required to identify and specify the licence areas for CTV systems.

That only one CTV system licence be granted for any determined licence area."

2.64 The Committee expresses reservations on a number of these recommendations. The ABT report appears to concentrate on 'cable television' programming which can be carried on large capacity cable systems. The ABT seeks to justify introduction of these networks on the basis of 'CTV' but endorses proposals that the networks should also carry general telecommunications traffic. Exclusive area franchises are recommended by the ABT. While acknowledging there may be separation of ownership of the network (the system) from the provision of the services (content), it cautions against any mandatory requirement in that regard. The ABT Report recommends that Telecom be given the opportunity to tender for network construction. It proposes that other parties should be given access to Telecom's ducts. Aerial reticulation plant is also suggested.

2.65 This Committee considers that the national interest would be served by giving Telecom a role in cable network provision. The Committee's conclusion is based on the following considerations:

- . it would be the most economic and practical utilisation of the existing national telecommunications infrastructure, research and manpower resources;
- . 'CTV' systems could be introduced more quickly than would be possible with any other option;
- . need for complex negotiations and detailed regulation would be avoided;
- . other parties should not be given access to Telecom's ducts;

- festooning of the Australian urban landscape with bulky aerial reticulation plant would be avoided;
- installation of aerial reticulation plant would be contrary to present urban development and town planning trends which are aiming to place underground all public utility (electricity, gas, water) reticulation systems;
- such an arrangement would encourage multiple use of 'CTV' systems and resale of system capacity via leased 'CTV' networks;
- Telecom's primary responsibility for planning, developing and operating the national terrestrial network would be far more effectively undertaken;
- licensing and regulatory mechanisms would be simpler, easier to administer and far less costly.

2.66 The issue of whether 'CTV' systems should be established via underground or aerial reticulation plant has been given special emphasis by this Committee. It notes that aerial installations would be far less costly than underground installations unless existing Telecom ducts were used for the latter. The ABT Report discussed this aspect in some detail, reaching the same conclusion.

2.67 Some 'pros' and 'cons' of aerial versus underground reticulation are discussed in this Committee's engineering consultant's report (Volume 3, Section 1 refers). The Committee endorses the consultant's related observations. The environmental pollution which would result from widespread aerial installations would be contrary to presently accepted standards.

2.68 The proposals that other parties should be given access to Telecom's ducts are discussed in the report of this Committee's engineering consultant. The Committee endorses those comments. Access to Telecom's ducts by third parties would only lead to gross damage to the telecommunications infrastructure. This Committee urges the Government to reject those proposals.

2.69 The Committee notes the ABT findings that:

- Telecom is the only 'public utility'/organisation with presently unused capacity within its existing underground plant;
- 'CTV' cable installations in Telecom ducts would have to be carefully controlled by Telecom to ensure protection of its existing operational transmission systems;

- integrated installation of 'CTV' systems within existing Telecom ducts would offer the most effective utilisation of Telecom plant and the most timely and cost effective construction of 'CTV' systems.

The Committee notes, however, that the ABT's recommendations give slight weight to the above findings.

- 2.70 Under this Committee's proposals, Telecom's involvement as network provider would ensure separation of 'carriage' and 'content' and avoids any monopolistic dominance of telecommunications traffic carried through such systems.
- 2.71 This Committee notes the ABT's further recommendations that large capacity cable ('CTV') systems be licensed under an amended Broadcasting and Television Act 1942, to carry both television programmes and telecommunications traffic. Such a licensing procedure would aggravate the already confused regulatory regime controlling communications in Australia.
- 2.72 In paragraphs 2.73--2.75 below, the Committee discusses general licensing procedures for independent telecommunications networks. Large capacity cable systems should be licensed under those same procedures. Should Government wish to regulate the class of traffic associated with 'cable television' programming, it could do so under its broadcast legislation. These aspects of separation of 'carriage' and 'content' and their regulatory implications are discussed further in Chapter 4. The Committee's proposals for new legislation governing telecommunications in Australia are discussed in Chapter 12.

Licensing of independent networks

- 2.73 S.13 of the Telecommunications Act 1975 empowers Telecom to authorise other persons to erect, maintain and operate telecommunications networks other than those which involve transmission by means of wireless telegraphy -- the latter requiring separate ministerial licence under the Wireless Telegraphy Act 1905.
- 2.74 The Committee's proposals allow the possibility of competitive independent networks being established in Australia. Maintenance of Telecom's existing regulatory authority over such networks would be inappropriate in a competitive market. The Committee proposes transfer of the licensing function from Telecom to the Minister where administration can be appropriately integrated with the Minister's existing wireless telegraphy responsibilities and powers.
- 2.75 Committee proposals for a single licensing regime in telecommunications will permit the Minister to develop Australia's future telecommunications infrastructure in a flexible and progressive

manner. While recognising Telecom as the national terrestrial common carrier and AUSSAT as the national satellite common carrier, the Minister may license other networks for special purposes or to serve particular areas or needs not readily catered for by Telecom's national network. Each proposal would require appropriate ministerial consideration of the national interest. If non discriminatory public access to independent networks is deemed desirable, the Minister may also impose 'common carrier' obligations on operators of licensed networks.

Recommendations

2.76 The Committee recommends that:

Establishment of independent networks

- . INDEPENDENT NETWORKS SHOULD BE PERMITTED SUBJECT TO MINISTERIAL AUTHORISATION.
(R4)
- . THERE SHOULD BE NO RESTRICTIONS ON THE USE OF INDEPENDENT NETWORKS IN RESPECT OF THE CLASSES OF TRAFFIC CARRIED.
(R5)
- . INDEPENDENT NETWORKS ENGAGING IN COMMON CARRIER ACTIVITIES SHOULD BE SUBJECT TO AN ENDORSEMENT TO THAT EFFECT AS A CONDITION OF AUTHORISATION.
(R6)
- . TELECOM SHOULD BE PERMITTED TO COMPETE ON AN EQUITABLE BASIS WITH INDEPENDENT NETWORK OPERATORS ENGAGED IN COMMON CARRIER ACTIVITIES.
(R7)

National Communications Satellite System

- . AUSSAT SHOULD NOT BE PERMITTED TO OWN LOCAL TERRESTRIAL NETWORKS.
(R8)
- . AUSSAT SHOULD BE PERMITTED TO OPERATE LEASED TERRESTRIAL NETWORKS.
(R9)
- . USERS SHOULD BE PERMITTED TO LEASE SATELLITE CAPACITY FOR INCORPORATION IN LEASED OR INDEPENDENT NETWORKS.
(R10)
- . NO RESTRICTIONS SHOULD BE PLACED ON THE CLASSES OF TRAFFIC CARRIED OVER, OR THE USE OF LEASED OR INDEPENDENT NETWORKS USING SATELLITE CAPACITY.
(R11)

- . LESSEES OF SATELLITE CAPACITY SHOULD BE FREE TO CHOOSE THEIR SOURCE OF SUPPLY, INSTALLATION AND MAINTENANCE OF EARTH STATIONS AND ASSOCIATED TERMINAL EQUIPMENT.
(R12)
- . PRICING POLICIES OF A COMMON CARRIER OPERATOR OF AN INDEPENDENT NETWORK SHOULD BE NON DISCRIMINATORY AND IN ACCORDANCE WITH LISTED PRICES WHICH MAY INVOLVE VOLUME OR PERIOD DISCOUNTS.
(R13)

Network standards

- . TELECOM NETWORKS AND INDEPENDENT NETWORKS SHALL CONFORM TO APPROVED TECHNICAL STANDARDS.
(R14)

Cable networks (including 'CTV')

- . THE ENVIRONMENTAL AND PLANNING STANDARDS AND CONTROL SHOULD APPLY TO A 'CTV' NETWORK LICENSEE TO THE SAME EXTENT AS OTHER 'PUBLIC PURPOSE' ORGANISATIONS.
(R15)
- . TELECOM SHOULD OWN AND BE RESPONSIBLE FOR MAINTENANCE OF ALL CABLE AND EQUIPMENT IN TELECOM DUCTS.
(R16)

SECTION III : INTERCONNECTION

PRESENT ARRANGEMENTS

Telecom policies

2.77 Under present Telecom policies:

- interconnection is permitted between leased networks serving 'common interest' groups;
- interconnection is not permitted between different leased networks where network operators do not fall within the Telecom definition of a 'common interest group';
- switching of traffic from the NTPN into a leased network with re-entry into the NTPN at the other end is not permitted;
- interconnection is permitted in certain cases to facilitate switching of traffic originating in the NTPN for distribution within a leased network;
- traffic originating within a leased network may be switched from that network into the NTPN.

Relevant regulatory and administrative arrangements are outlined in more detail in Volume 2, Section 1.

VIEWS ON PRESENT AND PLANNED ARRANGEMENTS

Interconnection of leased networks with the NTPN

2.78 A few submissions from existing leased network operators commented on interconnection between leased networks and the NTPN. They expressed concern about prohibition on interconnection between different leased networks and between such networks and the NTPN.

Interconnection between other networks and the NTPN

2.79 Little comment was offered on future requirements for interconnection between other leased networks and independent networks and the NTPN. Such comment typically referred to the NSS.

Interconnection standards

- 2.80 Several submissions addressed the issue of technical standards and regulatory arrangements for interconnection between other networks and the NTPN. They expressed a preference for the application of 'minimal' standards consistent with those generally adopted within the international regulatory framework. (Volume 2, Section 1 outlines relevant arrangements and procedures.)

Telecom as a 'carrier of last resort': implications

- 2.81 Some submissions discussed the possible effect of 'overflow' traffic from independent and leased networks should Telecom be expected to assume the role of carrier of last resort. They were concerned that, given competitive independent networks, Telecom would still be required to provide a back-up network. They contended that permitted interconnection between independent networks and the NTPN would allow Telecom's profits to be 'cream skimmed' making it less viable. Submissions from some prospective network competitors and current lessees stated they would not look to Telecom as a 'carrier of last resort'.

TELECOM'S POLICY REVIEWS

Regulatory arrangements

- 2.82 Telecom's public submission acknowledged a need for simplified arrangements to apply to interconnection between different networks and between 'private' networks and the NTPN. The submission did not elaborate on appropriate mechanisms to achieve that objective. It indicated a clear preference for controlled liberalisation within a defined regulatory framework.

Interconnection standards

- 2.83 Telecom subsequently advocated Committee consideration of the following principles:
- . the need for compliance with technical standards sufficient to ensure safety, network compatibility and provision for fault identification, location, isolation and rectification;
 - . flexibility of network configuration to enable:
 - development of both public and private (leased) networks without mutual constraint;
 - protection of privacy in regard to customer billing and charging, network maintenance and access to other facilities via network signalling;

- interconnection should be limited to the local exchange level so far as signalling and calling party identification are concerned.

2.84 In respect of interconnection between competitive networks and the NTPN, Telecom made the following observations in discussions with the Committee:

- . if switching of traffic were to be permitted between independent networks and the NTPN, access charges should be based on exit from and entry into the NTPN;
- . such access charges should be negotiated by agreement between Telecom and the independent network operator concerned;
- . agreements should be subject to periodical review;
- . exit and entry charges should reflect components of:
 - usage on a timed basis for local calls;
 - value of the interconnection having regard to the population to be accessed, the facilities acquired, the services involved and the location of the interconnection points;
 - a contribution towards uneconomic services in the national interest.

COMMITTEE CONSIDERATION

Major issues

2.85 The issues are:

- . impact on Telecom's revenues and network planning and development capability, given permitted interconnection between the NTPN and:
 - leased networks using Telecom capacity;
 - independent networks;
- . technical considerations arising from the switching capability of both electromechanical and stored program control PABX's;
- . revised regulatory arrangements given liberalisation of present restrictions on interconnection with the NTPN.

2.86 The Committee notes that:

- . Telecom is moving gradually towards a more flexible application of present policies as evidenced by its approval for interconnection between leased data networks of 'common interest' user groups;
- . comment in several submissions reflected a general lack of awareness of areas in which Telecom does exercise some flexibility in implementation of its interconnection policies;
- . switching of traffic between leased data networks is a feature of the new public switched data service (AUSTPAC).

2.87 The Committee notes Telecom's views that:

- . permitted interconnection of leased networks located in different charging zones (i.e. for communications over trunk route distances) could result in displacement of traffic (referred to as 'cream skimming') from the Telecom NTPN trunk routes to leased inter-city networks with consequential revenue loss;
- . revenue leakage might result from unrestricted interconnection with the NTPN;
- . competitive independent networks should not be permitted to interconnect with the NTPN.

2.88 The Committee considers that Telecom would have little difficulty with permitted interconnection of leased or independent networks if restricted to the same charging zone. The area of contention is when simultaneous interconnection between the NTPN and leased or independent networks occurs in two or more charging zones.

Technical considerations

2.89 The Committee recognises difficulties inherent in the performance capability of the latest generation PABX's.

2.90 The Committee notes that:

- . every electromechanical PABX and stored program control (SPC) PABX currently in use is already interconnected with the NTPN;
- . SPC PABX equipment has the technical capability to switch traffic automatically into and out of the NTPN.

The implications of the above are discussed in paragraph 2.93 below.

Revised regulatory arrangements

2.91 The Committee notes Telecom's advocacy for some form of continuing regulation in relation to:

- permitted interconnection between competitive leased and independent networks and the NTPN;
- technical standards for interconnection between Telecom's NTPN and other networks.

Options on interconnection of leased networks with the NTPN

2.92 Options considered by the Committee are:

- (a) no change -- maintenance of status quo;
- (b) regulated interconnection;
- (c) unrestricted interconnection.

2.93 Given the technical switching capability of the present generation of PABX's, implementation of options (a) and (b) is impracticable. There are already over 10 000 PABX's now connected to the NTPN of which a significant proportion have the capability for automatic traffic switching. The regulatory and administrative arrangements needed to secure ministerial authorisation and a public register of all approvals for interconnection between those PABX's and the NTPN would require a massive regulatory bureaucracy. Delays in approvals would be lengthy. Constraints on flexibility would be immense. Supervision would be impossible in the longer term.

2.94 In adopting option (c) the Committee acknowledges that competitive leased networks based on Telecom capacity could result in attempts by lessees to 'cream skim' traffic from Telecom's major inter-city profitable trunk routes. Telecom can readily defend itself against such competition since the lessees' costs in leased line charges are controlled by Telecom. In Chapter 6 the Committee examines Telecom's pricing policies and recommends adoption of more commercially oriented pricing policies and practices. At paragraphs 2.27 to 2.28 the Committee commented on the public benefits which could be derived from resale of Telecom leased capacity. Unrestricted interconnection would enhance those benefits without commercial risk to Telecom. In this regard, it would also be appropriate for Telecom's access charge structure to include provision for payment of a time-based local call charge at each point of interconnection.

Options on interconnection of independent networks with the NTPN

2.95 Options considered by the Committee are:

- (a) no interconnection permitted;
- (b) regulated interconnection;
- (c) unrestricted interconnection.

- 2.96 The Committee considers that interconnection of independent networks with the NTPN could in some cases offer benefits to users through wider choice of network and service supply. The public benefit needs to be assessed in each case, however, since unrestricted interconnection with the NTPN could pose greater risks to Telecom's revenues. Unlike leased networks interconnected with the NTPN, where Telecom controls lessee costs through its leased line charges, independent networks are free of that commercial constraint.
- 2.97 The Committee concludes that the public and national interest requires some form of ministerial supervision of interconnection by an independent network to ensure that the independent network develops in a manner consistent with the terms of its licence and without risk to the national telecommunications infrastructure. Interconnection arrangements should also include a requirement to comply with technical standards to ensure network protection and compatibility.
- 2.98 The Committee endorses option (b) on the basis of ministerial authorisation to the interconnection as a condition of the licence granted to the independent network. Interconnection agreements subsequently negotiated with Telecom should be recorded on a readily accessible public register maintained by the Minister.
- 2.99 As for interconnection of leased networks, Telecom's charge for interconnection of independent networks should include provision for payment of a time-based local call charge at each point of interconnection.

Level of interconnection

- 2.100 The Committee notes three possible interconnection levels within the Telecom network hierarchy:

- . trunk exchange;
- . tandem exchange;
- . local exchange.

Relevant description of those levels is given in Volume 2, Section 2.

- 2.101 Interconnection at the level of trunk or tandem exchange would be inappropriate and to the disadvantage of Telecom, other network operators and their customers. Calling party identification can be achieved at the local exchange level with little additional expense. Interconnection at any level other than local exchange would involve the risk of interference with associated network signalling functions.

Recommendations

2.102 The Committee recommends that:

- . INTERCONNECTION SHOULD BE PERMITTED BETWEEN LEASED TELECOM NETWORKS AND NATIONAL TERRESTRIAL PUBLIC SWITCHED NETWORKS, SUBJECT TO:
 - (a) COMPLIANCE WITH APPROPRIATE TECHNICAL STANDARDS;
 - (b) PAYMENT OF A TIME-BASED LOCAL CALL FEE AT EACH POINT OF INTERCONNECTION AND ANY OTHER APPROPRIATE FACILITY CHARGES.
(R17)
- . INTERCONNECTION SHOULD BE PERMITTED BETWEEN INDEPENDENT NETWORKS AND THE NATIONAL TERRESTRIAL PUBLIC SWITCHED NETWORK ON THE SAME BASIS AS LEASED NETWORKS, PROVIDED THAT:
 - (a) MINISTERIAL AUTHORISATION HAS BEEN GIVEN FOR INTERCONNECTION;
 - (b) THE INTERCONNECTION AGREEMENT IS AVAILABLE ON PUBLIC RECORD.
(R18)
- . INTERCONNECTION BETWEEN NETWORKS AND THE NATIONAL TERRESTRIAL PUBLIC SWITCHED NETWORKS SHOULD BE AT THE LOCAL EXCHANGE LEVEL.
(R19)

CHAPTER 3

TERMINAL EQUIPMENT

INTRODUCTION

Scope

- 3.1 This chapter discusses competition in the supply, installation and maintenance of wiring and terminal equipment on subscriber premises. It reviews the present arrangements for setting and regulation of equipment standards. The future market environment which would best meet the needs of users, consistent with the national interest, is considered. Future institutional arrangements for standards setting and control are examined.
- 3.2 Committee analysis of options takes account of developments in information processing, distribution, and manufacturing technologies. Views of existing equipment suppliers, telecommunications users, network operators and other interests are considered.

Objectives

- 3.3 Committee objectives for future supply, installation and maintenance of wiring and terminal equipment are:
- competition in the terminal equipment market should facilitate keener pricing, increased customer choice, greater security of supply and service innovation;
 - terminal equipment should comply with safety standards and be compatible with the network;
 - installation and maintenance of equipment should be carried out by suitably qualified persons;
 - a network provider who also participates in the terminal equipment market should not be permitted to erect barriers to the entry of other competitors or otherwise use its market power to dominate the terminals market.

EXISTING ARRANGEMENTS

Role of Telecom and the private sector

- 3.4 S.13 of the Telecommunications Act 1975 prohibits attachment of a line, equipment or apparatus to the telecommunications network without authorisation by Telecom under specified terms and conditions (Volume 2, Section 1 refers).

Existing Telecom policies

- 3.5 Telecom authorises attachment of equipment subject to requirements that:
- . the equipment must comply with defined minimum electrical safety specifications;
 - . the equipment must conform to network performance specifications;
 - . for certain product categories, the equipment must comply with relevant recommendations of the International Consultative Committee for Telegraphy and Telephony (CCITT).
- 3.6 Telecom also considers the likely impact of independent supply of terminal equipment on its own marketing plans. From time to time the Government has intervened either to extend special market advantages to Telecom or to exclude Telecom from particular terminal equipment markets.
- 3.7 A list of classes of terminal equipment authorised by Telecom (i.e. permitted attachments) is included in Appendix A to Volume 1.

Relationship between Telecom and the private sector

- 3.8 The result is a complex maze of exclusions and market sharing between Telecom and the private sector -- Telecom:
- . is excluded from supply of facsimile machines and answering machines;
 - . has a reserved market in PABX systems supplied to Federal Government organisations and sells in competition with the private sector to State, local and semi-government organisations;
 - . is not permitted to sell PABX below 50 lines to the private sector in capital cities but competes with the private sector in sales for the larger PABX systems;
 - . has an exclusive market in small business systems for both the public and private sectors;
 - . maintains PABX systems with few exceptions;
 - . supplies all teleprinter equipment to be connected to its public switched telex network;
 - . supplies, installs and maintains all data modems except those used in conjunction with the analogue data service;
 - . has an exclusive market in installing wiring in customers' premises.

- 3.9 Telecom has permitted the attachment of privately owned interface devices which enable computers and communicating word processors to be connected in lieu of standard telex machines. It allows customers to attach privately supplied equipment to leased lines if the facilities required cannot be supplied by Telecom. The private sector supplies and maintains radio paging units but they are installed by Telecom.
- 3.10 Telecom preserves its monopoly over the 'first telephone'. It has an exclusive market for Intercoms, PMBX systems, 'Commander' systems and Multicom systems. The number of PABX suppliers and the range of new PABX systems are restricted.

Market size

- 3.11 Estimates available to the Committee indicate a total annual market for the supply, installation and maintenance of terminal equipment and wiring of some \$500 million. The PABX segment of the market shows the highest growth rates accounting for some \$200 million. The approximate value of terminal equipment purchases from the Australian telecommunications manufacturing industry in 1981 was some \$230 million. Table 3.1 below shows the value of terminal equipment purchases by equipment category.

Table 3.1: Telecommunications equipment purchases -- 1981

<u>TYPE OF EQUIPMENT</u>	<u>\$ MILLION PER YEAR</u>
Telephone handsets	60
PABX	100
Teleprinters	20
Modems	10
Small business systems	30
Facsimile machines	3
Telephone answering machines	1
Radio paging units	1
Other	5
Total	<u>230</u>

Source: Committee estimates

- 3.12 Telecom holds some 70 percent of this terminal equipment market.

SUBMISSIONS

Previous study

- 3.13 The Committee had the benefit of submissions to the Inquiry and material accumulated by Mr King during his previous examination of the marketing of terminal equipment.

Delays

- 3.14 Recurring themes in submissions and in Mr King's material were concerns with delays in the authorisation of equipment and the resulting inhibitions to introduction of innovative equipment. There were complaints that Telecom sometimes chose to limit or exclude new equipment offerings in order to foster its own marketing activities.

Competition

- 3.15 Many submissions considered Telecom's virtual monopoly in installation and maintenance to be inefficient and to result in increased costs to the consumer. Some complained of unnecessary restrictions on the use of equipment and limitations on the range and pace of introduction of more advanced terminal equipment.
- 3.16 Some submissions, mainly from unions and current equipment suppliers, cautioned against extensive liberalisation. The Committee was urged to retain Telecom's monopoly over supply of a subscriber's 'first telephone'. The unions also advocated that Telecom retains its monopoly over PABX maintenance.
- 3.17 Other submissions gave conflicting assessments of the impact of liberalisation on the Australian manufacturing industry. Some saw liberalisation as leading to a proliferation adversely affecting the local industry. Others pointed to the stimulus which such liberalisation would provide for local manufacture or assembly.
- 3.18 Submissions supporting liberalisation pointed out that for any competition between Telecom and the private sector to be effective, Telecom must necessarily be subject to the same conditions as private companies. Some submissions urged that Telecom's activities in the terminal equipment markets should be structurally separated from its network operations.
- 3.19 Telecom acknowledged that competitive supply of terminal equipment would improve the availability of more modern equipment and the efficiency of supply and maintenance. It considered that any liberalisation needed to be phased in order to avoid disruption to the Australian telecommunications manufacturing industry. In data communications Telecom has chosen not to engage in data equipment marketing and has elected to stop at modems as the network terminating unit.

COMMITTEE CONSIDERATION

Major issues

- 3.20 The Committee notes that the diverging views in submissions coincide with the party's existing status within Telecom's existing supply arrangements.

3.21 The issues are:

- . whether the fragmented and arbitrary market divisions are inhibiting customer choice and the introduction of new equipment;
- . whether the private sector has the capacity to expand its role in equipment supply, installation and maintenance;
- . whether Telecom should continue to regulate terminal equipment, wiring and standards;
- . the extent of private sector involvement which would be consistent with the interests of consumers;
- . consequences of a revised market structure.

Effects of present market structure

- 3.22 Telecom has difficulties in servicing the diversity of the terminals market. Its network responsibilities suffer. So do its customers. Customer flexibility in operation of leased lines is inhibited by Telecom's monopoly supply of attachments in some areas. There are lengthy delays in approval for permitted attachments.
- 3.23 Manufacturers should not be denied the right to maintain their own equipment. The cost of maintenance is often a sizeable proportion of total costs. Under Telecom's existing monopoly on maintenance, suppliers have this cost element removed from their control. Where Telecom has a monopoly on the installation of equipment, suppliers can be impeded in their sales efforts if Telecom cannot install at a time convenient to customer and supplier.
- 3.24 Enforcement of a manufacturer's product liability is facilitated in the interests of customers if maintenance and repair is carried out under manufacturer's approval. Customers should not be denied the right to arrange a single line of supply, installation and maintenance of their equipment.

Private sector capability

- 3.25 The telecommunications equipment manufacturers have expressed a willingness to establish sales and service centres if they are granted freer access to the market.
- 3.26 Telecom now provides customer sales and service of terminal equipment in some geographic areas where it is unclear whether the private sector would establish comparable marketing and sales resources. On the other hand, there are presently locations where Telecom does not have representation and where private electricians with very little extra training could supply a service.

- 3.27 Private sector participation in the installation and maintenance of terminal equipment requires manpower capacity and skills to be developed to carry out those functions. There is an increasing variety of specialist services which incorporate telecommunications with other skills, e.g. telemetry and security systems. Wiring on customer premises could be undertaken by electricians with little extra training.

Telecom's role in regulation of terminal equipment standards

- 3.28 Government decisions on the 1981 Report of the Committee of Review of Commonwealth Functions required transfer of responsibility for determination of standards for interconnection equipment from Telecom to an independent body. Implementation of that decision has been deferred pending this Committee's report on appropriate arrangements.
- 3.29 The setting of standards for terminal equipment and interconnection should be a public process using the technical resources of Telecom and the telecommunications manufacturing industry. Telecom presently has an exclusive power over what may or may not be connected to its network. That power is exercised without public review.
- 3.30 The Standards Association of Australia has offered its services as overseer of telecommunications standards. It has the experience and status to organise industry and Telecom resources in an appropriate public process of standard setting for equipment manufacture, attachment and interconnection. The Committee considers that this organisation offers an appropriate mechanism for standards preparation which subsequently can be given force of law by ministerial declaration.
- 3.31 Further elaboration of standards setting procedures by an independent standards authority is contained in Chapter 12.
- 3.32 Committee proposals for interim standards by adoption of Telecom's existing specifications are outlined in Chapter 13.

OPTIONS FOR PRIVATE SECTOR INVOLVEMENT

Alternatives

- 3.33 The Committee considered a range of options for a restructured terminal equipment market including wiring in customers' premises. The options included:
- (a) exclusion of the private sector;

- (b) no change -- maintain the status quo;
- (c) increased competition with controls;
- (d) open competition;
- (e) exclusion of the national terrestrial network operator.

Brief comments on these options follow.

Exclusion of the private sector

- 3.34 The Committee rejects option (a). Exclusive Telecom supply would reduce customer choice in all facets of terminals marketing, installation and maintenance. With evolving technologies and rapidly changing demand patterns Telecom would be unable to respond to that demand without major diversionary response in resources. Terminal marketing is fundamentally different from network marketing. Telecom cannot succeed in both roles.

Maintaining the status quo

- 3.35 The Committee finds option (b) is unsustainable. Changes are inevitable whether made deliberately or left simply to market forces given that:
- . there is continued and accelerating technical and technological development in terminal equipment which increasingly requires the manufacturer's support for service and maintenance;
 - . public attitudes favour more freedom of choice and less regulation;
 - . the existing division of the market for terminal equipment between Telecom and the private sector provides no rational basis for market divisions in the future.

- 3.36 The Committee concludes that the status quo unchanged would exacerbate many of the inefficiencies which were highlighted in submissions.

Increased competition with controls

- 3.37 A number of alternatives is available under option (c). Increased competition could be limited to defined product areas. Small business systems and teleprinters are now supplied exclusively by Telecom. The private sector has a monopoly in facsimile machines, paging units and answering machines. Competition could be introduced in these areas with continued restrictions in some other fields.

- 3.38 The Committee also considered whether Telecom should retain a monopoly over the 'first' or 'basic' telephone. Technological change makes that a shifting and uncertain boundary.
- 3.39 Telecom now has a monopoly over wiring within customers' premises. Major efficiency gains could be achieved by opening up this area to competition enabling pre-installation wiring during building construction. This aspect is taken up in paragraphs 3.58 to 3.65 below.
- 3.40 In submissions to the Committee, representation was made that Telecom should continue to control PABX maintenance on the basis that a PABX is an extension of the switching network and as such Telecom's involvement is necessary to ensure overall network standards and performance. Other assertions made were:
- . fault identification of the line and the remote clearance of the equipment fault have become increasingly difficult;
 - . most suppliers have proven themselves to be thin in technical expertise and indifferent to giving back-up support even in guarantee periods;
 - . PABX maintenance requires a staff classification of technical officer;
 - . suppliers are unable to come to grips with design problems and take them on as their responsibility;
 - . if a supplier leaves the marketplace the customers would be left with no maintenance service;
 - . PABX faults have the potential to cause a deterioration of the service standards in the public switched network;
 - . logistic and organisational administration problems may occur with introduction of new contractors.
- 3.41 The Committee rejects the claim that PABX suppliers could not develop the appropriate technical resources to provide a comprehensive and competent installation and maintenance service. Indeed, manufacturers' support in maintenance of the increasingly complex PABX systems is necessary in the interests of customers: enforcement of manufacturers' liability for any inadequacies in system performance would be facilitated.
- 3.42 Committee proposals developed in this chapter in relation to licensing of telecommunications technicians (paragraphs 3.58--3.59 refer) and the setting of equipment standards by an independent standards authority (paragraphs 3.28--3.32 refer) will ensure that network compatibility, reliability and safety requirements are satisfied.

- 3.43 The Committee concludes that PABX systems can be installed and maintained by other than the network operator without detriment to network performance or to customers. Overall, the Committee concludes that 'partitioning' of Telecom and the private sector in servicing the terminals market is unnecessary, unduly restrictive and administratively complicated.

Open competition

- 3.44 The Committee therefore endorses entry of the private sector into all aspects of terminal equipment supply, installation and maintenance. Whether that competition can develop if Telecom has a continued presence in this field is of major concern to the Committee.
- 3.45 No alternative to Telecom will emerge if Telecom is permitted to cross subsidise its terminals marketing from network revenues. At Telecom's commercial discretion, any competitor could be priced out of the market. The Trade Practices Act 1974 provides some limited safeguards against such pricing practices but presumes that real costs and revenues can be isolated. Many of Telecom's costs may arguably be joint or common to network and terminals. A common management and administrative infrastructure provides a myriad of means through which cross subsidisation of costs and revenues may occur.
- 3.46 The Committee concludes that effective competition will not emerge in the terminals market if Telecom remains as a dominant force by having a preferred position.

Exclusion of the national terrestrial network operator (Telecom)

- 3.47 The Committee finds option (e) could be advantageous for resource allocation and fairness. It would permit Telecom to concentrate on network development. Its funds would be conserved for that purpose. Telecom would not be in a position to use its market force to inhibit private sector growth.
- 3.48 There are two possible ways by which Telecom could be excluded:
- . progressive 'winding down' of Telecom's terminal marketing activities including wiring in customers' premises; or
 - . transfer of Telecom's existing terminal marketing activities to a separate marketing organisation.
- 3.49 A progressive 'winding down' of Telecom's activities in the terminals area presents major practical difficulties. Telecom has a workforce equivalent to more than 5000 employees in this total area of which the majority is employed in wiring in customers' premises. The net book value of Telecom's assets in terminal equipment is some \$913 million, indeed more than its current assets in trunk network of \$764 million. Existing suppliers of terminal equipment have significant investments in production facilities based upon Telecom's continued presence in this market. Complex and lengthy phasing out procedures would be necessary.

- 3.50 The Committee concludes that the more effective means of implementing this option is to establish a separate organisation to supply, install and maintain terminal equipment. This would enable effective separation of terminals marketing from Telecom's own network responsibilities.

CONCLUSIONS ON THE MARKETING OF TERMINAL EQUIPMENT AND ASSOCIATED USER SERVICES (INCLUDING WIRING)

Market structure

- 3.51 The Committee concludes that competition should be permitted in all aspects of terminal equipment marketing. That competition must be fair and reasonable. A separate marketing organisation for Telecom's existing activities in terminal equipment is necessary to ensure that the national terrestrial common carrier does not cross subsidise costs and revenues between network and terminals.
- 3.52 With regard to wiring within customers' premises the Committee notes that this is a labour intensive activity necessitating different skills from those required for the marketing of terminal equipment and their maintenance.
- 3.53 In the longer term, with growth in private sector compatibility in wiring, it is preferable that the public sector vacate this field.
- 3.54 The corporate arrangements which the Committee recommends for Telecom and 'Telequip' are discussed in Chapter 11.

Recommendations

- 3.55 The Committee recommends:

Market structure

- . THE PRIVATE SECTOR SHOULD BE PERMITTED TO PARTICIPATE IN ALL ASPECTS OF TERMINAL EQUIPMENT MARKETING.
(R20)
- . THE PRIVATE SECTOR SHOULD BE PERMITTED TO PARTICIPATE IN WIRING IN CUSTOMERS' PREMISES.
(R21)

Responsibility for technical standards

- . RESPONSIBILITY FOR TECHNICAL STANDARDS FOR TERMINAL EQUIPMENT SHOULD BE TRANSFERRED FROM TELECOM TO AN INDEPENDENT STANDARDS AUTHORITY AND THAT THE STANDARDS ASSOCIATION OF AUSTRALIA (SAA) BE SO DESIGNATED.
(R22)

MARKET CONSEQUENCES AND INSTITUTIONAL CHANGES

New market opportunities

- 3.56 Implementation of the Committee's recommendations on competition will result in a significant redistribution of market opportunities:
- . the private sector will enter previously restricted markets; in particular:
 - 'first' or 'standard' telephone;
 - small business systems;
 - PABX to Commonwealth Government;
 - telex;
 - data modems;
 - . markets previously restricted to the private sector will be open; in particular:
 - PABX to private sector below 50 lines;
 - facsimile machines;
 - answering machines;
 - radio paging units;
 - . Telecom's effective monopoly in installation and maintenance of terminal equipment will be removed.
- 3.57 This opening up of markets will allow private sector participation in markets having annual revenues in the order of \$350 million (i.e. 'standard' handsets, Government PABX, teleprinters, small business systems and modems). The public sector will participate in new markets having annual revenues in the order of \$150 million (i.e. facsimile, answering machines, below 50 line PABX, radio paging units).

Regulation of installers of telecommunications equipment

- 3.58 'Teletricians' could be a new trade group building on the general qualifications of electricians in the private sector.
- 3.59 It will be necessary to lay down minimum proficiency requirements for persons engaged in installation and maintenance of the more complex terminal equipment and in wiring of customers' premises. There are ample precedents in the electricity industry. The statutory model outlined in Chapter 12 provides for the establishment of a Telecommunications Technicians Licensing Board which would be empowered to license persons to install and to maintain telecommunications equipment.

Network termination at customer's premises

- 3.60 Competition between a separate terminal equipment organisation -- 'Telequip' -- and the private sector in the supply, installation and maintenance of terminal equipment will require a number of changes to Telecom's own practices in connecting subscribers to the network.
- 3.61 Most Telecom terminal equipment is now rented to its customers. Telecom's own workforce generally carries out wiring within the customer's premises and installs the instrument at a terminal point nominated by the customer. The instrument itself completes the connection to the local exchange.
- 3.62 Telecom's remote testing procedures depend on having a standard instrument terminating the customer line. Tests are so designed to take into account the standard 'terminating impedance' of the instrument.
- 3.63 With competition in the terminals market, customers must be free to make arrangements with the suppliers to install and to replace terminal equipment which may be either rented or purchased. Customers must also be free to arrange for wiring within their own premises through licensed 'teletricians'.
- 3.64 For new building construction, the Committee sees advantage both for customers and for Telecom if the internal wiring is done during the construction stage, as is the case with electrical and water services.
- 3.65 Implementation of the Committee's recommendations for competition in terminal equipment will require the following changes in the installation and operational practices of Telecom, 'Telequip' and the private sector:

- Use of standard 'plug and socket' at point of terminal connection

Telecom's remote testing from the test desk at the local exchange will require standard termination of the line even when the instrument is unplugged. This can be achieved by use of a socket configuration at the installation point which will allow a standard termination to be switched when an instrument is unplugged. A standard plug and socket also gives the customer freedom to plug in a replacement instrument at will. Use of standard terminating sockets is common practice in other countries where competition exists in the terminals market.

- Termination of Telecom's network at a junction box external to the customer's premises

Removal of wiring within customer premises from Telecom's own network can be achieved by fixing the network interface at a junction box external to the customer's premises. A remote actuating device at that point would enable automatic disconnection of the private wiring and substituting standard

termination at that point. With new connections, Telecom would complete its task at the external junction box leaving the customer free to arrange separately for internal house wiring and installation of the telephone instrument or other terminal equipment.

- 3.66 The Committee sees considerable advantages in the progressive introduction of junction boxes and standard plug and socket configurations. The efficiency of Telecom's remote testing of customer lines will not be affected. Telecom technicians will not need to enter a customer's premises in order to test Telecom lines. Customers will be able to make their own arrangements for installation and wiring with private sector 'teletricians' or directly with suppliers of the equipment.
- 3.67 The Committee notes that in some large and complex customer systems, including computer installations, there may be a requirement for the network operator's plant -- including testing equipment -- to be located within the customer's premises. In that event, contractors would need to act under Telecom's supervision.
- 3.68 The Committee notes from Telecom's fault analysis statistics that the majority of customer reported and verified faults are in customer equipment and internal wiring:

Table 3.2: Fault analyses -- national average (metropolitan)
1980--1981(1)

TYPE OF FAULT	NO. OF FAULTS PER	
	100 INSTRUMENTS/4 WEEKS	%
Right when tested	1.265	29.7
Customer Equipment	1.845	43.4
External Plant	0.728	17.1
Exchange Equipment	0.418	9.8
TOTAL	4.256	100.0

(1) Excludes public telephones or faults due to other causes.

Source: Committee analysis of Telecom data

Table 3.3: Fault analyses -- verified faults -- national average
(metropolitan) 1980--1981(1)

TYPE OF FAULT	NO. OF FAULTS PER	
	100 INSTRUMENTS/4 WEEKS	%
Customer Equipment	1.845	61.7
External Plant and Network	1.146	38.3
TOTAL	2.991	100.0

(1) Excludes public telephones and faults due to other causes.

Source: Committee analysis of Telecom data

A Telecom sample analysis (1978) of customer equipment faults based on over 6000 visits to 801/802 telephone installations in the Sydney Metropolitan area showed:

Table 3.4: Ten (10) Most Common Results

CAUSE	PROPORTION OF TOTAL CAUSES	
		%
No Fault Found		26.48
Telephone Instrument: Dial	13.45	
Bell	9.15	
PCB	4.53	
Cord	4.32	
Transmitter	3.62	
Wiring	3.29	
Switchhooks	3.18	
	41.54	41.54
Plug and Socket	6.62	
House Cabling	10.82	
	17.44	17.44
Other		14.54
	TOTAL	100.00

Source: Committee analysis of Telecom data

- 3.69 Under the procedures envisaged by the Committee, Telecom's remote testing will generally establish whether a reported fault is located in Telecom's area of responsibility (network interface to local exchange) or in the customer's own internal wiring or instrument. In a small percentage of cases the fault diagnosis may prove to be wrong and some customer inconvenience and duplicated cost could result. This will be offset by greater freedom for customers to make their own arrangements in their own time either to correct a faulty telephone in their own premises or to buy a new handset. For 'Telequip' and Telecom many unnecessary house calls will be avoided. The Committee inquired about the incidence of unsuccessful house calls (i.e. 'customer not at home') in the Chatswood District (metropolitan Sydney). Seven percent of all calls were unsuccessful for this reason.
- 3.70 The Committee envisages progressive introduction of junction boxes which the network operator should make mandatory for new connections and rewiring within a customer's premises. A requirement for a standard socket should also be set by the Standards Authority for 'plug-in' terminal equipment.
- 3.71 Telecom should write off customer wiring which is now included in its assets. Wiring within customer premises is an illusory asset. In practice, it belongs to the customer.

Recommendations

3.72 The Committee recommends that:

Licensing of technicians

- . A TECHNICIAN LICENSING AUTHORITY SHOULD BE ESTABLISHED TO LICENSE PERSONS ENGAGED IN INSTALLATION AND MAINTENANCE OF TERMINAL EQUIPMENT AND WIRING IN CUSTOMERS' PREMISES.
(R23)

Telecom's network interface

- . TELECOM'S NETWORK INTERFACE SHOULD BE AT A JUNCTION BOX AT THE BOUNDARY OF THE CUSTOMER'S PROPERTY OR ON THE OUTSIDE OF THE BUILDING AS APPROPRIATE.
(R24)
- . A STANDARD PLUG AND SOCKET SHOULD BE REQUIRED AT THE TERMINAL INSTALLATION POINT WITHIN CUSTOMER PREMISES WHERE APPROPRIATE.
(R25)
- . TELECOM SHOULD WRITE OFF THE CAPITALISED COST OF WIRING WITHIN CUSTOMER PREMISES.
(R26)

CHAPTER 4

SERVICES

INTRODUCTION

Scope

- 4.1 This chapter discusses competition in present and planned services.
- 4.2 Telecom present and planned services are reviewed. Implications of the service capability of the planned national satellite system are examined. The scope for competition in provision of telecommunications services over large capacity cable and other local distribution systems is discussed.
- 4.3 Committee examination of present and planned services encompasses the needs and views of users. For the purposes of chapter discussion present and planned services are grouped under the following categories:
- . audio/voice;
 - . information and computer-based data and 'videographic' services;
 - . image;
 - . digital data services;
 - . printed directories.

Chapter 6 contains related Committee discussion on Telecom's pricing policies and charges. Telecom's marketing of services and customer relations is reviewed in Chapter 8. Chapter 10 comments on the impact of Telecom's capital works programme on service availability.

Objectives

- 4.4 Specific Committee objectives for future supply of telecommunications services are:
- . services should continue to be introduced progressively throughout Australia consistent with national priorities;
 - . charges for services should be non discriminatory and should reflect as far as is commercially practicable the cost of service provision;

- users should be able to derive maximum benefit from timely introduction of services using latest available telecommunications technologies;
- the market should be structured to give users a wider choice in service supply.

Definitions

4.5 The following definitions have been adopted by the Committee:

Services:	communications facilitated by carriage of traffic over a licensed or leased telecommunications network (i.e. via electromagnetic transmission of audio, information and computer-based data, video and integrated signals).
Carriage:	the electromagnetic transmission of voice, data and image signals over a telecommunications system.
Content:	the information content of signals transmitted over a telecommunications system.
Network operator:	the operator of a licensed network. Such an operator may also be a service provider.
Service provider:	a person who provides or facilitates provision of communications services carried over any telecommunications system in a licensed network.
Information provider:	a person who uses transmission capability in a licensed or leased network to provide subscriber information services.

PRESENT ARRANGEMENTS

Regulatory overview

4.6 Telecom provides services within Australia in accordance with its statutory obligations under the Telecommunications Act 1975. The Telecommunications By-Laws prescribe the terms and conditions applicable to those services (Volume 2, Section 1 refers).

Present Telecom services

- 4.7 Present Telecom services are outlined below. A more detailed description is given in Volume 2, Section 3.

AUDIO/VOICE SERVICES

- . voice telephony including:
 - local and trunk telephone services;
 - wide area telephone service (INWATS);
 - public telephones;
 - recorded information services;
 - other operator services including directory services;
- . radio voice communications including:
 - Telefinder radio paging service;
 - public automatic mobile telephone service;
 - HF and VHF fixed services.

INFORMATION AND COMPUTER-BASED DATA AND 'VIDEOGRAPHIC' SERVICES

- . telegram service;
- . public telex service;
- . text facsimile;
- . data services over Datel leased lines;
- . picture facsimile.

VIDEO/IMAGE SERVICES

- . videoconferencing.

PRINTED DIRECTORIES

- . telephone white and yellow pages;
- . telex directories.

PLANNED AND POTENTIAL SERVICES

Telecom's plans for new services

- 4.8 Telecom has announced plans for extensions to existing services and new services by 1985. The most significant are new computer-based data services:

- . public switched data service (AUSTPAC);
- . digital data service (DDS).

Details are given in Volume 2, Section 3.

Services over the national satellite system

- 4.9 The national satellite system (NSS) is scheduled to be in service in 1985. Volume 2, Section 3 outlines the service capability of that system.

Services over large capacity cable systems

- 4.10 Large capacity cable systems, if introduced into Australia, could carry a wide range of interactive telecommunications services. Examples are given in Volume 2, Section 3.

SUBMISSIONS

Regulation

- 4.11 Relatively few submissions commented on regulatory aspects. They focused on Telecom's conflicting roles as both regulator and provider of what they described as 'basic' or 'fundamental' services. They advocated minimal regulation, with 'other' services (described variously as 'enhanced', 'augmented' or 'value added') being offered on an unregulated competitive basis. Most submissions which commented on regulation advocated that service providers (as distinct from network operators) should not be subject to licensing procedures.

'Basic' versus 'other' services

- 4.12 Some submissions sought to differentiate between 'basic' and 'other' services. They offered a service differentiation as follows:
- 'Basic' services -- those which should be 'universally' available in the national interest -- e.g. telephone and telegram services;
 - 'Other' services -- those which are essentially 'commercial in nature' and have specialised application for business and institutional users.

Adequacy of present services

- 4.13 In considering the adequacy of existing services, the Committee finds it necessary to distinguish between metropolitan and non metropolitan telecommunications in Australia. Non metropolitan services provision presents Telecom with difficulties of funding, development priorities, high capital costs and revenue deficiencies which it has sought to

resolve through cross subsidisation of service costs, forms of capital rationing and an uneasy accommodation of the sometimes conflicting objectives of a national developer and business enterprise. Non metropolitan services and their deficiencies are analysed in detail in Volume 3, Section 3 and are discussed in Chapter 10 in the context of the Committee's review of Telecom's national network development.

- 4.14 Submissions from non metropolitan subscribers criticised aspects of the standard of available telephone services including costs and delays in service provision. Most submissions considered that Telecom's 'standard' telephone services in metropolitan areas were acceptable. Several submissions received by the Committee from Telecom's business customers criticised the availability, quality and timely introduction of telex and data services.

Services to be offered over the NSS

- 4.15 No specific comments were offered in the minority of submissions which referred to the planned NSS. The Committee initiated a confidential survey of potential NSS use and service applications. Respondents to that survey encompassed a representative sample of existing major users of telecommunications services. A summary of relevant information is given in Volume 2, Section 3.

Telecommunications services over 'CTV' networks

- 4.16 Very few parties offered comment on this topic. Some forwarded copies of submissions to the ABT Cable Inquiry as attachments to their submissions to this Inquiry.

COMMITTEE CONSIDERATION

The changing service environment

- 4.17 By 1985, in addition to present services, users will have Telecom provided integrated digital data services. By the following year service offerings will be further enhanced when the national satellite system is operational.
- 4.18 Despite increased service diversity, by far the biggest volume use of network transmission involves voice telephony traffic. On average, over 80 percent of revenue derived from Telecom's top business customers relates to voice telephony traffic. Voice accounts for about 90 percent of Telecom's gross earnings from all subscribers for all services.

- 4.19 Most telecommunications services in Australia are supplied by Telecom. The private sector has only recently entered this market. Its present participation is extremely limited.
- 4.20 The Committee notes the following relevant overseas trends and implications:
- . the bulk of telecommunications traffic still involves:
 - two-way voice conversations;
 - hard copy information transfer using low speed capability transmission facilities and terminal equipment with relatively slow keyboard or other mode of information input capability;
 - . use of increasingly sophisticated word processing and telex terminal equipment has led to the development of a variety of 'electronic mail' services;
 - . there is an increasing demand for high volume, high speed transmission;
 - . technological advances in transmission of video and image signals have resulted in the growth of videoconferencing services.
- 4.21 A notable overseas trend is the increasing demand for more advanced computer-based data communications and digital data services. Requirements for many such services cannot be accommodated on Telecom's existing national terrestrial network.
- 4.22 The Committee has taken account of overseas commercial satellite experience. The Committee notes in particular:
- . overseas commercial satellite systems are being used to overcome the service constraints of existing terrestrial networks;
 - . different countries have adopted different approaches to the application and marketing of services delivered via satellite systems;
 - . in those countries with statutory (PTT) telecommunications monopolies, satellite systems are being used to complement existing terrestrial network service capability;
 - . in North America a more entrepreneurial approach has been adopted, with the unique service capability of satellite systems being used to develop and deliver innovative telecommunications services.
- 4.23 The Committee notes the tangible benefits for users of telecommunications services based on new distribution technologies (Volume 2, Section 6 refers).

Issues

4.24 The issues are:

- the adequacy and accessibility of present services in meeting requirements of domestic and business subscribers in urban or non urban areas (paragraphs 4.25--4.27 refer);
- the extent to which increased competition would meet existing and changing requirements of some users without jeopardising Telecom's ability to provide and maintain universally available services to others (paragraph 4.28 refers);
- Telecom's relationship with present, planned and potential competitors (paragraphs 4.29 et seq refer).

Adequacy and accessibility of present Telecom services

- 4.25 The Committee notes that most telephone services in Australia have automatic connection to both local and trunk networks. At June 1981, 98.6 percent of all subscribers had access to STD. Some 80 percent of Australian households were connected to the public switched telephone network. In non metropolitan areas, service penetration ranges from 50 to 70 percent with the level of penetration relating to population density in country rural and urban rural areas respectively. Some 60 000 rural subscribers are connected to manual exchanges. Remote area subscribers are serviced via HF, VHF or in some cases UHF radio-communications systems (Volume 2, Section 2 refers).
- 4.26 The Committee notes that upgrading of present manual services and extension of the public switched telephone service into rural and remote areas is dependent on Telecom's planning for network development. Relevant comment is contained in Chapter 10.
- 4.27 Business users, particularly those in urban country areas, are critical of Telecom's responsiveness in meeting demands for connection of telex and data services. Telecom points out that there has been significant growth in both areas since 1975. It attributes the present level of unsatisfied demand to capital constraints and network development priorities. These matters are discussed in Chapter 10.

Implications of increased competition for telecommunications users

- 4.28 The Committee notes concern in some submissions that competition could jeopardise Telecom's ability to fulfil its present obligations as the national telecommunications common carrier. These typically are the views of non metropolitan residential subscribers. Submissions from

metropolitan business subscribers took the view that increased competition would result in diversity of supply, lower costs, more timely service introduction and would lessen the likelihood of service failure due to industrial or other disruptions.

Telecom's relationship with future competitors

4.29 The Committee has considered Telecom's relationship with future competitors in the light of the following:

- the need to make distinctions between the role and functions of network providers and service providers;
- potential competition between AUSSAT and Telecom in service provision, as distinct from network competition;
- potential competition from carriage of services over 'CTV' systems and other local, wideband distribution systems -- e.g. microwave radio networks;
- wider competition in supply of certain existing Telecom services.

Related discussion ensues in the following paragraphs.

Role and functions of network operators and service providers

4.30 When telecommunications systems were first established all users were subscribers to services carried over public switched networks. Today, some users not only subscribe to such services but also lease network capacity to provide information services to others (Chapter 2, Section I refers). There is now a need to distinguish between carriage and content of signals transmitted over telecommunications systems. A distinction has also to be made between a network operator and a service provider.

4.31 The role of a network operator (carrier) is considered in Chapter 2. The role of a service provider is also referred to in that chapter. The important issue is whether providers of network transmission systems (network operators) should also provide information (content) thus competing in two different telecommunications markets.

Potential competition in services over the NTN and the NSS

4.32 Committee examination of competition in services carried over the NTN and the NSS took account of the following considerations:

- the opportunity for Telecom to provide improved or new services via the national satellite system (e.g. remote subscriber telephony, videoconferencing, high speed data communications and integrated traffic services);
- the probability of competition from other service providers operating leased satellite networks;
- government decisions that preferential access to NSS capacity must be given to enable provision of the following telecommunications services (Volume 2, Sections 1 and 3 refer):
 - Telecom remote telephony subscriber service (RTSS);
 - Department of Transport air traffic control services;
- the differing service capabilities of existing Telecom network and planned national satellite transmission system (Volume 2, Section 3 refers);
- user views on their potential service requirements in relation to the national satellite system (Volume 2, Section 3 refers).

4.33 The Committee concludes that, at least for the first generation national satellite system, services carried over the NSS are likely for the most part to be complementary to those carried over the NTN.

4.34 The Committee considers that no restrictions should be placed on the services carried over the NSS. With increasing use of digital transmission techniques, differentiation between classes of service is impracticable.

Potential competition between Telecom and service providers using large capacity cable systems

4.35 In Chapter 2, the Committee discussed the possibility of the introduction of large capacity cable systems as recommended by the ABT Cable ('CTV') Report. In that chapter, the Committee recommends that a distinction be made between the cable system operator and the provider of telecommunications and entertainment services carried over that system. It recommends that if Telecom's ducts are to be used for large capacity cable systems, then Telecom should construct the systems and should lease capacity to the providers of information and other telecommunications services.

4.36 In the following paragraphs the Committee discusses the services carried over large capacity cable networks.

4.37 The Committee notes the following recommendations of the ABT Cable Report in relation to the telecommunications service content of large capacity cable systems:

"R7 That separation between ownership of the CTV Reticulation System and the operation of the CTV system (including the provision of services on the system) be permitted rather than be mandatory or prohibited."

"R35 That CTV system licensees be permitted to utilise the capability of their CTV systems for the carriage and provision of enhanced services."

"R36 That users of leased channels on a CTV system be entitled to utilise the capability of those channels to provide enhanced services of all types."

4.38 The Committee notes the related rationale and findings in the ABT Report:

- rejection of an approach to service competition based on a separation of 'carriage' and 'content' of signals carried over 'CTV' systems;
- ABT view that regulation of such separation would be both difficult and expensive;
- telecommunications services (described in the ABT report variously as 'interactive' and 'enhanced') over 'CTV' systems would be 'discretionary' requiring competitive marketing with many other services;
- 'enhanced' or 'discretionary' services will only gain consumer acceptance if marketed by a person interested and involved in provision of those services;
- service providers should therefore have overall responsibility for services carried "as a whole" over 'CTV' systems.

4.39 This Committee supports the ABT view that competitive service supply is in the public interest. It notes ABT observations on the overlap of telecommunications and broadcasting television services. The ABT attributes the overlap to advances in cable distribution technology. This Committee considers that the blurring arises not only through technology but also as a consequence of the present statutory and administrative practices adopted in Australia and elsewhere in relation to the public regulation of telecommunications and broadcasting services.

4.40 The Committee adopts a different approach to the ABT in resolving this regulatory dilemma. It finds that:

- the significance of large capacity cable systems is their immense traffic carrying capacity for both entertainment programming and telecommunications services;
- while the telecommunications services now offered overseas through large capacity cable systems require insignificant bandwidth relative to that required for 'cable television' services, the advanced telecommunications services of the future will commandeer more capacity within such systems;
- while demand studies undertaken by the ABT for cable-based telecommunications services are inconclusive, it is likely that telecommunications services will in future assume increasing significance for the commercial viability of 'CTV' networks;
- if Australia adopts a regulatory framework for cable systems based only on 'CTV' program priorities, then a gross national communications planning error will result;
- cable systems should be separated from the telecommunications and entertainment services which they carry;
- regulation of the systems must be integrated within the overall planning of a nation's telecommunications infrastructure.

4.41 The Committee concludes that separation of 'carriage' and 'content' -- system operation and service provision -- is not only practicable but essential. Separation of system and service would:

- promote diversity in service supply;
- facilitate easier market entry by prospective private sector service providers;
- be in the interests of users overall;
- enable best use of different types of transmission systems consistent with their traffic carrying and service performance capability;
- facilitate more timely introduction of new services;
- allow simpler regulatory and administrative arrangements, hence minimal government intervention in the market and lower costs to service providers and users.

4.42 This Committee finds no merit whatsoever in regulation of telecommunications service providers. It recognises that Government may wish to make different arrangements for 'television program' material included in such services but notes that such an approach would be inconsistent with overseas trends towards deregulation.

- 4.43 The Committee notes that, because telecommunications revenue per unit of capacity is so high, there will be pressures on any 'CTV' licensee to enter the general field of telecommunications. The commercial pressure to use spare cable capacity for general telecommunications services should be recognised in the regulatory arrangements. Any legislation designed to control 'CTV' must also be capable of handling any other 'videographic' service including 'videotex' (paragraphs 4.45-4.52 refer). In Australia, existing 'videotex' services have been designed to be carried over a single telephone voice channel. Consequently, transmission speed is slow and the volume of information carried is small. In the future, improved 'videotex' services will be possible using much wider bandwidth possible with improved transmission technology. The Committee notes that wideband 'videotex' services (using up to 6 MHz bandwidth and transmitting information at the rate of 6 mbps) are already being provided overseas.

Services carried over other independent networks

- 4.44 The Committee's findings in relation to competitive services carried over other independent networks are consistent with discussion in paragraphs 4.34 and 4.40--4.42 above.

Computer-based information, data and 'videographic' services

- 4.45 'Videotex' is a generic term for a variety of computer-based information services which could be carried over:
- . the national terrestrial network;
 - . large capacity cable systems;
 - . microwave distribution systems (either terrestrial or satellite-based).
- 4.46 'Videotex' is part of a broader family of services which the Committee classifies as 'videographics'. 'Videographic' services include services typically accessed by video display units as terminal equipment although output by hard copy print-out of information may also be available.
- 4.47 The Committee notes that 'videotex' services are already being provided by information providers utilising leased Telecom network capacity. Some 'videographic' services -- known as 'Teletext' -- are also being provided by some commercial television licensees.
- 4.48 In this chapter, the Committee limits its discussion to 'videotex' services.
- 4.49 The Committee notes Telecom's views that:
- . the business community in Australia wants to move rapidly into use of 'videotex';

- . Telecom should be permitted to facilitate the provision of a national 'videotex' service by providing the necessary 'gateway' and 'common carrier' facilities;
- . Telecom had taken account of the Government's desire for maximum private sector involvement in the service and had consequently proposed:
 - information content should be provided by private sector organisations;
 - terminal equipment (VDUs) should be supplied by the private sector;
- . a national service could be provided by Telecom at a uniform price;
- . uniform pricing for service supply would require cross subsidisation between metropolitan and country areas.

- 4.50 The public is entitled to a choice of 'videotex' services. Telecom could be in a conflict of interest if it both provides a 'videotex' service and is required to provide network capacity for other 'videotex' service providers. Common interface standards and protocol 'language' are essential so that customers need only one receiver (VDU) to access a variety of 'videotex' services.
- 4.51 The Committee endorses Telecom's proposals in so far as Telecom seeks to limit its role to that of a system operator offering facilities on a non discriminatory basis to any information provider who may wish to use that capacity. The Committee does not agree that Telecom's infrastructure should be offered on the basis of nationally cross subsidised uniform pricing. Telecom should offer no more and no less than a commercially sound business proposal to facilitate the growth of 'videotex' services.
- 4.52 If Government wishes to sponsor a national 'videotex' service by cost subsidisation in the less attractive markets throughout Australia then Government should fund those social objectives from general budget appropriations.

Recorded information services

- 4.53 Privately provided recorded information services are presently extensive with some 86 in operation as at 30 June 1981 (including TAB, News, Dial-a-Record, Pools Results, Exchange Rates, Lotto Results etc.). Services provided by Telecom include Time, Weather and Stock Exchange Reports (Volume 2, Section 3 contains relevant information). These Telecom services could perhaps be provided by the private sector.

- 4.54 The Committee considers that recorded information services presently provided by Telecom should be reviewed in line with its recommendations on separation of network ownership (signal carriage) and service provision (signal content). Telecom should not be restricted from developing network facilities providing the gateway for such information services.

Public telegram service

- 4.55 The public telegram service is administered by Telecom under an agency agreement with Australia Post. The TRESS network on which it is based is highly operator dependent. Australia Post, as Telecom's agent, assists in providing the means for accepting messages for transmission and delivery of the message in hard copy at the receiving end through its extensive Post Office network. Telecom employs some 500 highly specialised telegraphists who operate the network (Volume 2, Sections 2 and 3 refer).
- 4.56 In its submission to the Committee, Australia Post indicated a desire to take over and to develop the service. While presently a declining and unprofitable service, if upgraded, the public telegram service could be made profitable with possible addition of a public facsimile or other 'electronic mail' service. The Committee notes the success of British Telecom in developing an alternative and profitable service marketed as TELEMESSAGE.
- 4.57 Amendment to Australia Post's legislation would be required to enable Australia Post to assume the role of principal rather than agent in relation to the public telegram service. The Committee supports Australia Post's proposals in that regard. Australia Post should be given the opportunity to demonstrate initiative and improve its customer service. It should be permitted to compete in the provision of other telecommunications services involving hard copy output -- including 'electronic mail'. The existing TRESS network or other transmission capacity would be leased directly from Telecom.
- 4.58 Should upgrading or replacement of the existing TRESS network lead to Telecom staff redundancies it would be necessary for Telecom to arrange suitable retraining and placement of telegraphists.

Public access telephone services

- 4.59 Telecom's public access telephone services including leased public telephones -- REDPHONES and others -- are described in Volume 2, Section 3.
- 4.60 The Committee endorses Telecom's current programs for improvement of facilities available in public access telephones located in streets and other public places. Opportunities should also be available to enable local councils, Australia Post or community organisations -- if they so wished -- to participate in or supplement Telecom's provision of these services. Telecom should make its booths and terminal equipment

available for sale or lease for that purpose. Public telephones located in Australia Post premises could be owned or controlled directly by that organisation.

- 4.61 REDPHONES and other leased public telephones located in business premises under leasing agreements with Telecom provide customer services which the Committee considers would be improved by private sector involvement. Under the Committee's proposals for deregulation of services and for resale of leased Telecom capacity, businesses also could provide public access telecommunications services. Additional services such as public facsimile or telex could also be provided. Persons offering telecommunications services to the general public through such facilities should do so without restriction on prices or charges made for use.

OPTIONS FOR SERVICE COMPETITION

Alternatives

- 4.62 The Committee considers that Telecom as national terrestrial common carrier should:

- provide national public switched telecommunications services accessible where practicable throughout Australia at non discriminatory charges;
- concentrate on upgrading existing public switched services and the introduction of new public switched services.

In considering the options for service competition the Committee has sought to ensure customer choice in service supply, flexibility, and the avoidance of any conflict of interest between Telecom and its network customers competitively providing information services. These same considerations led the Committee to conclude in relation to user services in terminal equipment marketing that Telecom's activities in those areas should be transferred to a separate equipment marketing organisation (Chapter 3 refers).

- 4.63 The options are:

- (a) exclude private sector service providers from the market for national public switched services;
- (b) exclude Telecom from supply of those services which are not integral to its role as national terrestrial common carrier;
- (c) unrestricted competition between Telecom and the private sector.

Exclude private sector

4.64 Option (a) is rejected on the grounds that:

- . it would tend to reinforce Telecom's monopoly over most aspects of telecommunications service provision including those which are not necessarily carried over the public switched network;
- . some private sector interests are already providing certain services;
- . it would require a regulatory differentiation to be made between 'basic' and 'other' services which, given technological advances and the rate of service innovation, would be impracticable if not impossible to maintain;
- . it would restrict customer choice.

Limitation on Telecom's services provision

4.65 The Committee sees merit in option (b). Its implementation would be consistent with Committee findings on:

- . Telecom's present activities in the terminal equipment market;
- . Telecom's role as the national terrestrial common carrier;
- . the need to distinguish between the roles of network operator and service provider as a prerequisite to wider private sector participation in the provision of telecommunications services.

4.66 The above conclusions are consistent with Committee findings on:

- . 'videotex' and 'videographic' services;
- . public telegrams;
- . public and leased coin telephones;
- . recorded information services;
- . telecommunications services over large capacity cable systems;
- . telecommunications services over the national satellite system;
- . telecommunications services over other independent networks.

- 4.67 The Committee concludes that Telecom while supplying gateway facilities should be excluded from supply of the following service areas:
- . provision of 'videotex' services, except as an information provider to a 'videotex' data base in respect of data relating to its own network and public subscribers;
 - . provision of recorded information services;
 - . provision of services carried over large capacity cable systems.
- 4.68 In respect of the latter, the Committee's finding assumes implementation of its recommendation that Telecom be permitted to participate in the provision of large capacity cable systems in Australia and related recommendations.
- 4.69 Committee recommendations on use and resale of leased Telecom capacity would enable competitive provision of 'videotex', other 'videographic', recorded information and telecommunications services carried over large capacity cable systems via leased networks.
- 4.70 The Committee expects that implementation of those recommendations would lead to a number of leased network operators seeking to compete with Telecom in provision of both network capacity and telecommunications services. It notes that leased networks are already being used by private sector organisations providing computer-based information, data and 'videographic' services to their customers and subscribers.
- 4.71 Telecom should concentrate on provision of services over its public switched network. Otherwise it could easily use its present market dominance to inhibit wider competition. The diversion of Telecom resources which should be used to develop public switched network services would delay service extension to presently unserved areas, notably non metropolitan. This would widen the present imbalance between service range, standard and accessibility available to metropolitan and non metropolitan subscribers.
- 4.72 The Committee also considered the possibility of restricting Telecom to provision of public switched services which it presently provides or plans to provide.
- 4.73 The Committee rejects this alternative on the grounds that:
- . Telecom must be allowed to use its profits together with borrowings to fund its own growth;
 - . future expansion of Telecom is essential if it is to meet its objectives as the national terrestrial common carrier;

- there are areas of low population density, and those in isolated or remote regions, which may not prove commercially attractive to private sector service providers;
- to deny Telecom the opportunity to provide new public switched services in those areas would not be in the public interest.

Unrestricted competition

- 4.74 This option is rejected for reasons already outlined under paragraphs 4.67--4.71 above.

Recommendations

- 4.75 The Committee recommends that:

Separation of 'system' and 'service'

- NETWORK OR SYSTEM PROVIDERS, INCLUDING TELECOM, SHOULD NOT PROVIDE INFORMATION OR ENTERTAINMENT SERVICES UNLESS:
 - (a) THE SERVICES ARE NETWORK-BASED;
 - (b) THE SERVICES RELATE TO THE CONDUCT OF THEIR BUSINESS.
- (R27)

'Videographic' services (including 'videotex')

- TELECOM SHOULD BE PERMITTED TO OFFER PUBLIC LEASED NETWORK CAPACITY AND 'GATEWAY' FACILITIES TO INFORMATION AND 'VIDEOGRAPHIC' SERVICE PROVIDERS ON A NON EXCLUSIVE AND COMMERCIAL BASIS.

(R28)
- ANY SUBSIDY TO SUPPORT A NATIONAL 'VIDEOTEX' SERVICE SHOULD BE PROVIDED DIRECTLY BY GOVERNMENT.

(R29)

Recorded information services

- RECORDED INFORMATION SERVICES NOW PROVIDED BY TELECOM SHOULD BE REVIEWED IN LINE WITH THE COMMITTEE'S RECOMMENDATIONS ON SEPARATION OF NETWORK OWNERSHIP AND SERVICES PROVISION.

(R30)
- TELECOM SHOULD NOT BE RESTRICTED IN DEVELOPING NETWORK CAPABILITY FOR NETWORK-BASED INFORMATION SERVICES.

(R31)

Public access telephones

- . CURRENT TELECOM PRACTICE OF SUPPLYING PUBLIC ACCESS TELEPHONES SHOULD CONTINUE.
(R32)
- . LOCAL COUNCILS, AUSTRALIA POST OR COMMUNITY ORGANISATIONS SHOULD BE FREE TO PROVIDE PUBLIC TELEPHONE SERVICES.
(R33)

'Redphones'

- . LEASED COIN OPERATED TELEPHONES ('REDPHONES' AND OTHERS) SHOULD BE REGARDED AS PART OF THE OPEN TERMINAL EQUIPMENT MARKET.
(R34)
- . 'REDPHONES' SHOULD BE OFFERED ON EITHER A SALE OR LEASE BASIS.
(R35)
- . TELECOMMUNICATIONS SERVICES OFFERED TO THE PUBLIC THROUGH SUCH FACILITIES SHOULD BE SO OFFERED WITHOUT RESALE PRICE MAINTENANCE.
(R36)

Public telegram service:

- . SUBJECT TO STATUTORY AMENDMENTS, AUSTRALIA POST SHOULD ASSUME THE ROLE OF PRINCIPAL RATHER THAN AGENT IN THE MANAGEMENT OF THE PUBLIC TELEGRAM SERVICE WITH THE TELEGRAPH NETWORKS (TRESS) PROVIDED BY TELECOM ON A LEASED CAPACITY BASIS.
(R37)

THE AUSTRALIAN TELECOMMUNICATIONS MANUFACTURING INDUSTRY

INTRODUCTION

Scope

- 5.1 Under its terms of reference the Committee is asked to consider the effects and likely consequences of the changes it proposes in telecommunications services on the scope for and ability of Australian industries to compete and participate in the design, manufacture, supply and servicing of telecommunications equipment.
- 5.2 In this chapter the Committee examines the impact of its recommendations for increased private sector participation on relevant sections of the Australian manufacturing industry. Telecom's general purchasing policies for material and supplies, including preference to Australian industry and offsets are discussed. Its telecommunications research and workshop activities are reviewed.
- 5.3 Related recommendations on Telecom's civil works and construction programs, including greater use of construction contractors, are contained in Chapter 10.

Definitions

- 5.4 For purposes of this chapter, 'manufacturing' means the telecommunications equipment manufacturing industry in Australia as embraced by ASIC 3352 Electronic Equipment n.e.c. and ASIC 3351. The two classifications so closely relate to telecommunications equipment that it is necessary to include both classes of equipment. Most manufacturers involved in one have a capability in the other. Establishments engaged in manufacturing electrical and telephone cable (ASIC 3355) are also included.

Objectives

- 5.5 Proposals developed in preceding chapters include the possibility of licensed independent networks. They provide for open competition in the supply, installation and maintenance of terminal equipment. In reviewing the impact of these proposals on the Australian manufacturing industry, the Committee adopts the following objectives:
- Australia should have a sustainable base for local manufacture, assembly, product development and software adaptation and development;
 - Telecom must adjust its relationships with the telecommunications manufacturing industry to accord with its new competitive environment in services provision;

- . Government should not disadvantage Telecom by imposing policies in relation to local industry protection not equally applicable to Telecom's competitors.

PRESENT ARRANGEMENTS

Industry structure

- 5.6 Volume 2, Section 5 gives background information on the Australian manufacturing industry. It also outlines Telecom's existing relationships with the industry.
- 5.7 There are 11 large manufacturers and over 20 smaller manufacturers involved in the production of telecommunications equipment in Australia within the industry classifications adopted by the Committee. Manufacture is dominated by Amalgamated Wireless Australasia (AWA), Standard Telephones and Cables (STC) and L M Ericsson (LME). Between them these three have more than 50 percent of the market. Nine of the eleven major manufacturers are overseas owned. More than 90 percent of production facilities are located in Sydney and Melbourne.
- 5.8 The material requirements for the provision of telecommunications systems cover a broad range of electronic components and include fabricated metal products for towers and masts.
- 5.9 The industry is an integral part of the electronics industry. The latter includes the manufacture of ADP and professional equipment and consumer electronic goods. The breakdown of employment, total value added per employee for the industry in comparison with total manufacturing industry is given in Table 5.1.

Table 5.1: The Australian manufacturing industry

ASIC CODE	DESCRIPTION	EMPLOYMENT	TURNOVER	VALUE ADDED	VALUE ADDED PER EMPLOYEE
		(Persons)	(\$000)	(\$000)	(\$)
3351	Radio & TV Receivers, Audio Equipment	4 494	261 756	89 382	19 889
3352	Electronic Equipment n.e.c.	16 155	556 171	299 344	18 529
3355	Electric & Telephone Cable and Wire	4 637	343 308	115 095	24 821
21-34	Total Manufacturing Industry	1 154 184	65 354 790	25 613 976	22 192

Source: 'Manufacturing Establishments, Details of Operations by Industry Class, Australia 1979--80', Australian Bureau of Statistics Cat. No. 8203.

- 5.10 Profitability is low compared with manufacturing overall.¹ Employment in the manufacture of telecommunications equipment (ASIC 3351 and ASIC 3352) fell by 31 percent between 1972 and 1978 from 30 490 to 20 882, compared with a reduction of 13 percent for the total manufacturing industry over the same period.⁽²⁾ As at 30 June 1980, employment in the manufacture of telecommunications equipment was 20 649.

1. 'Finance Study for the Electronics Industry Advisory Council', Department of Industry and Commerce, August 1978
2. 'The Australian Electronics Industry' -- Electronics Industry Advisory Council, AGPS, Canberra 1980

Competition with imports

- 5.11 Imports of terminal equipment are subject to a general tariff of 30 percent while some network equipment attracts a tariff of 35 percent. Developing countries, including Hong Kong, Korea and Taiwan, can effectively import duty free. The tariff applicable to terminal equipment and network equipment is relatively high compared with the manufacturing industry average. Preliminary estimates from the Industries Assistance Commission for Electronic Equipment n.e.c. (ASIC 3352) suggest nominal assistance rates of 22.6 percent and effective assistance of 30.5 percent for 1980--81 compared with the manufacturing industry average of 14.4 percent and 24.3 percent respectively.
- 5.12 Most imports generally comprise goods having no comparable products manufactured in Australia and generally enter under By-Law. Telecom's purchasing dominance has ensured minimal imports.
- 5.13 The Industries Assistance Commission (IAC) concluded in 1976 that:

"... the industry supplies an important national requirement in a manner which does not require high levels of assistance".³

In accepting the IAC Report, the then Minister for Industry and Commerce and the Minister for Business and Consumer Affairs noted:

"... that technological changes and the level of Australian Telecommunications Commission orders were likely to have a greater effect on the structure of the industry and its employment than adoption of the recommended tariff rates".⁴

Telecom and the manufacturing industry

- 5.14 Telecom absorbs some 75 percent of local production of telecommunications equipment. About 90 percent of Telecom's materials and supplies are obtained from the Australian manufacturing industry.
- 5.15 Network equipment accounted for 55 percent of total equipment purchases of \$425 million with the remainder being for terminal equipment. The table below sets out Telecom's purchasing of network and terminal equipment for 1981--82.

3. Telecommunications Equipment, IAC, 9 April 1976

4. Press Release, 15 September 1976

Table 5.2: Telecom's purchases of network and terminal equipment

CATEGORY	ESTIMATED VALUE 1981--82 \$M	ESTIMATED AUSTRALIAN CONTENT %
Exchange Equipment	110.0	95
Underground Cable	59.0	100
Telephones	29.0	97
Radio Relay Equipment	28.0	20
Conduit	12.0	100
Line Transmission Equipment	24.0	85
Channel Modems	8.0	85
Mechanical Aids	12.0	20
Data Transmission Equipment	20.0	65
PABX Equipment	19.0	70
Switchboards (Cordless and Cord Type)	5.0	95
Teleprinters and Telex Equipment	25.0	55
Radio and Line Transmission Test Equipment	5.0	10
Switchboard Cable	6.0	100
Multi-line Telephones	20.0	50
Small Business Systems	27.0	20
Loading Coils	1.0	90
Power Rectifiers	4.0	100
Public Telephone Instruments	11.0	10
	425.0	73

Sources: 'Service and Business Outlook for 1981--82', Telecom, August 1981.
Telecom data.

Telecom's purchasing policies and practices

- 5.16 For purchases in excess of \$10 000 Telecom adopts a system of competitive public tendering. In most cases the major interest in tendering is expressed by local manufacturers but tender schedules for major equipment purchases attract world wide bids. Telecom's contracts are awarded to the lowest priced tender, subject to the Government's preference and offsets policies (see paragraphs 5.19--5.22 below). Telecom must also be satisfied that the tenderer can supply the quantity and quality of goods required in the prescribed time. The services of the Department of Administrative Services are used to arrange contract placement.
- 5.17 Approval for contracts in excess of \$500 000 require ministerial approval.

5.18 Where equivalent products are available from the industry it is Telecom's usual practice to multi-source to:

- . assist security of supply;
- . limit stockholding levels;
- . contribute towards the stability of the industry.

Government policies on preference and offsets

5.19 Telecom is subject to Commonwealth Government preference and offsets policies designed to promote orders for the local manufacturing industry.

5.20 Extensive local preferences applied to Government purchases until October 1981. Under Government's recently revised policies, preference to Australian goods now applies only to the defence strategic and high technology industries. Purchases are evaluated within Government on a case by case basis having regard to the following:

- . the degree of Australian industrial research and development;
- . product innovation;
- . use of advanced production processes;
- . technical skills employed in production;
- . use of newly developed materials.

5.21 The Committee understands that the high technology classification has not been applied to Telecom's purchases.

5.22 The offsets program, designed to direct work to local industry where overseas suppliers have received a major order (\$500 000 or more) from Government, requires that the overseas supplier place or arrange suitable offsets work -- nominally with a target of 30 percent of the value of the purchase -- with Australian industry.

SUBMISSIONS

Views

5.23 In its submission to the Committee, Telecom stated that it has a vital interest in the development of new communications technologies and is involved in the purchase of substantial quantities of electronic and telecommunications equipment to maintain and extend the communications network. Because of the scale of its operations, Telecom exerts a significant influence on the nature and size of the Australian telecommunications industry.

- 5.24 Telecom considers that local sourcing contributes to reduced inventory and better security of supplies. It is Telecom's view that local industry is better equipped to produce designs compatible with the Australian telecommunications network.
- 5.25 Comments in other submissions on liberalisation in the telecommunications market generally reflected the status of the parties under the existing restricted arrangements. Manufacturers who now benefit under Telecom's restricted purchasing and market access procedures cautioned against liberalisation. Others excluded by those procedures saw considerable merit for Australian manufacturing in opening up the market.

COMMITTEE CONSIDERATION

Issues

- 5.26 The issues are:

- whether competition will affect local content levels;
- the extent to which overall market growth will result in a net benefit to Australian manufacturing;
- whether Telecom should maintain purchasing policies in support of local manufacture;
- whether Australian telecommunications manufacture requires industry support.

Effects of competition on Australian content levels

- 5.27 Telecom's existing policies of local sourcing of purchases until recently reinforced by Government preference policy have ensured a very high local content. Under competitive conditions of supply, both Telecom and its competitors could satisfy some new markets by imports. Overall, local content will reduce. The scale economies of microelectronics also affect local content levels. Offsetting this, competition and the product innovation which competition brings should boost total sales.
- 5.28 In subsequent chapters the Committee emphasises the importance of Telecom's network investment and the need to accelerate programs of conversion to digital transmission. Telecom's network modernisation programs will stimulate demand in the Australian manufacturing industry.
- 5.29 The Committee also notes the Government's decision to proceed with a national satellite system. This will provide opportunities for Australian industry to participate in supply of components and earth station equipment (Volume 2, Section 5 refers).

- 5.30 The recent 'ABT Cable Report' highlights the local employment and Australian manufacturing opportunities which would result from introduction of large capacity cable systems.
- 5.31 The Committee has not been able to assess the net 'economic' effect of liberalisation of the terminal equipment market. Increased network investment by Telecom should provide opportunities for increased Australian manufacture which may offset any decline in local content levels.

Telecom's purchasing policies

- 5.32 Telecom cannot be competitive and continue to be an instrument of preference and offsets policies of Government which are not applicable to Telecom's competitors. Telecom's purchasing should not be subject to ministerial policy oversight. Contracts should not be arranged through the Department of Administrative Services. Telecom should not be responsible for support of local industry except in those cases where Government has implemented policies for the industry as a whole or where it is in Telecom's own sound commercial interests.
- 5.33 The Government has a well established procedure for determining the level of industry support which it considers desirable in the national interest. Should Government choose to use that procedure, consideration might be given to duty remission on imports by those manufacturing companies in ASIC 3351 and/or ASIC 3352 in cases where a company's salaries and wages exceed 30 percent of total sales. Alternatively, duty remission might be granted to a company whose local content exceeds two-thirds of total sales. The Committee notes that the general rate of import duty (Item 85.13) is 30 percent, with exemption given to developing countries. If all non Australian content is subject to the general rate of duty, the suggested support would represent a maximum value of seven percent of sales.

Recommendations

- 5.34 The Committee recommends that:

Telecom's purchasing

- . THE GOVERNMENT'S PREFERENCE AND OFFSETS POLICIES SHOULD APPLY TO TELECOM ONLY TO THE SAME EXTENT AS THEY APPLY TO THE PRIVATE SECTOR.
(R38)
- . MINISTERIAL APPROVAL SHOULD NOT BE REQUIRED FOR ANY TELECOM CONTRACTS.
(R39)
- . TELECOM SHOULD NOT BE REQUIRED TO USE THE SERVICES OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES.
(R40)

Support for Australian manufacture

- TELECOM SHOULD SUPPORT THE LOCAL MANUFACTURING INDUSTRY ONLY WHEN IT IS IN TELECOM'S COMMERCIAL INTEREST OR WHEN A GENERAL GOVERNMENT POLICY FOR INDUSTRY APPLIES.
(R41)
- SHOULD GOVERNMENT WISH TO PROVIDE SUPPORT TO THE LOCAL MANUFACTURING INDUSTRY CONSIDERATION SHOULD BE GIVEN TO REMISSION OF DUTY ON IMPORTS BY THOSE MANUFACTURING COMPANIES WHOSE SALARIES AND WAGES EXCEED 30 PERCENT OF TOTAL SALES; ALTERNATIVELY, DUTY REMISSION COULD BE GIVEN TO THOSE COMPANIES WHOSE LOCAL CONTENT EXCEEDS TWO-THIRDS OF TOTAL SALES.
(R42)

Telecommunications research and development

- 5.35 Telecom's Research Laboratories employ some 510 research staff engaged in work programs totalling some \$34 million.
- 5.36 Telecom's submission identified the following objectives for R&D work carried out either internally or externally:
- to develop knowledge and skills in advanced telecommunications technology and science;
 - to assist Telecom to make decisions on the timely application of new technology consistent with the needs of its customers and network development priorities;
 - to contribute to ongoing development, modification and specification of systems and equipment required for network implementation.
- 5.37 Telecom estimates that the Laboratories' research, development and innovation programs are applied over the following time periods:
- | | | | | |
|---|-------------|---------------------------|----|-----|
| • | short term | -- immediate to two years | -- | 32% |
| • | medium term | -- two to ten years | -- | 60% |
| • | long term | -- ten years or longer | -- | 8% |
- 5.38 Telecom's R&D activities are co-ordinated with CSIRO (especially in relation to packet switching) and with the Defence Service and Technology Organisation (DSTO).

- 5.39 In January 1982 the Government established a Committee of Inquiry into Laboratory Services and Facilities headed by Professor I.G. Ross. That Committee is reviewing the operations of Commonwealth technical and service research laboratories and facilities including Telecom's Laboratories. This Committee has avoided overlap of interests between the two Inquiries and has not examined Telecom's research activities. Comment here is limited to the likely impact of wider competition in telecommunications markets on Telecom's R&D priorities.
- 5.40 Telecom as national terrestrial common carrier will continue to occupy a central place in Australia's future telecommunications. The Committee expects that present trends in growth, innovation and product diversity will accelerate under the open market conditions recommended by the Committee. Continued R&D investment by Telecom, especially investment geared to special applications research and to network development, is appropriate. It should contract out any pure research programs.

Recommendation

- 5.41 The Committee recommends that:
- TELECOM'S RESEARCH, DEVELOPMENT AND INNOVATION PROGRAMS SHOULD CONCENTRATE ON APPLIED NOT PURE RESEARCH AND RELATE TO NETWORK DEVELOPMENT AND SPECIAL TRANSMISSION SYSTEMS AND APPLICATIONS. IT SHOULD CONTRACT OUT PURE RESEARCH.
- (R43)

Telecom's workshops

- 5.42 Telecom maintains six State workshops with an annual turnover of \$95 million, employs 2 800 staff and utilises plant, site and buildings having a total value of \$23 million. Current workshops' activities were summarised by Telecom:

Table 5.3: Workshops' activities

ACTIVITY	MANHOURS	% OVERHEADS	LABOUR &		INCIDENTALS	TOTALS
			\$000	\$000	\$000	\$000
Jobbing	861 735	34	16 532	7 499	1 389	25 420
Service	583 892	23	11 695	7 270	1 354	20 319
Repair	238 019	9	3 819	1 052	175	5 046
Reconditioning	566 417	22	10 618	16 976	337	27 931
Supply	297 686	12	5 779	8 261	761	14 801
Total	2 547 749	100	48 443	41 058	4 016	93 517

Source: Telecom data

These activities cover a wide range of construction and maintenance functions, including the reconditioning of telecommunications equipment, especially handsets. Supply work is undertaken in most cases as a result of competitive tenders.

- 5.43 The Committee finds no reason why Telecom's workshops' activities should not continue although in the new competitive environment some of this work will phase out. So long as reconditioning of handsets remains cost effective relative to new equipment supply it should continue. Telecom should also be permitted to engage in joint venture arrangements with the private sector in circumstances where it chooses, on cost grounds, not to establish or maintain its own workshops' activity. Under the Committee's proposals for separation of 'Telequip' activities from Telecom, appropriate agency arrangements will be necessary between the two organisations.

Recommendations

- 5.44 The Committee recommends that:

- . THE POSSIBILITY OF JOINT VENTURES WITH THE PRIVATE SECTOR SHOULD BE EXPLORED.
(R44)
- . WORKSHOP ACTIVITY SHOULD CONTINUE SO LONG AS IT IS COST EFFECTIVE.
(R45)

CHAPTER 6

PRICING POLICIES

INTRODUCTION

Scope

- 6.1 The Committee considers that it would not have been practicable to suggest any further relaxation of Telecom's monopoly unless it was feasible for Telecom to adopt prices appropriate to the new environment.
- 6.2 Committee recommendations which have a direct implication on Telecom's revenue include:
- unrestricted resale of network capacity leased from Telecom;
 - the licensing of independent networks without restriction on the type of traffic carried;
 - interconnection of leased and independent networks with Telecom's national terrestrial public networks.

Objectives

- 6.3 The Committee adopts the following objectives in its review of Telecom's pricing policies:
- Telecom's revenues must continue to be sufficient to:
 - provide a reasonable return on the Commonwealth's investment;
 - meet its operational expenditures;
 - contribute sufficient surplus to ensure future growth and network development;
 - uncommercial pricing distortions must be corrected before introduction of competition;
 - Telecom's pricing responses to competition must be prompt, flexible and non discriminatory;
 - Telecom's pricing policies must be geared to the marketplace and not used for other Government purposes unless compatible with Telecom's commercial interest.

PRESENT ARRANGEMENTS

Statutory regulation

- 6.4 S.73 of the Telecommunications Act 1975 imposes obligations on Telecom to adopt financial policies designed to generate in each financial year revenues sufficient to meet:

- . its operating expenditure;
- . at least 50 percent of its capital expenditure requirements.

Under s.73(2), Telecom is obliged to:

- . operate as efficiently as possible;
- . make services available at rates and charges as low as possible consistent with its overall funding responsibilities.

- 6.5 S.6 of the Telecommunications Act 1975 requires Telecom to:

"... perform its functions in such a manner as will best meet the social, industrial and commercial needs of the Australian people for telecommunications services and shall, so far as it is, in its opinion, reasonably practicable to do so, make its telecommunications services available throughout Australia for all people who reasonably require those services".

- 6.6 S.11 of the Telecommunications Act 1975 empowers Telecom to fix and to vary tariffs for standard telephone services subject to the approval of the responsible Minister. Statutory ministerial approval procedures cover:

- . rentals for standard telephone services;
- . charges for telephone calls made within Australia;
- . charges for transmission of telegrams lodged at telegraph offices.

Telecom is free to vary its charges for other telecommunications services without ministerial approval.

Existing policies

- 6.7 In its submission to the Committee Telecom summarised its pricing policy:

"Telecom's fundamental policy for tariffs for basic services is that they be standard throughout Australia. The effect of such tariffing, based on average costs, is that customers for whom the actual cost of providing service is high receive a subsidy . . .

Tariffs for rural customers are aimed at assisting with the burden of remoteness and are currently set at levels which, on average, yield revenue substantially below costs."

6.8 Telecom's 1980--81 Annual Report states:

"The rural program is a high cost area and further progress in meeting the overall objective of providing a universal standard automatic telephone service throughout Australia depends to a large extent on the finances that can be made available for this task. Extensive cross subsidy from the profitable services is an essential ingredient."

6.9 Telecom's 1979--80 Annual Report drew the following conclusions based on cost and revenue data derived from its management accounting system:

"The major contribution to profits came from traffic on medium distance and long distance trunk routes particularly inter capital routes. . .

In terms of direct expenses, direct earnings and traffic volumes, the telephone service is by far the most significant category and had a major influence on the overall profit of \$211.5 million in 1979--80. Within that service, however, results varied widely. While the basic telephone facility and local call service in metropolitan areas more or less broke even, corresponding earnings in the country fell far short of the associated costs of servicing the capital, maintenance and operating costs involved and resulted in a heavy drain (over \$200 million per year) upon the overall results. Public telephones and customer services other than the basic telephone facility were also unprofitable but the continuing profitability of the trunk service enabled basic telephone charges to be held at 1975 levels."

COMMITTEE CONSIDERATION

Extent of Telecom cross subsidy

6.10 Telecom states that its cross subsidy in 1981 was \$290 million. However, the aggregate of the product losses listed in its 'Summary of Financial Performance by Product Type 1980--81' were \$428 million (Appendix A to Volume 1 refers).

- 6.11 Telecom's present product costing practices reflect the difficulties of allocating costs and revenue to a mix of traffic and products (Chapter 9 refers). The Committee considers these present practices produce data which is open to misinterpretation.

Pricing and productivity

- 6.12 Submissions from Telecom and others claim that Telecom has a proven record of productivity improvement. They assert that cost control is evidenced by a stabilised level of prices for telephone rental and local call fee over the period 30 June 1975 to 30 June 1981.
- 6.13 It has been the practice of Telecom and the Postmaster-General's Department previously to adjust charges about once every five years. Telecom has recently varied that practice. Consequently, price trends can only be assessed realistically over a much longer period. The Committee has therefore based its assessment of trends over the period 1960 to 1982:

6.1: Comparison of Telecom's price movements with CPI

	JUNE 1960	JUNE 1982	PRICE INCREASE %
Consumer Price Index (CPI)	87.3	359.8	312
Business Rental	\$33.00	\$158.00	378
Non Business Rental	\$26.50	\$95.00	258
Local Call Fee	3.3c	12.0c	264

The above figures do not substantiate Telecom's claim in relation to productivity and cost control performance. Business rentals have increased faster than CPI whilst the rate of increase for non business rentals and local call fees has been only moderately less than the CPI.

ALTERNATIVE PRICING POLICIES

Definitions

- 6.14 A service is subsidised if it fails to cover its own direct or separable costs. Cross subsidisation occurs when that subsidy is obtained from the revenues of other services provided by the same enterprise.

- 6.15 Cross subsidisation needs to be distinguished from price differentiation. Price differentiation involves the sale of the same product or service at different prices each of which is above the direct cost but has a different perceived value or market 'quality' to the customer. For example, different telecommunications or electricity tariffs may be fixed for peak and off peak usage. Such price differentiation is commonly practised to 'fill up' otherwise spare capacity. Price differentiation must also be distinguished from price discrimination. The latter involves sale of the same product or service at different prices, each being above the direct cost of supply, where there is no difference in either product cost or quality.

Uniform pricing policy

- 6.16 Under a policy of uniform pricing the price for a particular service (e.g. telephone rental) is the same regardless of its cost. Some services are provided at prices substantially below direct or separable costs. The organisation finances these by cross subsidising revenues from services charged to customers at prices substantially above direct or separable costs. That policy is pursued on the basis that social benefits flow from a cross subsidised uniformly priced service in all areas.
- 6.17 Uniform pricing permits the formulation of simpler tariff structures which:
- . are easily explicable;
 - . are accorded validity on the grounds of traditional application;
 - . are assumed to be beneficial, hence acceptable to customers;
 - . minimise the administrative costs for the organisation.
- 6.18 Uniform pricing permits relatively infrequent changes in prices which is an advantage in business planning and budgeting as it allows a higher degree of predictability in costs. Unless the price stability reflects costs stability the plans and budgets lead to incorrect conclusions.

Cost related pricing policy

- 6.19 Cost related pricing does not imply that all prices should be fixed strictly in accordance with the cost of supply. Cost of supply is, however, a major determinant of the price. Some degree of subsidy or consideration of other factors -- e.g. market promotion or market development -- may still be important to the final price structure. Permanent and excessive cross subsidies are avoided. Cross subsidy is excessive when the price structure places one product range at risk to competition through exorbitant pricing.

Pricing in a competitive market

6.20 An organisation can meet competition effectively by adopting cost related pricing. It can then afford to subsidise services only to the extent it judges best for the business, taking into account:

- . the long term development of the network;
- . competition and the alternatives those competitors offer;
- . market elasticity;
- . systems economics.

Its price structure must cover direct costs and in most cases must provide an adequate surplus to fund long term business development.

Committee assessment of alternative policies

6.21 Uniform pricing is asserted by some to be especially justifiable in supply to remote areas and enables connection of more customers than would otherwise be the case. They also argue that it benefits those customers already connected to the network. Similarly it is contended that network economics benefit not only from the calls made by new subscribers but also by the calls made to new subscribers. If such an advantage exists, the calls per subscriber would increase with the number of subscribers connected to the network. A review of the call incidence does not support this argument:

Table 6.2: Calls per service

YEAR	CALLS PER SERVICE	NO. OF SERVICES
1950	1 239	795 000
1981	1 278	5 069 000

Source: Telecom Annual Reports

6.22 Given free market conditions and a strong demand for a product or service the price increases and the profits or operating surpluses so generated are used to help finance the additional assets required to meet increased demand. When the demand growth is small:

- . prices are lower;
- . operating surpluses are less;
- . the requirements for additional investment are less.

- 6.23 Uniform pricing, which includes the pricing of some services below cost, artificially increases demand. It compounds that problem by eliminating the operating surpluses necessary to meet the demand.
- 6.24 Any tariff which offers services below cost encourages a misuse of resources. It tends to frustrate the development of alternative services even when their cost of provision is lower than the cost of the subsidised service. It encourages greater use of subsidised services which imposes an additional cost on network. Consequently funds available for other services are reduced.
- 6.25 Those who support uniform pricing claim that it brings material national benefits. There is undeniably a benefit to those customers who receive services at less than cost. A corresponding penalty is imposed on those who bear the burden of excessive prices. For every dollar that one class of customer saves, another pays an extra dollar.
- 6.26 The Committee finds no evidence to support the view that a net public benefit derives from any arrangement under which the financial burden for support of socially desirable objectives is borne by one customer segment instead of being spread over the whole community.
- 6.27 Under uniform pricing policies the misallocation of funds for social goals is inevitable. The Committee gives one illustration. A price differentiation between business and non business telephone rental now exists. That appears to have been done for social reasons: to provide low telephone rentals for low income families. Telecom has a more sophisticated explanation but ultimately the underlying objective is the same. The end result is that wealthy families enjoy the same 'low income' telephones while struggling businesses who provide employment pay discriminatory high telephone rentals. Thus, the low income families of metropolitan Australia are subsidising not only the rural poor but also the wealthy rural subscribers. The equity of such an arrangement is questionable.
- 6.28 In short, financial assistance provided through the mechanism of pricing tariffs fails to direct financial assistance to those persons who need it most.
- 6.29 Adoption of cost related pricing is not to deny financial support for socially desirable objectives rather it ensures that one segment of customers is not exploited to benefit another. Under cost related pricing perceived customer needs for financial support must be serviced from outside the business. The Committee considers that such a separation in the funding of social goals is:
- . more cost effective;
 - . more efficient in the direction of funds to need;
 - . in the overall national interest.
- 6.30 The Committee concludes that cost related pricing is in the national interest.

Telecom's cross subsidisation practices

- 6.31 The proclaimed aim of uniform pricing is to subsidise customers with a genuine need for subsidy, not the network operator.
- 6.32 Uniform pricing with significant elements of cross subsidisation is practised not only in Australia but also to varying degrees in Europe and North America.
- 6.33 In Australia, high concentration of population in a small number of urban centres, sparse population densities elsewhere and vast distances between them give rise to advocacy for extensive cross subsidisation. A feature of telecommunications economics is that the lower the population density, the higher the cost of the telephone network.

Table 6.3: International comparison of population densities

COUNTRY	AREA	POPULATION(1)	DENSITY PER KM ²
	(km ²)	('000)	(persons)
Australia	7 686 848	14 616	2
Canada	9 976 139	23 959	2
France	547 026	53 713	98
Germany, FR	248 577	61 566	248
Japan	372 313	116 782	314
Sweden	449 964	8 316	18
UK	244 046	56 010	230
USA	9 363 123	227 658	24

(1) Preliminary figures

Sources: Demographic Yearbook 1979', Thirty First Issue, United Nations, New York, 1980.
'Main Economic Indicators' -- OECD -- April 1982, OECD, Paris, 1982.

- 6.34 Cross subsidisation is evident at many levels of Telecom's existing tariff structures:
- call charges cross subsidise rental charges;
 - trunk call revenue cross subsidises country revenue;
 - metropolitan services cross subsidise country services;
 - customers close to exchanges cross subsidise customers remote from exchanges.

Call charges cross subsidise rental charges

- 6.35 Two part tariffs are frequently used in industries where the fixed costs of supply are dominant. Telecommunications can be so categorised. The costs associated with servicing and maintaining Telecom's fixed assets, which are predominantly customer distribution lines, are costs incurred independent of the number of telephone calls made. A two part tariff structured to cover costs under each component places:
- the telephone rental or facility charges at a level to cover the fixed costs;
 - the unit call charge at a level to cover the variable cost of transmitting the call.
- 6.36 Telecom, as with many telephone administrations, places the facility charge below cost and the unit call charge is inflated accordingly. Such cross subsidisation between the two part tariff components seeks to gain better customer acceptance through 'pay as you use' marketing. Higher telephone penetration is also facilitated. Heavy telephone users carry the burden of the cross subsidy.
- 6.37 As already noted, the separable investment for customer distribution is the capital investment for distribution between local exchanges and the customers. Telecom's investment in customer distribution is approximately 46 percent of its total fixed assets (see Appendix B of Volume 1) excluding any part of the local exchange (Asset XE) some of which might be included. The return on this investment is the aggregate telephone rentals (\$533 million in 1980--81) which is only 26 percent of total revenue.
- 6.38 The distortions introduced by the imbalance between facility charge and unit charge can be overcome by considering the total revenue and costs associated with a particular region or district.
- 6.39 Calls between districts are credited to the district of origin. It might be considered that 50 percent of the call revenue should be credited to the originating district and 50 percent credited to the receiving district. Studies at the request of the Committee of the incidence of inwards and outwards calls have demonstrated that the value of the calls originating in a district approximate closely the value of the calls received. Crediting of the total of originating calls is therefore satisfactory.

Trunk call revenue cross subsidises country revenue

- 6.40 It is apparent that the significant profits derived from Telecom's major inter-capital city routes are applied in subsidy to its local telephone networks and other unprofitable services. Those trunk routes also subsidise the less frequently used long distance routes. Trunk calls are both time based and distance related. The local call fee which is uniform throughout Australia is not time based.

Metropolitan services cross subsidise country services

- 6.41 Non metropolitan districts in many areas throughout Australia now fail to cover their own direct and separable costs. The sources of their cross subsidy are primarily the trunk revenues derived from inter-city routes.

Customers close to exchanges cross subsidise customers remote from exchanges

- 6.42 Telecom's scale of charges for customer connection does not reflect actual connection costs which generally correlate with distance from exchange and with relative subscriber densities in exchange areas. Telecom's recent decision to reduce charges for connection of rural subscribers more than 16 kilometres from exchange aggravates the previous imbalances in cost recovery.

REFORM OF TELECOM'S PRICING POLICIES AND PRACTICES

Need for Change

- 6.43 Competition will render vulnerable any tariff structure which fails to reflect service costs. Telecom especially risks loss of its largest business and institutional customers if:
- a competitor can offer a range of service priced only to return the competitor's investment in those particular markets;
 - Telecom's own prices in those markets must provide a large revenue surplus for cross subsidisation.
- 6.44 Telecom's top 650 customers (less than 0.2 percent of its total customers) contribute about 16 percent of its gross annual revenues:

Table 6.4: Distribution of annual revenues from Telecom's customers (1980--1981)

SIZE OF ACCOUNT	NUMBER OF CUSTOMERS	REVENUE	PROPORTION OF TOTAL REVENUE
		(\$m)	%
over \$1 m	88	245	9.4
\$0.5 m -- \$1 m	90	63	2.4
\$0.25 m -- \$0.5 m	170	59	2.3
\$0.1 m -- \$0.25 m	295	48	1.8
TOTAL	643	415	15.9

Source: Telecom data

- 6.45 The Committee analysed the likely impact on Telecom's revenue with introduction of Australia's national satellite system and competition from independent network operators utilising leased satellite capacity and independent networks for local distribution. Telecom's revenue from leased trunk lines is \$43 million of which 25 percent is television and 40 percent is data. If all television leased line revenues and half data leased line revenues were transferred to satellite, the loss to Telecom would not exceed \$25 million or less than six months growth in trunk traffic. Inroads into Telecom's trunk voice traffic should not be significant in the short term. AUSSAT will compete with Telecom for some traffic, but to the extent that it would generate greater use of telecommunications, could generate revenue for Telecom via re-entry into Telecom's local networks. In the longer term growth of independent networks for local distribution for satellite carried traffic may pose new business challenges to Telecom. In order to prepare for and to meet future competition, reforms of Telecom's pricing policies are necessary.

Adoption of cost related pricing

- 6.46 In subsequent paragraphs the Committee outlines one model for reform based on cost related pricing. The Committee intends only to show that adaptation is possible with changes of a magnitude no greater than previous price movements, without escalation of customer costs overall. Other possible tariff structures may prove more attractive upon detailed analysis.
- 6.47 There are four areas of price distortion which the Committee has examined as typical of matters requiring urgent attention in preparation for competition:
- . price discrimination by class of customer;
 - . trunk traffic discrimination --including leased line charges;
 - . country services;
 - . local call tariffs.

Price discrimination by class of customer

- 6.48 The Committee examined Telecom's pricing policies which might impose unjustifiable discrimination. A monopoly supplier has a special responsibility in this regard as its customers do not enjoy a choice of supplier.
- 6.49 Telecom's existing telephone rentals discriminate between 'business' and 'non business' subscribers (as at June 1982 rentals were \$158 and \$95 respectively). Telecom has no definition by which to distinguish between the two classes but leaves it to the discretion of the customer.

- 6.50 The cost of installing a line and telephone is not affected by the business or profession of the user.
- 6.51 The Committee has endeavoured to ascertain the reason for this rental difference noting that prior to October 1974 the rentals for business and non business subscribers were the same. Telecom has justified the difference on the following ground:

- "the business lessee can claim the rental as a tax deduction"

The Committee rejects this as justifying a business rental 66 percent higher than that applicable to a non business telephone.

- "the service has greater utility value to the business lessee"

On this basis the more productively a customer uses a product the more he should be charged. It is in the public interest to encourage greater productivity.

- "the network is dimensioned primarily to handle business telephone traffic"

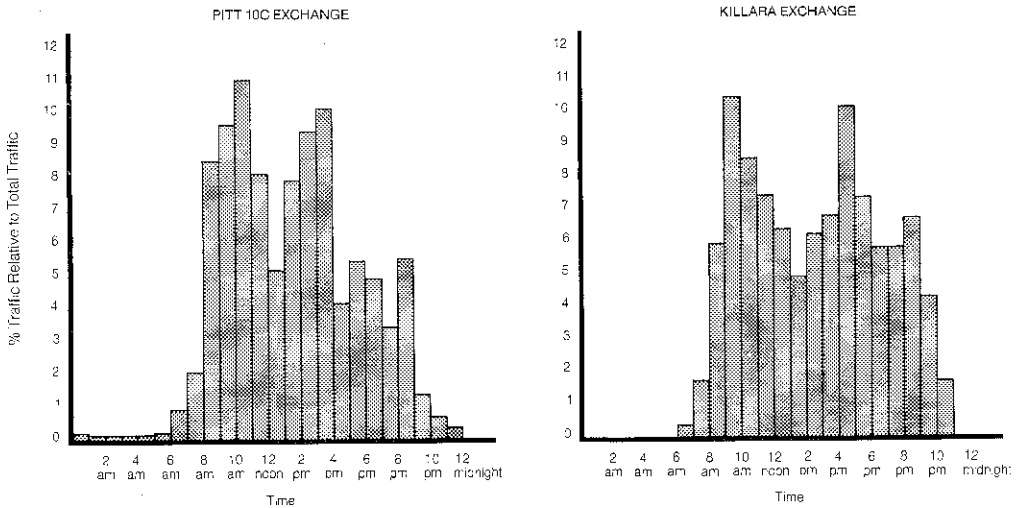
In order to confirm this statement the Committee obtained evidence of typical daily traffic patterns of two exchanges in New South Wales: Killara, (handling essentially non business traffic); Pitt 10C (handling Sydney City business traffic) (Figure 6.5 refers).

The peak traffic for the predominantly non business exchange was 10.4 percent of a typical day's total traffic between 9 am and 10 am and 10.1 percent between 4 pm and 5 pm. For the business exchange it was 11 percent between 10 am and 11 am and 10.1 percent between 3 pm and 4 pm. This evidence does not support the statement that a substantial difference exists between business and non business telephone traffic.

- "the business lessee can pass it on to his customer"

This could apply to service industries where there is no overseas competition but it could not apply to export or import competing businesses. On its reasoning, presumably, Telecom should consider a lower tariff for exporting industries.

Figure 6.5: Comparison of traffic volume through Pitt St 10C and Killara exchanges.



- 6.52 The Committee finds no supportable reason for such price discrimination. The practice, although not caught by the legislation, is certainly contrary to the intent of s.49 of the Trade Practices Act.
- 6.53 The Committee has noted (paragraphs 6.35--6.39) that call charges now cross subsidise rentals. In removing the existing discrimination between business and non business rentals it would be appropriate to set a common rental at a value between the existing business and non business rental.

Trunk traffic discrimination

- 6.54 There is a substantial distortion in price differentials for different volumes of trunk traffic. The Committee has compared annual revenues derived from casual STD traffic carried over the Sydney--Melbourne public switched trunk network with the annual revenues derived from leased transmission capacity over the same distance (leased telephone lines and television bearers). Based on 1981 tariffs:

- revenue per voice channel from casual STD traffic was: \$ 32 800
- annual rental fee for leased telephone line was: \$ 8 860

- annual rental fees for a protected two-way television bearer (based on rental costs only and a radial distance of 718 km) were: \$484 296

A television bearer has a traffic carrying capacity equivalent to 960 voice channels. Revenue per equivalent voice channel based on price differentials applicable to classes of leased lines are summarised in Table 6.6:

Table 6.6: Comparisons of revenue Sydney--Melbourne trunk route

CATEGORY	PER VOICE CHANNEL	
Casual STD usage per voice channel:	\$ 32 800	
<u>less</u> local call charges at each end (24c per call):	\$ 4 255	\$ 28 545
Continuous use of voice channel (leased):	\$ 8 860	
<u>less</u> end interconnections:	\$ 1 000	\$ 7 860
Leased protected two-way television bearer (equivalent to 960 voice channels):	\$ 540(1)	

(1) The above estimates do not take account of costs for any required provision of multiplexing and switching equipment, which would depend on the configuration and use of the channels.

Source: Committee analysis of Telecom data

- 6.55 Such price differentials are excessive. Either the public is being 'cream skimmed' or television and leased line users are being substantially subsidised.
- 6.56 The Committee is advised that an additional microwave link of 1920 voice channels capacity on Telecom's existing towers (Sydney--Melbourne) would cost approximately \$3 million. At \$9000 per channel and a 50 percent utilisation this investment could be recovered in four months.
- 6.57 An independent network operator could install a separate microwave link Sydney--Melbourne at a cost between \$8 million and \$9 million. With 25 percent utilisation at Telecom's listed rates that investment could be recovered in twelve months.
- 6.58 The Committee concludes that there is a need to reduce the differentials between casual STD rates and those applicable to the several classes of leased capacity users. A reduction in STD rates of 30 percent should be achievable.

Country services

6.59 The Committee obtained information from Telecom on the actual operating expenses, maintenance expenses and depreciation and interest borne by telecommunications plant in each of Telecom's 26 districts in New South Wales. The direct or separable costs of each district were deducted from the revenues (rentals, calls and other services) originating in each district to give an actual contribution by district before state and national office expenses. Expenses were divided by the number of subscribers in each district to provide data by subscriber -- see Table 6.7. Revenues were divided by the number of subscribers in each district to provide earnings by subscriber -- see Table 6.8.

Table 6.7: Expenses for telephone services in operation -- New South Wales: 1980--81 (1)(2)

DISTRICT	BUSINESS				TOTAL
	MAINTENANCE	OPERATING	DEPRECIATION	INTEREST	EXPENSES
	PER SERVICE	PER SERVICE	PER SERVICE	PER SERVICE	PER SERVICE
Armidale	231	258	142	131	762
Bankstown	72	54	82	78	287
Bathurst	199	179	130	127	635
Burwood	65	42	78	72	257
Canberra	88	141	120	100	449
Central Coast	86	94	74	75	330
Chatswood	58	46	71	60	235
Dubbo	276	225	175	162	837
Epping	66	47	68	54	235
Goulburn	222	183	116	114	635
Grafton	185	144	100	98	527
Kempsey	206	138	108	116	568
Lismore	165	152	87	90	494
Maitland	131	104	104	113	452
Narrandera	210	226	127	110	673
Newcastle	82	101	73	70	326
Newtown	68	55	85	77	285
Parramatta	75	52	81	75	283
Penrith	158	120	97	104	479
Redfern	93	62	130	70	356
St. Leonards	81	58	81	73	293
Sutherland	61	42	71	61	234
Tamworth	230	238	137	127	732
Wagga	180	155	99	94	528
Wollongong	96	89	84	83	352
N.S.W. Average(3)	102	89	91	82	365

(1) At 17 June 1981

(2) Excludes 'Commercial' which includes Sydney City; Telegraph and Data; P.A.B.X.

Source: Committee analysis of Telecom data

Table 6.8: Earnings and net assets for telephone services in operation -- New South Wales: 1980--81(1)

DISTRICT	TOTAL TELEPHONE RENT PER SERVICE	METERED CALLS PER SERVICE	TOTAL CALLS PER SERVICE	TOTAL EARNINGS PER SERVICE	NET ASSETS PER SERVICE
Armidale	101	228	300	499	2 235
Bankstown	99	238	261	402	1 397
Bathurst	114	221	255	490	2 174
Burwood	131	215	241	409	1 278
Canberra	176	450	485	793	1 842
Central Coast	91	150	161	306	1 271
Chatswood	124	231	261	411	1 073
Dubbo	111	222	295	543	2 788
Epping	118	261	286	434	986
Goulburn	114	377	412	676	1 977
Grafton	105	363	396	636	1 743
Kempsey	99	228	258	471	1 961
Lismore	98	335	361	546	1 554
Maitland	115	165	180	367	1 957
Narrandera	106	293	351	589	1 858
Newcastle	102	229	247	426	1 211
Newtown	128	211	240	413	1 353
Parramatta	112	210	230	380	1 326
Penrith	112	177	194	370	1 761
Redfern	164	305	341	558	1 237
St. Leonards	174	370	417	633	1 362
Sutherland	99	164	181	308	1 061
Tamworth	155	268	335	653	2 202
Wagga	114	258	291	508	1 617
Wollongong	96	117	138	319	1 430
N.S.W. Average(2)	120	242	270	456	1 446

(1) At 17 June 1982

(2) Excludes 'Commercial' which includes Sydney City; Telegraph and Data; P.A.B.X.

Source: Committee analysis of Telecom data

- 6.60 This data was used because it is not subject to significant subjective allocation and therefore does not suffer the disadvantages of Telecom's product costing system.
- 6.61 Expenses in the Dubbo district, for example, are \$837 per subscriber compared to between \$230 and \$300 per metropolitan district subscriber.
- 6.62 Eleven of Telecom's 26 districts in New South Wales operated at a net loss of approximately \$45 million in 1981. This represents 22 percent of net contributions before state and national expenses. Committee analysis indicates that the cost of providing the service is highly dependent on customer density in each district.

- 6.63 The Committee concludes that this degree of cross subsidisation is an uncommercial penalty on other customers and is neither in Telecom's interest nor the national interest.
- 6.64 Information was also obtained on the distribution of customers by distance from their local exchange for New South Wales. (Table 6.9 refers). Costs of connecting customers at different distances from exchanges were assessed for New South Wales and for Australia overall. (Table 6.10 refers). Actual costs and distributions will vary between exchanges and between districts. The overall pattern provides a sufficient foundation to review the magnitude of financial distortions in Telecom's existing rental prices in regional areas.

Table 6.9: N.S.W. customer distribution -- end July 1982

DISTRICT	0--4 KM %	4--8 KM %	8--16 KM %	OVER 16 KM %
Armidale	59.20	31.10	7.60	2.10
Bankstown	96.30	3.70	--	--
Bathurst	78.10	17.70	3.10	1.10
Burwood	99.90	0.10	--	--
Canberra	99.40	0.50	0.10	--
Sydney	100.00	--	--	--
Central Coast	96.00	3.90	0.10	--
Chatswood	99.50	0.50	--	--
Dubbo	58.00	32.00	8.00	2.00
Epping	97.30	2.70	--	--
Goulburn	82.60	14.60	2.70	0.10
Grafton	74.80	20.50	4.40	0.30
Kempsey	55.20	36.80	7.90	0.10
Lismore	78.10	20.40	1.50	--
Maitland	83.70	12.50	3.70	0.10
Narrandera	78.90	14.90	3.90	2.30
Newcastle	98.80	1.20	--	--
Newtown	100.00	--	--	--
Parramatta	98.50	1.50	--	--
Penrith	98.40	1.60	--	--
Redfern	100.00	--	--	--
St. Leonards	100.00	--	--	--
Sutherland	99.10	0.90	--	--
Tamworth	69.00	26.00	3.00	2.00
Wagga	87.00	11.00	1.80	0.20
Wollongong	94.00	4.60	1.20	0.20
N.S.W. Average	93.90	5.00	0.90	0.20

Source: Derived from Telecom data and smoothed to eliminate inconsistencies.

Table 6.10: Distribution of Telecom subscribers at 30 June 1981

DISTANCE FROM LOCAL EXCHANGE	COST OF INSTALLATION SPECIFIC TO SUBSCRIBER		PROPORTION OF SERVICES LOCATED IN THE REGION			
	SUBSCRIBERS	25% OF LINE AND LOCAL CONNECTION \$	AUSTRALIA		NEW SOUTH WALES	
			NUMBER 000	%	NUMBER 000	%
0--4 km	Metro 533 Cntry 1200	200	Metro 3266 Cntry 1277	64.7 25.3	Metro 1141 Cntry 660	59.5 34.4
			Sub-total	4543 90.0	1801	93.9
4--8 km	2425	200	Cntry 367	7.2	96	5.0
8--16 km	7000	200	Cntry 115	2.3	17	0.9
over 16 km(1)	13000	200	Cntry 23	0.5	4	0.2
			Total	5048 100.0	1918	100.0

(1) Estimates based on installation of ARCS or DRCS

Source: Committee analysis of Telecom data

- 6.65 The financial distortions are considerable. A more equitable sharing of costs between Telecom's customers could be achieved by adopting a distance dependent rental structure. One possibility is that a unit rental per kilometre from local exchange be charged, with a minimum unit rental applicable to distances up to 2 kilometres and a maximum rental at 18 kilometres and beyond.
- 6.66 A limitation of 18 kilometres will become increasingly appropriate as more distant subscribers adopt Analogue Radio Concentrator Systems (ARCS) and Digital Radio Concentrator Systems (DRCS). A rental reduction to ARCS and DRCS customers who provide their own 'home station' (approximately \$7 000) could also be offered.
- 6.67 In assessing the practicability of reducing the extent of cross subsidisation between districts in NSW, the Committee adopted the following pricing charges:
- rentals were adjusted using a distance dependent rental in accordance with Table 6.11 in which the base rental (R) is \$100 (current average subscriber rental for 1981 is \$95 per annum);

- base rental R is applicable to all subscribers within 2 kms of their local exchange; other subscribers pay a rental based on their distance from their local exchange of \$50 per km with a minimum of \$100 (2 km) and a maximum of \$900 (18 km);
- the trunk call rate is reduced so that total NSW revenue remains unchanged.

Table 6.11: Rental adjustments based on distance from local exchange

RADIAL DISTANCE FROM LOCAL EXCHANGE(1)	AVERAGE CUSTOMER DISTANCE FOR GROUP	AVERAGE RENTAL FOR GROUP
0--4 km (Metropolitan)(2)	2.4 km	1.2 R
0--4 km (Country)	2.8 km	1.4 R
4--8 km	6.2 km	3.1 R
8--16 km	12.4 km	6.2 R
Over 16 km	18.0 km (max)	9.0 R

- (1) Subscriber numbers were only available in groupings of 0--4 km--8 km--16 km distances from exchange. It was assumed that customers were uniformly distributed within each zone to calculate the average distance from exchange.
- (2) The average distance for metropolitan customers in the 0--4 km zone is less than country urban customers because the distance between local exchanges in the metropolitan districts is less than for country urban. The average distance from exchange for metropolitan customers as advised by Telecom is 2.2 km. When allowance is made for a rental equivalent to 2 km for all customers located within 2 km the average distance for rental purposes increases to 2.4 km.

Source: Committee analysis of Telecom data

- 6.68 The incidence of trunk calls in the country districts is greater than in metropolitan districts. Overall call statistics indicate that 65 percent of country call revenue and 57 percent of metropolitan call revenue result from trunk calls. In 1981 total call revenue was \$536 million of which some \$325.4 million (60.7 percent) was attributable to trunk calls.
- 6.69 Application of the revised rental structure as indicated above would result in overall rental revenues in NSW of \$77.753 million which is 23.9 percent of existing trunk call revenue. Applying the Committee's assumption that overall revenues from NSW remain unaltered, a reduction of 24 percent in trunk call charges could be effected.

6.70 Table 6.12 outlines the overall effects of these pricing changes on the net contributions of NSW districts:

Table 6.12: Rental and trunk call rate restructuring -- NSW -- 1981

DISTRICT	TYPE	NUMBER OF SERVICES	WEIGHTED AVERAGE RENTAL	EXTRA METERED RENTAL AND		TRUNK CALL ADJ. (\$000)	ACTUAL CONTRI BUTION (\$000)	NET CONTRI BUTION (\$000)
				AT BASE \$100 (\$000)	MANUAL CALL REVENUE (\$000)			
Armidale	C	23 233	2.45	3 369	6 705	(1 073)	(6 101)	(3 805)
Bankstown	M	118 934	1.27	3 211	29 701	(4 158)	13 757	12 810
Bathurst	C	37 162	2.11	4 125	9 265	(1 482)	(5 392)	(2 749)
Burwood	M	126 683	1.2	2 534	28 654	(4 012)	19 247	17 768
Canberra	C	92 545	1.41	3 794	44 070	(7 051)	31 837	28 580
Sydney	M	141 625	1.2	2 833	75 893	(10 625)	37 512	29 719
Central Coast	C	60 115	1.47	2 825	9 425	(1 508)	(1 425)	(108)
Chatswood	M	93 896	1.21	1 972	22 908	(3 208)	16 532	15 297
Dubbo	C	39 951	2.47	5 873	11 320	(1 811)	(11 755)	(7 693)
Epping	M	113 000	1.25	2 825	30 695	(4 297)	22 466	20 993
Goulburn	C	23 228	1.78	1 812	9 424	(1 508)	945	1 249
Grafton	C	23 656	1.98	2 318	10 039	(1 606)	2 787	3 499
Kempsey	C	30 267	2.40	4 237	7 667	(1 227)	(2 945)	65
Lismore	C	32 082	1.82	2 631	11 463	(1 834)	1 685	2 482
Maitland	C	34 582	1.80	2 767	6 136	(982)	(2 931)	(1 146)
Narrandera	C	20 558	2.01	2 076	7 018	(1 129)	(1 727)	(780)
Newcastle	M	102 462	1.22	2 254	24 804	(3 472)	10 292	9 074
Newtown	M	103 263	1.20	2 065	22 955	(3 214)	13 167	12 018
Parramatta	M	158 773	1.23	3 652	35 054	(4 908)	15 374	14 118
Penrith	C	49 621	1.23	1 141	9 231	(1 477)	(5 424)	(5 760)
Redfern	M	78 517	1.20	1 570	25 178	(3 525)	15 890	13 935
St. Leonards	M	103 330	1.20	2 067	40 326	(5 646)	35 079	31 550
Sutherland	M	102 752	1.22	2 260	17 711	(2 480)	7 631	7 411
Tamworth	C	25 081	2.14	2 859	9 123	(1 460)	(1 963)	(564)
Wagga	C	55 194	1.69	3 808	15 763	(2 522)	(1 132)	154
Wollongong	C	125 019	1.55	6 876	16 536	(2 646)	(4 127)	103
<hr/>								
TOTAL		1 919 529	1.41	77 754		(78 861)	199 279	198 220
				Total negative contribution:			(44 922)	(22 605)

(1) C or M denotes 'country district' or 'metropolitan district' respectively
-- Newcastle has been denoted as 'metropolitan'.

(2) As calculated from Tables 6.9 and 6.11.

Source: Committee analysis of Telecom data

- 6.71 The effects of this pricing adjustments are:
- . country district trunk revenues are reduced by 16 percent while metropolitan trunk call revenues are reduced by some 14 percent;
 - . overall rental revenues increase by 41 percent without any cost increase to 24 percent of subscribers;
 - . net losses of \$45 million now made by 11 country districts are reduced by 50 percent to some \$23 million which is 11.7 percent of net contribution.
- 6.72 Business interests operating in regional centres submitted that high STD call charges between those centres and cities add significantly to their overall communications costs. This is seen as a disincentive to businesses to decentralise further their operations. The Committee considers that a reduced level of charges for STD calls on which country services depend would remove that disincentive.
- 6.73 Committee comments on direct subsidy alternatives to country services are at paragraphs 6.84--6.90 below.

Volume discounts

- 6.74 As telephone rental revenue is 26 percent of total revenue, while the investment in subscribers' lines is 48 percent of total investment the call revenue has a much larger gross profit than the rental revenue per unit of investment.
- 6.75 It would be in the interest of both Telecom and its customers to encourage greater call revenues by offering discounts on call charges in excess of a basic value in the billing period. This would offset part of the subsidy provided by the large user to the small user. The discount received by a large user of the telephone can be viewed as the equivalent of a reduction in the rental. This price mechanism would avoid the present arbitrary distinction between business and non business subscribers. If a business had the same call rate as a non business subscriber it would pay the same amount.

Timed local calls

- 6.76 Although trunk calls are priced by duration of call, local calls made within a unit charge area are priced regardless of duration of call.
- 6.77 The Committee received a number of submissions from country areas claiming that this charging arrangement discriminates against country subscribers who are obliged to use trunk services to a greater extent than metropolitan subscribers.

- 6.78 A number of submissions also emphasised the needs of the aged, the infirm and the disadvantaged to have access to 'basic' telephone services at a line call rate as low as practicable. The Government has recognised this same social need by direct subsidy of telephone rentals for pensioners.
- 6.79 With the increasing development and use of facsimile and 'videographic' services which may involve lengthy calls, timed local calls will be necessary to relate pricing directly to usage. If timed local calls are not introduced for future 'videographic' services, the level of the 'access' fee necessary may be an initial usage deterrent. The Committee considers that local calls should be priced by call duration.
- 6.80 Telecom has supplied traffic information on the duration of successful local calls in three typical metropolitan exchanges in Victoria. Based on the existing call duration pattern, timed local calls fixed on a three minute unit charge would generate an increase of 73 percent in Telecom's local call revenues without affecting the cost of 66 percent of all calls:

Table 6.13: Duration of local calls

DURATION OF CALL (minutes)	FREQUENCY %	WEIGHTED VALUE
		(EXPRESSED AS FREQUENCY X TIMED LOCAL CALL UNIT CHARGE)
0.0 -- 2.9	66	0.66
3.0 -- 5.9	15	0.30
6.0 -- 8.9	7	0.21
9.0 -- 11.9	4	0.16
12 and over	8	0.40
Total	100	1.73

Source: Telecom data

Alternatively, the local call unit charge could be reduced by 40 percent without reduction in Telecom's existing local call revenues to the benefit of the majority of local call users. Such a step would clearly increase the availability of the basic telephone service.

- 6.81 Telecom advises that introduction of timed local calls would require \$150 million over some 7 years. Table 6.14 below gives relevant details:

Table 6.14: Timed local call introduction: time analysis

AREA	COST (\$M)	MAN YEARS
Metropolitan	70	120
Country	80	110
Total	150	230

Source: Telecom data

- 6.82 The Committee was advised that with phased introduction between local exchanges, substantial adoption of timed local call charging could be achieved much sooner.
- 6.83 It is noted that the practice of timed local calls is employed in the United Kingdom and is being introduced in Sweden.

Alternatives to cross subsidisation

- 6.84 If it is desired to continue to provide substantial financial support for socially desirable objectives in telecommunications then alternatives to cross subsidisation will be necessary when Telecom no longer enjoys a monopoly, and hence moves from uniform pricing to cost related pricing policies.
- 6.85 A number of submissions to the Committee mistakenly believes that Telecom and not Government currently sets the level of price subsidisation and pursues the existing policy of uniform pricing.
- 6.86 Under s.11 of the Telecommunications Act 1975 the Minister, not Telecom, approves standard telephone rentals and telephone call charges (see paragraph 6.6 above). It is inconceivable that such ministerial approval would be given unless the prices are appropriate.
- 6.87 The Committee considers that funding procedures should be developed to provide direct subsidies to any class of telephone subscriber the Government wishes to assist. Direct subsidies are already given to pensioners who pay less than the standard non business rental. The Government reimburses Telecom for the revenue foregone.
- 6.88 A number of submissions have rightly conjectured that Government may be reluctant to subsidise Telecom lest this invite operational inefficiency. The Committee understands the concern. Direct subsidy to consumers would avoid the problem.

6.89 In a democratic society the degree of subsidy or social support is properly a matter for political judgement by elected representatives. Openness in subsidisation is in the national interest. Spreading of the cost over the whole community rather than penalising users of the 'profitable' services would enable:

- . clear identification of such subsidies;
- . community understanding of associated costs and acceptance of associated costs.

In particular circumstances where Government or Telecom might not find it possible to move to direct subsidy, the cost burden on other subscribers should be clearly identified in Telecom's accounts.

6.90 The direct subsidy could be funded in a number of ways:

- . general revenue;
- . imposition of a fee or royalty on some services with use of revenue derived thereby to support other services; or
- . provision of direct taxation relief for those expenses considered by Government to exceed the amount perceived to be reasonable.

Responsibility for fixing tariffs

6.91 The Committee has already commented on the Minister's existing role in setting basic telephone tariffs. Committee proposals for direct subsidy for socially desirable objectives enable Telecom's prices to be cost related and geared to the market in which it is operating. Tariff responses to competition must be prompt, flexible and non discriminatory.

6.92 The Committee considers that Telecom should set its own tariffs for all telecommunications services which it offers to the public.

Recommendations

6.93 The Committee recommends that:

Cost related pricing

- . TELECOM'S PRICING POLICY SHOULD:
 - (a) REFLECT COSTS TO A SUBSTANTIAL DEGREE;
 - (b) MINIMISE PRICE DISCRIMINATION;
 - (c) ADOPT TIMED LOCAL CALLS.
- (R46)

Subsidisation of services

- . CROSS SUBSIDISATION SHOULD BE REDUCED TO LEVELS WHICH TELECOM CAN ABSORB YET REMAIN COMPETITIVE.
(R47)
- . DIRECT SUBSIDY FUNDED FROM SOURCES EXTERNAL TO TELECOM SHOULD BE INTRODUCED FOR ANY CLASS OF SUBSCRIBER WHICH GOVERNMENT WISHES TO ASSIST.
(R48)

Fixing telecommunications prices

- . THE MINISTER SHOULD NOT BE RESPONSIBLE FOR AUTHORISING STANDARD TELEPHONE RENTALS OR CALL CHARGES.
(R49)

ORGANISATION MANAGEMENT AND MARKETING

CHAPTER OVERVIEW

Background

- 7.1 Telecom's submission to the Inquiry outlined the philosophy and framework of Telecom's approach to organisation, management and marketing. During visits to numerous parts of Telecom, members of the Committee sought to evaluate how effectively these arrangements were working in practice.
- 7.2 The need for changes in these organisational arrangements, given implementation of Committee recommendations on revised role and functions for Telecom, is considered.

Scope

- 7.3 The chapter contains two sections:
- . SECTION 1: TELECOM'S ORGANISATION AND MANAGEMENT;
 - . SECTION 2: MARKETING POLICIES.
- 7.4 The Committee has given separate consideration to the role and organisation of the Commission itself. Recommendations for a revised corporate status for Telecom and its Board of Directors are included in Chapter 11.

SECTION 1: TELECOM'S ORGANISATION AND MANAGEMENT

TELECOM'S ORGANISATION DEVELOPMENT

The shaping of Telecom's present organisation structure

- 7.5 Telecom's management organisation structure reflects its monopoly foundations and geographic demands:
- "In a physically large country with a small population the questioning of the monopoly brings with it reconsideration of the goal of a nationwide universal service at prices which the very great majority of Australians can afford."
(Telecom Annual Report, 1980--81).

- 7.6 The pressure to deliver as far as practicable a universal service at a uniform price has coloured Telecom's organisational philosophy. It has demanded Australia wide dispersal of people and resources.
- 7.7 As well as reflecting a monopolistic public utility outlook, Telecom's management organisation is heavily influenced by its predominantly technical activities with engineering professionals in key management positions throughout the organisation.

Development of district organisations

- 7.8 A district based organisation in each state to handle day to day operations was implemented following the Vernon Committee of Inquiry and later proposals of management consultants engaged by Telecom. After modification by an internal working group, implementation commenced early in 1977 and was completed in 1978. Telecom believes this geographical division of responsibility has simplified customers' dealings with Telecom and contributed to customer service and containment of costs. The Committee endorses this organisational development.

Organisation for major customers

- 7.9 Telecom introduced a major business facilities group in the state Operations Department in both Victoria and New South Wales in 1978. In 1980, a Business Development Directorate was established at Headquarters and Commercial Services Departments in Headquarters, Victoria and New South Wales.
- 7.10 Eight product divisions were established under the General Manager of Commercial Services at Headquarters. These divisions have responsibility for developing plans and policies for the marketing and operation of all services related to their particular product responsibility in the areas of PABXs, data services, telex, trunk network services, local network services, telephones, small business systems and directory services. Within the product divisions commercial and engineering people have been brought together.
- 7.11 At the State level in Victoria and New South Wales, larger business customers whose annual bill exceeds \$250 000 have been categorised under 12 industries and allocated to account managers. There are presently over 70 account managers and support representatives in Sydney and Melbourne.
- 7.12 Although this change went some way towards fulfilling a recommendation made by McKinsey in its June 1980 report, it avoided the thrust of that recommendation to set up account management on a national basis for national companies:

"Responsibility for non residential customers should be assigned to a single manager located at headquarters for national accounts and at state and district level for non residential customers. Account managers should have authority to marshal resources to effect customer service improvements."

Instead, responsibility for national accounts has been placed within the State where the head office of the customer is located.

- 7.13 During 1979--80, responsibility for operations in the central business district in Melbourne and Sydney was transferred from the Operations Department to the Commercial Services Department in Victoria and New South Wales. In all other districts in those States, managers report to the Operations Manager.

Co-ordination of state operations

- 7.14 Despite these changes Telecom's organisational structure revolves around a regional line organisation. District managers are responsible to a State Operations Manager reporting to a State Manager and in turn to the Chief General Manager.
- 7.15 The conceptual approach adopted to integrate Telecom's State businesses into a national composite is that of a multi level line and staff organisation structure.
- 7.16 This approach concentrates planning at Headquarters and operations in the State organisations. This applies to both commercial services and traditional activities classed as operational.
- 7.17 Co-ordination of State operations is the responsibility of the Deputy Chief General Manager and a series of functional general managers who operate in a staff capacity. Except for operations, all major functions are duplicated at State level in a similar staff role, although some of the functions are combined for delegation purposes.
- 7.18 The functional general managers reporting to the Chief General Manager comprise engineering, industrial relations, personnel, information systems, commercial services, accounting and supply, and research.
- 7.19 At the corporate level, in addition to the Chief General Manager and Deputy Chief General Manager, four functional heads report to the Managing Director. They are responsible for business development, finance, secretarial activities and public relations respectively.
- 7.20 A characteristic of Telecom's divisionalised organisation is that profit responsibility is exercised formally only at the level of the Chief General Manager. Given Telecom's present monopoly nature, the absence of delegated profit responsibility might not be considered a major deficiency in the management of the business. Nevertheless, the inability of the accounting and information systems to generate reliable information on profitability places significant constraints on Telecom's capacity to develop the most effective approach to organisation planning.

- 7.21 This deficiency impairs the effectiveness of the commercial services structure. Preoccupation with achieving allocation of all expenses, direct and indirect, has prevented the development of a management information system which would permit fixed costs and contribution to be identified by regional units, products and services, markets and major accounts.

Criteria for judging effectiveness of Telecom's organisation structure

- 7.22 The Committee has reviewed the present organisation approach against several criteria:
- whether the structure is designed in a manner most appropriate for the implementation of corporate strategy;
 - whether responsibilities have been assigned to people with the requisite training and experience;
 - whether responsibilities are matched with appropriate authority and accountability;
 - whether the management information system enables effective co-ordination of line and staff functions, and control of delegated responsibility.
- 7.23 Consideration has been given to organisational effectiveness under the present charter and objectives as well as the requirements for the future. Telecom's effectiveness in the long run will depend on its ability to develop and maintain a national network which keeps pace with technological improvements and renders a variety of network based services efficiently run and economically priced. The delivery of services other than those closely related to the national networks should be a supplementary activity.
- 7.24 Three basic management tasks have to be performed effectively if the network is to reach the required level of performance:
- network planning and construction;
 - network operation and maintenance;
 - marketing of services.

The organisational structure needed for these tasks is one which will achieve:

- an acceptable level of customer service;
- a level of profit which will permit the raising of the required level of capital at an economic cost;
- stable employee relations.

CONCLUSIONS ON ORGANISATIONAL EFFECTIVENESS

Recent developments

- 7.25 The initiatives taken by Telecom since establishment of the Commission in 1975 to strengthen the organisation approach are commendable. The moves made to establish a stronger geographic structure and the Commercial Services Department have improved customer service. Many submissions to the Inquiry commented favourably on a significant improvement in Telecom's service to major business customers. Although undoubtedly the major benefits have accrued to large business organisations, submissions and evidence to the Committee identified benefits to all users through establishment of the new district offices.
- 7.26 The general tenor of submissions was to recognise progress made but indicate the need for further improvement.
- 7.27 The Committee's conclusion is that these organisational moves have improved customer service but have not produced greater business orientation. The level of customer service cannot be influenced by profit, as implied in the term 'business orientation', in the absence of a suitable management information system. Telecom's profitability is planned at the top but thereafter the organisation's performance is dictated by control of cash disbursements and quantitative measurements.
- 7.28 The critical test of organisational effectiveness is the extent to which the structure facilitates the implementation of corporate strategy. Given its monopoly charter and a set of objectives founded on offering a universal service at a uniform price, the present structure measures up well. Whether it is overmanned or too costly is a separate issue.
- 7.29 The present structure is geared to handle the three major line tasks -- constructing the network, operating the network and marketing network services.

Network construction

- 7.30 Construction of the network is organised effectively by a specialist division under a corporate general manager responsible to the Chief General Manager. Similarly, at State level, there is a chief engineer responsible to the State Manager. It appears to the Committee that there is effective planning and co-ordination of these activities, contributing in a sound way to implementation of corporate strategy. Furthermore, it appears that executive staff are skilled and motivated to reach performance targets and carry appropriate authority. Management is facilitated by an information system providing basic reporting on capital expenditure. The Committee has formed the impression, however, that technical rather than business considerations have an undue influence on the functioning of the Telecom organisation.

Network operation and maintenance

- 7.31 Operating the network represents the core activity around which Telecom's organisation is structured. Except for the central business districts of Melbourne and Sydney the line of responsibility runs from District Managers to a State Operations Manager, to the State Manager and directly to the Chief General Manager. The Deputy Chief General Manager plays a significant role in co-ordination of operations management throughout Australia but this does not form part of the set of formal line management responsibilities.
- 7.32 In Melbourne and Sydney, operations management of the central business district is a responsibility of the respective State Commercial Services Managers. As mentioned earlier, the aim of this move was to improve service to major business customers. It is possible that a similar result could have been achieved in other ways, while leaving the line management responsibility of the central business district with operations management.
- 7.33 Telecom's submission to the Inquiry points out that the operations department in a State organisation has no counterpart at Headquarters. It states that co-ordination of resource allocation, particularly for the States, is carried out by the Deputy Chief General Manager.
- 7.34 With operations management split between the operations and commercial services departments as referred to above, it appears unsatisfactory not to have a corporate general manager responsible for co-ordination and integration of these key activities. The Committee understands that the Deputy Chief General Manager performs some of these tasks in association with his other responsibilities. The task of co-ordination and integration of a complex organisation such as Telecom should occupy most of the Deputy Chief General Manager's time. He would not be able to devote the time and resources required to meet the national general management demands of operations activities.
- 7.35 Telecom has foreshadowed a review of the effectiveness of the new organisational arrangements for commercial services. The Committee would expect that the review would embrace evaluation of the effectiveness of the management of central business district operations in Melbourne and Sydney. Because this current arrangement is inconsistent with the basic approach taken to structuring the Telecom organisation, it would be desirable to undertake a critical review of the interface between the operations and commercial services divisions in those States and the co-ordination of operations activities nationally.
- 7.36 The Committee considers that Telecom's approach to organisation of operations is inappropriate to implementation of its present corporate strategy.

- 7.37 Management information systems need to be improved to promote more effective management of Telecom's operations division activities. District Managers are not set performance targets based on profit contribution above direct costs. Telecom management has acknowledged that it has not been able to carry profit responsibility down to district level. This seriously impairs organisational effectiveness. The Committee stresses that for managerial purposes within the operations division the information system needs to produce information on profit contribution above direct cost. Fully allocated costs may be required for other purposes but not for line management purposes. With a management objective of universal service at a uniform price the lack of emphasis on relating operating surplus to costs and the need to relate quality of service to cost are understandable. It is nonetheless undesirable since it impacts on the quality and effectiveness of management.
- 7.38 The Committee comments further on management accounting systems in Chapter 9.

Marketing of services

- 7.39 The organisational structure in place to market the network is recent. Telecom's top management regards the moves as experimental and is carefully monitoring the results. Given its charter as a public monopoly, the direction taken to improve service to major business customers would seem appropriate for the implementation of Telecom's present strategies. It is hardly a marketing organisation in terms understood in industry and commerce at large, but rather a well constructed customer services division.
- 7.40 The Committee sees some inconsistency in a commercial services structure based on product groups at the national level and account managers at the State level. Given a more competitive environment for Telecom, the Committee believes it would be necessary to extend the role, scope and authority of product divisions throughout the organisation so that they regard themselves as managing nationally their respective segment of Telecom's business.
- 7.41 Given continuation of the present approach to account management, the Committee considers that co-ordination and integration of marketing would be strengthened if national account management was directed from Headquarters.
- 7.42 The Committee takes the view that account management of major businesses needs to be seen as part of the overall process of market management. There are other significant market segments besides major business -- small business, metropolitan residential customers, rural customers in towns and adjacent areas, remote area customers, and educational institutions and others.

- 7.43 In an organisation of the size, diversity, spread and complexity of Telecom, the Committee sees the need in a more competitive environment to organise a market stream nationally to parallel the product stream. Account management would then become part of the national management of the large business market with a top executive taking responsibility for planning, policy making and performance control based on profit contribution as well as market share and other performance measurements.
- 7.44 Considerable experience has been gained around the world in dual approaches to marketing management through product and market specialisation. In many instances, the dual approach to marketing has been superimposed on a line organisation based on geographic or regional management. The Committee sees merit in consideration of this dual approach when the proposed review of the commercial services organisation is undertaken. Local management should nevertheless be given sufficient flexibility to adapt to its local environment.
- 7.45 Committee observations on inadequacies in management information systems and their effect on organisation and management apply equally to marketing network based services and network operations.
- 7.46 Development of stronger marketing management at the national level would help to minimise the 'ivory tower' complexes which can accompany the conceptual split of planning and policy making from day to day operations. Adoption of the suggested more comprehensive approach to marketing management would require careful definition of roles, responsibilities, authority and accountability as between the three key divisions and between Headquarters and State organisations. In this latter interface, the Committee formed the opinion that a review was warranted irrespective of other considerations.
- 7.47 In respect of the other functional divisions at Headquarters responsible to the Managing Director and the Chief General Manager respectively, the Committee formed the opinion that they were relevant and contributing to the implementation of Telecom's corporate strategy. A detailed organisation study could suggest alternatives to the present structure which would need to be evaluated carefully before changes were contemplated.

Requirements in organisational planning under more competitive conditions

- 7.48 The Committee concludes elsewhere in its Report that increased competition in telecommunications services in Australia is in the national interest. In Chapter 2 it recommends continuation of Telecom's function as Australia's national terrestrial network operator in contrast to its existing role as the public telecommunications monopoly. Consequential changes will stem from removal of the regulation and equipment approval process from Telecom's charter. In Chapter 3 the Committee recommends competition in the marketing of terminal equipment. To ensure growth of effective competition in that

market the Committee recommends that Telecom's present activities in the terminals market be transferred to a separate telecommunications equipment organisation 'Telequip'. The organisational options considered during Committee examination of arrangements necessary to effect that transfer are discussed in Chapter 11.

- 7.49 These future organisational arrangements will permit Telecom to concentrate on the development, effective operation and profitable marketing of the network.
- 7.50 The Committee reiterates the need for Telecom's organisational structure to facilitate to the maximum extent possible the implementation of this corporate strategy.
- 7.51 The Committee obtained information on the qualifications and the career backgrounds of Telecom's top management staff. Most executives have a long working life within Telecom which is not unusual for monopoly public utilities in telecommunications. Executives with an engineering background predominate. There is no evidence that people with marketing experience have been recruited to fill key executive positions in that department. Significant competition for Telecom could expose this lack of marketing skills. An analysis of the top 20 senior staff in Telecom showed that their average age on joining Telecom was 16.5 years. Their average length of service at 1982 was 37.4 years.
- 7.52 The Committee considers that Telecom's management capability would be strengthened if future executive appointments in strategic areas, particularly marketing, balanced internal experience with external experience. Executive recruitment programs which targeted at 10--20 percent external appointments would ensure a secure career path for Telecom's employees whilst at the same time achieving cross fertilisation with the outside world.

Recommendations

- 7.53 The Committee's recommends that:

Organisation

- . TELECOM SHOULD DEVELOP GREATER BUSINESS ORIENTATION.
(R50)
- . TELECOM SHOULD DEVELOP MANAGEMENT INFORMATION SYSTEMS TO SUPPORT THE MANANAGEMENT STRUCTURE.
(R51)
- . A NATIONAL MARKETING ORGANISATION SHOULD BE ESTABLISHED WITH BOTH PRODUCT AND MARKET SPECIALISATION.
(R52)
- . ROLES, RESPONSIBILITIES, AUTHORITIES AND ACCOUNTABILITIES OF HEADQUARTERS MANAGEMENT GROUPS COMPRISING COMMERCIAL SERVICES, ENGINEERING AND OPERATIONS SHOULD BE REVIEWED.
(R53)

PRODUCT AND SERVICE POLICIES

Present policies

7.56 Telecom's submission refers to general policies for the provision of products and services:

" . . . nationally provided to consistent standards, prices and tariffs as far as economically practicable. . ."

" . . . install and maintain all Telecom provided products and services. . ."

" . . . adopt new and improved telecommunications products and services to which technology, market acceptance and financial performance are proven. . ."

" . . . introduce products and services with the capabilities and reliability for reasonable product life. . ."

" . . . not authorise development and operation of a public telecommunications service by others. . ."

" . . . authorise attachments to the network which comply with certain defined standards and requirements. . ."

Chapters 2,3 and 4 have examined closely the manner in which these policies have been applied in the market place. Undoubtedly they have been developed to implement the marketing strategy of a monopoly public utility. If the Committee's recommendations for greater competition are implemented, obvious modifications would need to be made to some of the abovementioned policies.

7.57 It is in the area of new product policy where major changes will be forced on Telecom in a more competitive environment. Telecom has implemented existing new product policy within the present market structure in an effective way by, inter alia, widening data services, introducing premium telephones and expanding data services. Other improved products and services are planned. The time scale for introduction, nevertheless, is Telecom's choice because of its monopoly. In a more competitive market, Telecom could not expect to defer introduction of new products and services until satisfied that the technology, market acceptance and financial performance were proven. Certainly, greater risks would be involved in new product launching because the timing of launching new products in the market place is a critical competitive factor and an important element in marketing strategy. In these conditions, a premium is placed on sound market research and planning without the luxury of overall market control.

Call charge recording

7.58 Market demand for call charge recording would not appear to have been effectively measured. This is another service area where Telecom's marketing policies reflect its monopoly position, with service availability not affected by the marketplace. Telecom has advised the Committee that call charge recording facilities (CCR) for STD calls as an optional service will be introduced progressively commencing in 1984:

- only 5.4 percent of metropolitan calls will be using STD/CCR by June 1986;
- the network could only accommodate a penetration of 30 percent of the total metropolitan originated STD calls by 1990;
- Telecom estimates that only five percent of total country originated STD calls will be using STD/CCR by 1990.

Telecom asserts that there are considerable uncertainties about the level of customer demand for the facility and further market research will be undertaken before firming up on plans for the rate of penetration. If a specialised independent carrier was capable of offering this service and using it as a competitive factor, it is difficult to see how the timing envisaged by Telecom would be appropriate.

7.59 Under Telecom's implementation plan, the introduction of STD/CCR throughout Australia is linked with its network modernisation program. It is clear to the Committee that many subscribers will not have access to the optional facility within the next 20 years. An accelerated program under which the necessary calling line identification capability could be made available in the network independently of Telecom's more general AXE network modernisation program would require additional capital expenditure at exchanges.

7.60 The Committee does not share Telecom's uncertainty on the level of customer demand. CCR for STD, as now available for many ISD calls, would benefit all subscribers, enabling businesses and households to manage their own account costs. A number of submissions to the Committee confirmed that businesses were unable to allocate costs under existing arrangements. CCR also offers Telecom a facility to improve its own marketing management.

Differentiation of product and service policies

7.61 Some of Telecom's products are hardware oriented, some related to selling network services and others such as directory services are of a customer service nature. Requirements for successful marketing differ markedly in the two major areas of marketing network services and terminal equipment. The Committee formed the opinion that some Telecom

senior executives recognise that Telecom's future success lies with ability to expand network services and their use. These executives see the marketing of terminal equipment as a means of selling the network. Certainly the Committee would regard the marketing of network services as fundamental to Telecom's business performance and growth. With new competitors entering the terminal equipment market, 'Telequip' will need to be highly selective in the products it chooses to sell. In a competitive market, there can be no guarantee of profits to every participant and, where there is profit to be made, it may represent too low a return on investment to be justified. It appears to the Committee that product and service policy formulation will need to be substantially upgraded in Telecom under more competitive conditions.

- 7.62 For many classes of terminal equipment Telecom now offers customers supply on a rental basis only. Wider customer choice is desirable. The Committee generally supports the options of sale or rental in all classes of terminal equipment. Indeed the option of sale should never be excluded. The McKinsey Report (1980) made the point that product policy should embrace a range of service options such as faster connection times at higher prices. McKinsey also recommended that a whole range of new network services should be offered as options rather than as part of a uniform service across Australia. Marketing policies would not appear yet to incorporate this advice. McKinsey raised also the need for marketing to be involved in the introduction of new network technology which would ultimately influence marketing policies.

Network customer service policies

- 7.63 Telecom's submission to the Inquiry states that its corporate objectives in customer services are:
- to improve customer satisfaction through greater responsiveness to customer requirements, both in the types of services provided and in the manner of their provision;
 - to increase the efficiency of operation with a high standard of service to the customer and minimise increases in basic telephone and telex rental and call charges.
- 7.64 These are particularly generalised statements which are supported in practice by target service levels in regard to times for connection and fault clearance. As examined in the previous section of this chapter, Telecom has taken significant steps to upgrade service to business customers which has been recognised already by several organisations.

Customer billing

- 7.65 Telecom devotes a substantial part of its resources to the handling of customer service. From evidence presented to the Inquiry, it has had varying degrees of success in the market at large with the principal problem area being customer billing.

- 7.66 The Committee received many submissions critical of Telecom's account billing. Telecom's own statistics on telephone account queries indicate steady improvement in this area:

Table 7.1: Telephone account queries

YEAR ENDED 30 JUNE	ACCOUNTS ISSUED (million)	ACCOUNTS QUERIED	PROPORTION OF ACCOUNTS QUERIED %
1977	5.8	47 800	0.83
1978	6.8	54 000	0.79
1979	8.1	62 200	0.77
1980	9.1	57 902	0.64
1981	9.5	57 980	0.60

Source: Telecom submission

Telecom reports that all queries are carefully investigated. Five to ten percent of those queried are found to justify adjustment.

- 7.67 Telecom as a statutory authority of the Commonwealth falls within the jurisdiction of the Commonwealth Ombudsman. His Annual Reports provide a number of comments on Telecom's customer relations and complaints handling:

"It is obvious that our principal difficulty in investigating complaints about excessive telephone bills is that STD, ISD and local calls, instead of being itemised separately, appear together as a single charge in a telephone account. The reason for absence of itemisation is that Telecom has always employed a system in which each subscriber has a single meter to record calls irrespective of whether they are local, STD or ISD, the charges for STD and ISD calls being based on units equivalent to a local call. A further difficulty in that testing of a service for malfunction in the case of a contested bill usually takes place a substantial time after the recording of the disputed registrations. The problem is accentuated because Telecom does not have a monthly billing system as do some other countries and this further means that if there should be unauthorised use of a subscriber's telephone on a continuing basis, misuse may occur for a considerable time without being identified. Telecom has begun introducing the recording of individual calls on ISD but this, of course, falls far short of providing a subscriber with complete itemisation of his telephone account. Full recording of individual local and STD calls, Telecom tells me, is still some years away.

Telecom has a monopoly and a subscriber has no choice of service available to him. It may be recalled that Henry Ford, the car manufacturer, once said that a customer could have any colour he liked as long as it was black. . . "(1)

The Committee has already commented (paragraph 7.58) on the market demand for call charge recording (CCR).

TIMS

7.68 Telephone Information Management Systems (TIMS) are related customer facilities which enable subscribers to evaluate:

- . outgoing telephone traffic;
- . cost of calls;
- . the number of calls from areas within the business.

The Committee notes that in early 1981 Telecom authorised categories of TIMS equipment for attachment to PABX's or other private switching systems with appropriate safeguards to the privacy of called parties.

7.69 TIMS is an important management aid to a customer in controlling the commercial costs of communications systems. While supply and installation of such equipment will not be the responsibility of Telecom in the future, Telecom as network operator should nevertheless encourage the use of such facilities.

Public accountability for customer services

7.70 Telecom is within the jurisdiction of the Commonwealth Ombudsman. As a statutory authority responsible to the Minister for Communications, Telecom is frequently a respondent to parliamentary questions and Ministerial representations. It is also subject to various administrative law statutes which provide for judicial review on aspects of its administration as it affects individuals -- in particular, Administrative Appeals Tribunal Act 1975, Administrative Decisions (Judicial Review) Act 1977, Freedom of Information Act 1982.

7.71 Elsewhere in this Report the Committee recommends that Telecom adopt a corporate status more appropriate to a business enterprise which is engaged in competition with other suppliers of telecommunications services. The Committee also recommends that Telecom no longer have responsibility for regulatory aspects in telecommunications including the approval of telecommunications equipment standards and other matters of Government administration.

7.72 In the light of these changes in role and market environment the Committee considers that Telecom should be directly accountable to its customers in the same manner as any other business offering goods and services to consumers. It should deal with complaints promptly and directly as part of any sound customer relations policy and be subject to the usual consumer affairs procedures applicable in the various Australian States and to the consumer provisions of the Trade Practices Act. Telecom's top management and its Board of Directors should ensure that its customer complaint procedures and general customer relations policies are adjusted to this new and more sensitive market environment.

- 7.73 S.101 of the Telecommunications Act 1975 renders Telecom immune from actions for loss suffered by a person by reason of any default, delay, error or omission, whether negligent or otherwise, in respect of the provision, maintenance or operation of a telecommunications service. Under its proposals for change to Telecom's role and functions within a more competitive and market oriented environment, the Committee considers that Telecom should not be sheltered by a statutory screen limiting a customer's rights of redress or remedy. The existing immunity from suit provisions should be removed, with exceptions from suit in tort being limited to loss or damage arising from its 'common carrier' role and in respect of system failure or interception.

Telecom's consultations with user groups

- 7.74 Telecom maintains continuing contact at the national level with a variety of groups of major customers or users. The representatives and consultative groups include:

- . data communications consultative group;
- . data communications user group;
- . automatic call distribution user group;
- . AUSTPAC user group;
- . non data private line users;
- . Australian Public Service telecommunications user group;
- . Commonwealth Press Union representatives;
- . Australian Banks' Payment Systems Committee;
- . Australian Computer Equipment Suppliers' Association;
- . Fax Suppliers' Consultative Group.

Telecom is a member of the Australian Telecommunications Users Group which provides a forum for interchange of views. It also has regular meetings with groups of organisations which supply equipment to Telecom.

- 7.75 The Committee finds that Telecom's existing user group consultative machinery is not sufficiently effective and should be developed further.

Communications on tariffs and conditions of service

- 7.76 The Committee found some evidence of Telecom failing to keep its customers informed of prices and service changes. This was especially noted in relation to new data and business services. The earliest

notice of changes, availability of new service outlets and capabilities must feature in any successful marketing. Copies of Telecom's By-Laws which contain many of the regulations and conditions of use of different classes of telecommunications services are not readily available.

- 7.77 The Committee considers that Telecom's general communications on tariffs, service changes and additions are of a standard less than appropriate to a properly market oriented organisation.

OTHER MARKETING POLICIES

Perspective

- 7.78 The Committee is in agreement with McKinsey's comment on the need to strengthen business and product planning:

"Considerable planning takes place within Telecom but it consists mainly of technical planning and resource programming. There is little strategic or business content in Telecom's planning, including that for new services. . .".

Having discussed areas of marketing policy which are given due weight in Telecom's planning, the Committee draws attention to other strategic aspects where more attention is required in marketing planning. These next sections briefly discuss policies related to market segmentation, distribution, advertising and promotion and selling.

Formulation of policies and market segments

- 7.79 Product policies need to be matched with market segment policies directed at end use applications. Telecom appears to pay considerable attention to the former but seems less conscious of the latter and the need for matching in the way to which reference was made in the McKinsey report:

"The key to effective business planning is developing product/market plans. These would:

- (a) Show how the product or service will be offered to different groups of customers and how it will be priced relative to other products. . .".

- 7.80 Telecom's submission refers to six major classes of customer:

- . residential and non business;
- . business;
- . business market segments (e.g. finance, merchandising);
- . major business;
- . rural and remote;
- . disabled and disadvantaged.

The business segment is classified further into twelve industry sectors. The submission indicates that the amount spent annually on market research is in the vicinity of \$500 000.

- 7.81 The need for improved market information on customer requirements has to be met from internal as well as external sources. Better marketing information can be garnered from within the Telecom systems than is the case today. Telecom's information systems at present are primarily designed for accounting purposes and too rarely serve a useful purpose from a management viewpoint. It will not be possible to upgrade product/market plans to a level to be successful in a more competitive environment unless there is an improved marketing data base within Telecom. Clearly this needs to be supplemented by outside market research and by information from within Telecom's own marketing organisation interfacing with the customer. From these sources relevant marketing information can be developed on who buys Telecom's products and services, how much, how frequently and when, who or what influences the customer in arriving at a decision to buy or use a product or service, how the product is used or applied, what substitutes there might be and for how long it might be serviceable.

Distribution policies

- 7.82 The range of services which Telecom will be able to offer from an integrated network will continue to increase. On the other hand, liberalisation of the end user market will extend the range of customer choice. Given the continuing convergence of telecommunications, computers and office communications systems, gaining markets from the business sector for Telecom's network services will become more complex and demanding. If this scenario is realised Telecom will need to take into account in developing marketing strategy and attendant policies the need to establish effective distribution channels. Appropriate outlets will be needed geared to where the customer will actually buy or make the buying decision. To illustrate the subtle changes which technological developments can bring, the airline industry is pertinent. Computer reservation systems in travel agents offices now play a key role in the sale of airline tickets. Airlines are now competing strongly in the U.S. to have their reservation system installed wherein flight schedules displayed on the terminal in the travel agents office will give them a priority position. The computer reservation system now forms a critical distribution network for major airlines but also for feeder airlines who could not afford to have their own computer reservation system.
- 7.83 Distribution channels for selling Telecom's network now include data services such as Austpac, INWATS and leased coin telephones. O.T.C. and Aussat also can be regarded as distribution channels and the advent of new computer based packaged information services such as 'videotex' will add to the range.
- 7.84 Similar attention needs to be given to the channels through which terminal equipment will be marketed in a more competitive environment.

Advertising and promotion

- 7.85 Telecom commented in its submission to the Committee that, following criticism at the 1974 Vernon Commission of Inquiry, there was a lack of information about services and facilities available, Telecom established an Advertising Section where product advertising could be developed as an integral part of marketing strategy.
- 7.86 The Committee's engineering consultant has suggested (Volume 3 Section I) that Telecom should engage not only in product type and services advertising but also in corporate advertising both to promote a service and to support employee morale. He comments on Bell (USA) corporate advertising in this regard.
- 7.87 The Committee understands that Telecom has in the past been discouraged from any extensive corporate advertising. It should be permitted to do so. All forms of commercial advertising should be available as options for consideration by Telecom's Board in implementing its overall marketing strategy.

'Yellow pages'

- 7.88 The Committee considered whether the area of Telecom's 'yellow pages' directory could involve greater private sector participation. 'Yellow pages' provide a useful information service, profitable only incidentally through advertising. The private sector is already involved as contractors.
- 7.89 The Committee sees no reason to change the existing arrangements.

Selling policies

- 7.90 Telecom's District Office organisation was established in 1975. A four year Telecom Business Office Development Plan was initiated in 1978 to upgrade and expand its existing network of Business Offices. Telecom reports:
- there are 157 Telecom Business Offices throughout Australia;
 - the level of sales achieved through these Offices has increased by 250 percent since 1977;
 - counter enquiries at the Offices are in the order of 180 000 per month.
- 7.91 Sales advisory consultants at Business Offices provide free advice on the suitability of Telecom products or services. On request, Telecom consultants in Telecom's state offices also provide professional advice and network design services. Both New South Wales and Victoria state

administrations have their own established section of consulting engineers. In recent years Telecom has based its charges for project consultancy on the scale of recommended fees of the Association of Consulting Engineers.

- 7.92 The Committee notes that independent telecommunications consultants in Australia are few.
- 7.93 The Committee considers that Telecom's involvement in consultancy in support of sales is entirely appropriate. For project and systems design work, on the other hand, private sector telecommunications consultants should be encouraged. That private sector capability will take time to develop. It would be in Telecom's long term interests to facilitate such growth.
- 7.94 As to general customer advisory services offered through Business Offices, the Committee notes that Telecom provides displays of products and equipment for sale or rental through Telecom. Under the Committee's recommendations 'Telequip', not Telecom, would supply that equipment. Telecom's marketing priorities should be oriented toward improved network utilisation. Telecom's marketing strategy should include displays at its Business Offices not only of the equipment supplied by 'Telequip' but also the products of other suppliers.
- 7.95 In a more competitive environment Telecom will need to ensure that it has the resources and organisation capable of selling in open competition with private industry. To be effective, this will require a selling strategy and policies directed towards active selling and not order taking. Any concept that the customers can have anything they want, provided they ask for it, would certainly not be satisfactory basis for developing selling policies.

Recommendations

- 7.96 The Committee recommends that:

Marketing

- TELECOM'S MARKETING STRATEGIES SHOULD BE DIRECTED TOWARDS INCREASED USE OF THE NETWORK.
(R55)

Customer relations

- TELECOM SHOULD ACCELERATE THE INTRODUCTION OF CCR (CALL CHARGE RECORDING).
(R56)
- TELEPHONE INFORMATION MANAGEMENT SYSTEMS (TIMS) SHOULD BE ACTIVELY PROMOTED.
(R57)

- TELECOM SHOULD NOT BE SUBJECT TO COMMONWEALTH ADMINISTRATIVE LAW STATUTES, INCLUDING:
 - OMBUDSMAN ACT 1976;
 - ADMINISTRATIVE APPEALS TRIBUNAL ACT 1975;
 - ADMINISTRATIVE DECISIONS (JUDICIAL REVIEW) ACT 1977;
 - FREEDOM OF INFORMATION ACT 1982.
(R58)
- TELECOM SHOULD NO LONGER HAVE IMMUNITY FROM SUIT AS NOW PROVIDED BY S.101 OF THE TELECOMMUNICATIONS ACT 1975.
(R59)
- TELECOM'S USER GROUP CONSULTATIVE MACHINERY SHOULD BE FURTHER DEVELOPED.
(R60)
- TELECOM SHOULD CONTINUE ITS CONSULTANCY SERVICES ONLY IN SUPPORT OF SALES; IN THE AREA OF PROJECT AND SYSTEM DESIGN CONSULTANCY IT SHOULD ENCOURAGE AND FACILITATE THE GROWTH OF PRIVATE SECTOR CAPABILITIES.
(R61)
- TELECOM SHOULD IMPROVE THE AVAILABILITY OF INFORMATION ON TARIFFS, SERVICE CHANGES AND SYSTEM DEVELOPMENTS.
(R62)

CHAPTER 8

TELECOM'S STAFFING AND INDUSTRIAL RELATIONS

INTRODUCTION

Scope

- 8.1 In this chapter, the Committee reviews Telecom's present staffing and industrial relations policies and practices. Revised arrangements necessary to allow Telecom to operate efficiently are examined. The implications of a more competitive market are considered. Views presented to the Inquiry on related issues are analysed.

Objective

- 8.2 The Committee objective for future Telecom staffing and industrial relations policies is that Telecom should have the flexibility to develop and apply staffing and industrial relations policies consistent with its need to compete equitably with other telecommunications network operators and service providers.

PRESENT ARRANGEMENTS

Regulatory and administrative overview

- 8.3 Telecom operates under significant constraints given:
- . its statutory role, responsibilities and obligations under the Telecommunications Act 1975;
 - . the extent to which its present staffing and industrial relations policies and practices are influenced by other Commonwealth legislation;
 - . its present relationship with the responsible Minister, other Ministers, their departments and/or other statutory authorities and regulatory agencies.

Volume 2, Section 1 of the Committee's Report summarises the existing legislative and administrative environment within which Telecom now manages, organises, recruits, develops and motivates its staff. Details of Telecom's staffing arrangements and its industrial relations procedures are outlined in Volume 2, Section 7.

The staffing implications of the Telecommunications Act

8.4 The Telecommunications Act 1975:

- preserves public service terms and conditions of employment together with other rights and obligations of staff transferred from the former Australian Post office (APO);
- specifies procedural aspects of staff appointments, promotions, transfers, disciplinary action and appeals against certain personnel management decisions;
- establishes a Consultative Council to formalise consultations between Telecom management and relevant unions.

Implications of other Commonwealth statutes

8.5 Other terms and conditions applicable to Telecom are included in other statutes relating generally to Commonwealth public sector employment. These statutes cover matters such as superannuation, long service leave and workers' compensation, and stand downs by ministerial direction.

8.6 The Administrative Decisions (Judicial Review) Act 1977 gives Telecom employees individual rights of access to information and judicial review of administrative decisions affecting their interests.

Telecom and government policy

8.7 As a Commonwealth statutory authority Telecom must conform with overall Government policy on employment levels and industrial relations matters. It must comply with decisions of the Government's Industrial Co-ordination Committee. (Volume 2, Section 7 refers).

8.8 Before 1975 the APO was responsible for the both postal and telecommunications services throughout Australia. Its staff were employed under the Public Service Act 1922 and were managed by the APO. The Public Service Board determined certain terms and conditions of employment for APO employees. These related to:

- rates of pay and other conditions of service;
- organisation structure and management levels;
- numbers and classifications of staff applicable.

8.9 The Telecommunications Act 1975 gave effect to the 1974 'Vernon Report' which recommended that:

- two statutory corporations should be formed to administer respectively the postal and telecommunications services;

- public servants then involved in telecommunications activities of the APO should be compulsorily transferred to the new telecommunications authority;
- existing terms and conditions of employment and rights and obligations of those staff should be preserved.

Telecom as an employer organisation

- 8.10 Telecom is Australia's largest employer of labour. Its workforce at June 1981 was 89 992. Its expenditure on salaries and wages during 1980--81 was over one billion dollars.

SUBMISSIONS

Views

- 8.11 Telecom's submission outlined the problems encountered by management in negotiating staffing and industrial relations issues within the present legislative and policy framework. It called for a relaxation of statutory and administrative arrangements. It advocated flexibility for Telecom to develop employment policies and practices appropriate to its special operational needs.
- 8.12 The major telecommunications unions argued that independent statutory powers given to Telecom by the Telecommunications Act 1975 had been designed to encourage Telecom to adopt a more commercial stance. They submitted that notwithstanding the present statutory arrangements the conduct of industrial relations matters within Telecom reflects policies and practices applied to the Australian Public Service. They stated that Telecom's lack of autonomy significantly impairs resolution of industrial relations problems arising between Telecom and its employees.

RECENT POLICY REVIEWS

Government reviews

- 8.13 A number of recent Government decisions have implications for the structure and deployment of Telecom's existing workforce. Government has recently proposed that:
- the telecommunications equipment standard setting functions of Telecom be transferred to an independent body;

- Telecom be requested to review present arrangements for the installation of public telephone exchanges and the 'pit and pipe' work associated with the laying of conduit with a view to wider private sector involvement;
- there be a phased withdrawal by Telecom from involvement in the planning, installation, operation and maintenance of the transmitter network used for the ABC.

COMMITTEE CONSIDERATION

Issues

8.14 The major issues are:

- whether the present organisation and skills within Telecom permit effective personnel and industrial relations management;
- the extent to which present legislative and administrative arrangements should be amended to give Telecom the flexibility to trade on an equal basis with its competitors in the future;
- the impact of new technology on Telecom's staffing practices;
- the extent to which Telecom staffing and industrial relations should be co-ordinated by Government with other areas of Commonwealth employment;
- the staffing implications for Telecom of a more competitive telecommunications industry.

REVIEW OF PRESENT ARRANGEMENTS

The need for change

- 8.15 The influence of public service conditions and Government industrial relations policies and procedures has created a public service culture within Telecom.
- 8.16 Imposition of external constraints places Telecom in the position of an incorporated government department rather than an independent statutory authority.
- 8.17 This has inhibited the development of a more commercial approach by Telecom. A continuation of present arrangements would severely impair Telecom's ability to operate efficiently in a more competitive environment.

- 8.18 Despite moves on the part of Telecom towards a more commercial orientation in recent years, there has been minimal acknowledgement by Government of Telecom's changing circumstances. The Government's bureaucracy continues to intrude into the lower levels of Telecom.
- 8.19 Present arrangements fragment responsibility for decision making on staffing and industrial relations matters across several Government agencies and Telecom itself.

Telecom's industrial relations performance

- 8.20 A common concern in submissions to the Committee was the problems resulting from service withdrawal or failure. Many sourced this failure to Telecom's industrial relations performance. Some organisations asserted that this resulted in substantial loss of productivity and revenue for their own business undertakings.
- 8.21 During the Inquiry, the Committee sought to obtain information to enable quantification of the extent of productivity and revenue loss. No organisation was able to produce hard data to this end. The general community view is that industrial disruption within Telecom can have substantial adverse effects.
- 8.22 Employer representative organisations advocated maintenance of existing government constraints on the setting of terms and conditions of employment for the Telecom workforce. They argued that removal of constraints would produce flow on effects for other industry sectors. The Committee finds these assertions unsustainable. Telecom's acceptance of a 36.75 hour week for its technical staff occurred in 1976. Industry has still not accepted any 'flow on'. The risk of 'flow on' effects of renegotiation of terms and conditions from Telecom to other industries is no greater than between other industry sectors.
- 8.23 The Committee also examined implications in some submissions that industrial stoppages within Telecom were higher than in other industries. It finds that, notwithstanding external constraints on Telecom management of its own industrial relations, its record in terms of man hours lost due to industrial relations compares favourably with that for the national workforce overall. Table 8.1 below compares Telecom's performance in that respect.

Table 8.1: Man hours lost due to industrial disputation 1975--1981

CALENDAR YEAR	TOTAL HOURS LOST	TOTAL FULL TIME STAFF	AVERAGE HOURS LOST PER EMPLOYEE IN TELECOM	AVERAGE HOURS LOST PER EMPLOYEE IN THE NATIONAL WORKFORCE
1975	46 778 (1.7.75 to 31.12.75 only)	88 431	0.53(1)	5.89
1976	260 038(2)	87 461	2.97	6.44
1977	29 066	87 358	0.33	2.81
1978	111 683	87 444	1.28	4.41
1979	174 467	87 440	1.99	8.11
1980	8 720	88 230	0.10	7.02
1981	198 428	89 992	2.20	6.26

(1) The average of hours lost per employee for the full year including PMG figures is 0.71

(2) Of the 260 000 hours lost in 1976, some 181 000 hours were attributive to the national Medibank stoppages.

Source: Telecom submission and Telecom data

- 8.24 While accepting that Telecom's figures on lost hours are no worse than industry, the essential nature of Telecom's services, affecting as they do almost all commercial operations, results in the community demanding a much lower level of disruption for Telecom than for general industry.

Consultative arrangements with staff organisations

- 8.25 The major forum for consultation and discussion between Telecom and relevant unions is the Telecommunications Consultative Council (TCC) established by s.109 of the Telecommunications Act 1975.
- 8.26 In an organisation the size of Telecom the following factors give rise to staffing and industrial relations issues:
- . the large number of unions, the size of the workforce;
 - . the increasingly commercial environment;
 - . the rapid developments in functional and technological change.
- These issues can only be handled effectively by close consultation.

- 8.27 The Committee endorses the need for formal consultative procedures. It has reservations about the effectiveness of the TCC in practice. Membership of the TCC is limited to senior Telecom management and senior Federal officials of relevant unions. The TCC meets about twice each year. There are no corresponding statutory consultative bodies at State or regional levels.
- 8.28 The present formal consultative framework is remote from day-to-day events in the workplace and the grass roots of the organisation. The Committee doubts the appropriateness of statutory imposition of an over centralised consultative process with the operational characteristics of the TCC.

Impact of new technology

- 8.29 The Committee recognises that, for Telecom, its approach to the application of new technology to network and associated service development is a significant industrial relations issue. One example is introduction and maintenance of ARE 11 exchange and switching equipment.
- 8.30 Some submissions to the Inquiry suggested that Telecom faces special problems in respect of the extent to which technological change impacts on its workforce. The Committee acknowledges that telecommunications is at the forefront of technological advance in many respects.
- 8.31 The Committee appreciates the frequently expressed fears of Telecom employees and staff organisations about substitution of labour by capital intensive new technology. It notes their concern about perceived adverse effects on employment and career prospects if that process should fail to consider the employees' interests. The prospect of competition in telecommunications may compound concerns of employees.
- 8.32 With regard to the above, the Committee makes the following observations:
- . the telecommunications industry has always operated in an environment of technological change and innovation;
 - . it is only in recent years that this characteristic of the industry has assumed its present importance as an industrial relations issue;
 - . the above trend is largely, though not exclusively, traceable to the accelerated pace of change in telecommunications and associated technologies;
 - . the increasing importance attached by employers and employees alike to the industrial relations implications of technological change is a national phenomenon;

- that phenomenon is by no means unique to Telecom;
- there is a number of other industries facing similar problems (e.g. steel, Australian automotive, banking, insurance, transport and pastoral industries).

8.33 The impact of technological change has been the subject of extensive inquiry both in Australia and overseas. The OECD Working Party on 'Information, Computer and Communications Policy' and the Committee of Inquiry into 'Technological Change in Australia' reached the following conclusions:

- technological innovation, of itself, does not necessarily have deleterious employment effects;
- some occupations and employment sectors clearly benefit from innovation, while others may face transitional difficulties;
- innovation seems inevitable to maintain the competitive position of particular countries or industries and hence guard against further unemployment.

8.34 The Committee endorses the above conclusions. Technological change can benefit telecommunications providers, their employees and the nation overall. Those benefits will only be realised if effective industrial relations and staffing consultation policies are implemented.

Public sector control over Telecom staffing

8.35 Because of its central role Telecom has a special responsibility to adopt and implement staffing and industrial relations policies consistent with the national interest. Similarly, Government has a policy development role consistent with its responsibility to establish priorities for resource allocation for the national economy overall.

8.36 The Committee sees little reason why the relationship between Telecom and the Government should be any different from that between the Government and other business undertakings of comparable size. It notes the following present arrangements for consultation between such employer organisations and the government:

- interface between Government and industry via the Confederation of Australian Industry (CAI);
- the existence of a National Employers' Industrial Council (NEIC) within the Confederation;

- 8.37 The Committee considers that it would be appropriate for Telecom to seek membership of the appropriate employer organisation. The Committee notes that QANTAS, another wholly government owned business undertaking, is both a member of the CAI and a member of the NEIC. It sees no reason why Telecom could not be similarly involved.
- 8.38 The Committee concludes that a continuation of the present relationships between Telecom and Government would militate against the greater commercial orientation of Telecom. The responsibility for formulation of appropriate staffing and industrial relations policies should rest with the Telecom Board.

THE IMPLICATIONS OF FUTURE ARRANGEMENTS ON THE TELECOM WORKFORCE

Role of the Telecom Board

- 8.39 The Committee finds that the existing institutional and administrative arrangements which now shape Telecom's approach to staff management should be changed:
- . Telecom's own Board of Directors should assume full responsibility and authority to manage its workforce in the same direct manner as any other large business enterprise;
 - . Telecom should not carry any public service 'overburden' of costs which would inhibit its drive for competitive success;
 - . Government should not use Telecom as a vehicle for forced implementation of its national employment policies but relate to Telecom in the same way as it does to private sector business enterprises.

The detailed changes which the Committee recommends are discussed in subsequent paragraphs.

- 8.40 Telecom's Board of Directors should have full authority and responsibility to deal with its employees directly. It cannot be limited in that role by a statutory regime governing its approach to staff recruitment, promotion, discipline or staff development. The Board must itself be the authority through which agreements negotiated with its employees are implemented.
- 8.41 Under the Committee's proposals the Board of Directors would appoint the chief executive and top aide and settle their salaries and terms and conditions in the same manner as any large business enterprise in the private sector.

Future approach to staffing levels

- 8.42 The Committee has not been able to inquire fully into absolute staffing levels within Telecom. As in other telecommunications administrations, the introduction of new technology in Telecom is ensuring increases in productivity and an expansion of activities while allowing staff numbers to remain relatively static. An equally important issue is the extent to which the exercise of government direction on its manpower plan can frustrate staff deployment required to meet network development and maintenance priorities. Arbitrary exercise of this power leads to uncertainty in decision making, forward planning and productivity.
- 8.43 Telecom's marketing and commercial needs should dictate staff levels. A restriction of the Board of Directors' ability to determine these levels would significantly disadvantage Telecom in the future competitive environment.

Staff benefits

- 8.44 The Committee notes that a number of employee benefits and entitlements now extend to Telecom by application of general Commonwealth statutes. These include provision for superannuation, maternity leave, long service leave and employee compensation. Although Telecom must fund its obligations created under those statutes, it nevertheless cannot control their costs.
- 8.45 The Board of Directors should be in a position to control all costs of the business undertaking. Employee benefits constitute a significant operating cost. Within Telecom's future competitive environment Telecom needs to be free to adjust its employee benefit entitlements in line with those more generally found in industry.
- 8.46 The Committee considers that Telecom should establish its own superannuation scheme under a separate trust deed and separate actuarial assessment. The new scheme should recognise the present entitlements of existing staff but Telecom should not be expected to fund any differential between its own industry based scheme and the general Commonwealth Superannuation Scheme which is applicable to Telecom's existing staff.
- 8.47 The Committee considers that the Government should meet the difference arising from the Government's own undertakings and guarantees.
- 8.48 The Committee notes that Telecom staff now contribute to the general Commonwealth superannuation scheme established and administered under the Superannuation Acts of 1922 and 1976. The Committee has been advised that Telecom has made adequate provision to cover its existing and future employer liabilities under that scheme, such annual provisions being the subject of determinations by the Minister for

Finance made under s.73(3) of the Telecommunications Act 1975. The Committee has also been advised that the Government has decided that the unfunded liability of the former APO as at 30 June 1975 would be written off and would not be passed on to Telecom.

Recommendations

8.49 The Committee recommends:

Personnel policies

- . PERSONNEL POLICIES AND PROCEDURES IN RELATION TO TELECOM'S STAFF RECRUITMENT, TRAINING, PROMOTION, APPEALS, TRANSFERS, DISCIPLINE AND DISMISSAL SHOULD BE DETERMINED BY THE BOARD OF TELECOM; EXISTING STATUTORY REGULATION OF THESE MATTERS UNDER THE TELECOMMUNICATIONS ACT 1975 SHOULD BE REPEALED.

(R63)

Chief executive

- . THE BOARD OF TELECOM SHOULD APPOINT ITS CHIEF EXECUTIVE AND TOP AIDE AND FIX THEIR TERMS AND CONDITIONS OF EMPLOYMENT; TO GIVE EFFECT TO THIS RECOMMENDATION:
 - (a) THE RELEVANT STATUTORY APPOINTMENT PROVISIONS OF THE TELECOMMUNICATIONS ACT 1975 SHOULD BE REPEALED;
 - (b) TELECOM'S TOP EXECUTIVE APPOINTMENT SHOULD NOT BE SUBJECT TO THE PROVISIONS OF THE REMUNERATION TRIBUNAL ACT 1973.

(R64)

Co-ordination with other areas of Commonwealth employment

- . TELECOM SHOULD NOT BE SUBJECT TO INDUSTRIAL CO-ORDINATION PROCEDURES IMPOSED BY GOVERNMENT THROUGH ITS INDUSTRIAL CO-ORDINATION COMMITTEE.
- . GOVERNMENT POLICIES IN RELATION TO EMPLOYMENT AND INDUSTRIAL RELATIONS SHOULD BE COMMUNICATED BY THE MINISTER DIRECT TO TELECOM'S BOARD OF DIRECTORS.
- . TELECOM SHOULD NOT BE SUBJECT TO GOVERNMENT DIRECTION ON STAFFING LEVELS.

(R67)

- . TELECOM SHOULD NOT BE SUBJECT TO GENERAL STATUTES REGULATING COMMONWEALTH EMPLOYMENT, AND IN PARTICULAR:
 - COMMONWEALTH EMPLOYEES (EMPLOYMENT PROVISIONS) ACT 1977;
 - PUBLIC SERVICE AMENDMENT ACT 1978;
 - COMMONWEALTH EMPLOYEES (REDEPLOYMENT AND RETIREMENT) ACT 1979.
(R68)

Staff benefit and superannuation schemes

- . TELECOM SHOULD NOT BE SUBJECT TO GENERAL COMMONWEALTH STATUTES PROVIDING FOR EMPLOYEE BENEFITS AND ENTITLEMENTS, AND IN PARTICULAR:
 - SUPERANNUATION ACT 1922 AND SUPERANNUATION ACT 1976;
 - LONG SERVICE LEAVE (COMMONWEALTH EMPLOYEES) ACT 1976;
 - COMPENSATION (COMMONWEALTH GOVERNMENT EMPLOYEES) ACT 1971;
 - MATERNITY LEAVE (COMMONWEALTH EMPLOYEES) ACT 1973.
(R69)
- . TELECOM SHOULD ESTABLISH ITS OWN SUPERANNUATION SCHEME UNDER A SEPARATE TRUST DEED AND BE FREE TO ADJUST ITS RETIREMENT BENEFITS SCHEME TO MATCH THOSE GENERALLY APPLICABLE IN INDUSTRY.
(R70)
- . THE GOVERNMENT, NOT TELECOM, SHOULD MEET THE COST OF ANY BENEFITS GUARANTEED BY THE GOVERNMENT WHICH ARE NOT COVERED IN TELECOM'S RETIREMENT BENEFITS SCHEME.
(R71)

Consultative Council

- . STATUTORY PROVISIONS RELATING TO THE TELECOMMUNICATIONS CONSULTATIVE COUNCIL SHOULD BE REPEALED.
(R72)

CHAPTER 9

FINANCE

INTRODUCTION

Scope

- 9.1 In this chapter, the Committee reviews Telecom's financial policies, its accounting practices and related management accounting systems.
- 9.2 Committee consideration of these matters is limited to aspects warranting priority attention in reorienting Telecom into a large commercial undertaking obliged increasingly to operate in competition with other networks and with other telecommunications service providers.

Objectives

- 9.3 The Committee adopted the following objectives in its review of Telecom's finances:
- Telecom should be able to operate commercially with minimum restriction;
 - Telecom should make its decisions on the level and direction of its investments according to market demand and assessed profitability;
 - Telecom should adopt the financial and management accounting practices of business enterprise;
 - Telecom should neither have commercial advantages over its competitors nor suffer commercial disadvantages.

PRESENT ARRANGEMENTS

Scale of operations

- 9.4 Relevant financial information on Telecom's operation is contained in Appendix A to Volume 1 of this Report and includes:
- profit and loss statement for year ending 30 June 1981;
 - earnings and expenses for the years ending 30.6.77 to 30.6.81;
 - balance sheet as at 30.6.81;

- . annual capital expenditure expressed as a percentage of annual revenue;
- . sources of capital funds for the years endings 30.6.77 to 30.6.81.

Statutory framework and Government controls

9.5 Telecom's financial management and investment programs are subject to a range of statutory and Governmental controls:

- . Internal funding

By s.73 of the Telecommunications Act 1975, Telecom is required to finance at least 50 percent of its capital expenditure from internal sources.

- . Borrowing

Telecom's borrowings are subject to the approval of the Treasurer (s.72 of the Telecommunications Act 1975). Borrowings other than from the Commonwealth form part of the Commonwealth's semi-government Loan Council Program and are subject to the following regulation:

- approval of annual loan program;
- approval as to timing of approach to the market;
- effective limit of five loans per year;
- no more than two-thirds of the program can be raised in the first half year;
- approval necessary to accept over-subscriptions;
- floating rate loans not permitted;
- minimum term of loans of 4 years;
- maximum interest rates set by the Loan Council;
- underwriting and brokerage rates fixed;
- access to offshore markets restricted.

The Treasurer permits Telecom's use of overdraft and similar borrowing such as promissory notes and bill lines to meet working capital requirements during the year.

- Investment

S.75(2) of the Telecommunications Act 1975 controls the way Telecom can invest surplus funds in the money market.

- Capital

S.71 of the Telecommunications Act provides for the Minister for Finance to determine the value of Telecom's assets and liabilities at vesting (1975) and:

- to determine at such times and by such instalments the value of the excess of assets over liabilities to be repaid;
- to determine from time to time the rate of interest to be paid by the Commission on the outstanding excess;
- to determine different rates of interest in respect of different parts of the excess.

- Superannuation liability

S.13(3) of the Telecommunications Act 1975 provides that the Minister for Finance shall determine the amount of provision for superannuation payments which should be charged against the Commission's revenue in any one year.

- Annual Report

S.99 provides that the Minister for Finance shall approve the form of the Balance Sheet and financial statements for each financial year.

Telecom's exemption from taxation and other charges

9.6

S.80 of the Telecommunications Act 1975 exempts Telecom from all taxation and charges, specifically:

"The Commission is not subject to taxation under any law of the Commonwealth or of a State or Territory." (s.80(1) refers).

In addition, Telecom is exempted from:

"Stamp duty or any similar tax is not payable under a law of the Commonwealth of a State or Territory in respect of --

- (a) a security issued by the Commission;

- (b) the issue, redemption, transfer, sale or purchase of such a security, not including a transaction entered into without consideration or for an inadequate consideration; or
- (c) any document executed by or on behalf of the Commission, or any transaction, in relation to the borrowing of moneys by the Commission." (s.80(2) refers)

Telecom's financial accounting practices

- 9.7 Telecom inherited the asset accounting and depreciation policies and procedures which applied in the former Postmaster-General's Department. These were based on a concept of accounting life/automatic write out and were approved by Cabinet in 1961 in the following terms:
- . The life of an asset shall be regarded as being its accounting life;
 - . The full cost of assets shall be spread over their accounting life, and any salvage value credited to the profit and loss account for the year concerned.
- 9.8 Assets are valued at historical cost and include the following elements:
- . direct labour costs;
 - . material required in the construction of assets, or whole assets purchased from industry;
 - . incidental costs directly related to the construction and/or installation of assets, e.g. travelling allowances and motor vehicle and mechanical aids usage;
 - . provision for long service leave and the employer's share of superannuation relating to staff engaged on construction and/or installation work;
 - . certain administration/overhead type costs which are considered to have a direct relationship to the Commission's capital program;
 - . a proportion of interest on borrowings which is deemed to relate to capital works in progress.
- 9.9 In order to avoid capitalising minor expenditure, Telecom adopts a cut-off value of \$2000 under which all costs of individual jobs are treated as operating costs irrespective of the type of work involved. For expenditure greater than \$2000, the type of work to which costs relate determines whether the costs are treated as additions to assets or as operating or plant maintenance costs.

- 9.10 On Vesting Day, 1 July 1975, Telecom revalued certain types of assets to reflect their current or replacement value. Most communications plant was revalued. The exceptions were those more or less permanent or those replaceable at no greater than the original cost by reason of technical advances. Buildings and motor vehicles were not revalued. The effect of the revaluation was to increase the value of fixed assets by \$1287.5 million as at 1 July 1975 and to increase the depreciation charge in 1975--76 by \$96.7 million.

Investment evaluation

- 9.11 Return on investment studies are carried out by Telecom to evaluate proposed new services, that is, technologically new 'products', or a major change in the type of equipment used. The basis of evaluation varies depending on the nature and importance of the investment. Not all major capital projects are subject to such investment evaluation. Many are classified as 'essential' projects since they involve extension or upgrading of network or basic services to meet increased demand. These projects usually result from policy decisions made when the development was considered and evaluated as a whole.
- 9.12 For 'discretionary' new projects, Telecom sets discount rates for investment evaluation.

Table 9.1: Investment decision criteria

INVESTMENT CATEGORY	CASH FLOWS BASED ON EXPECTED FUTURE PRICES	CASH FLOWS BASED ON CONSTANT PRICES
	%	%
Economic	28	15 or greater
Marginally Economic	15.5 to 28	4 to 15
Uneconomic	Less than 15.5	Less than 4

Source: Coopers and Lybrand Services

Telecom's existing financial policies

- 9.13 In response to questions from the Committee as to Telecom's approach to funding its basic activities, Telecom summarised its financial objectives under three headings:
- . financial strategies;
 - . external factors;
 - . striking the balance.

FINANCIAL STRATEGIES

To resource its activities in telecommunications, Telecom stated that it has pursued the following financial strategies:

- . improving the financial return from existing assets by:
 - pricing initiatives and especially by the stimulation of off-peak traffic;
 - maximising plant additions, and improving asset utilisation/occupancy;
 - promoting products which stimulate the use of the network;
 - close management attention to manpower and materials utilisation;
- . obtaining adequate external funds for capital programmes;
- . rebalancing tariffs, by increasing some and reducing others, to be more nearly in line with costs.

EXTERNAL FACTORS

Telecom quoted the following external factors as impacting on its planning:

- . "borrowings through Commonwealth Advances ceasing in 1977--78 and Public Borrowings commencing in 1976--77;
- . Loan Council and Government pressures for Telecom to hold down its level of Public Borrowings;
- . rejection by the Minister of price increases for telegrams which require his approval;
- . political pressures to extend services in uneconomic areas and not to withdraw some services which has inhibited efficiency improvement;
- . union resistance to certain technological changes and innovations inhibiting efficiency improvement."

STRIKING THE BALANCE

Telecom stated that each year it must strike a balance between various pressures e.g.

- . meeting demand for standard services and increasing the traffic carrying capacity of the network;

- keeping the level of deferred applicants within manageable limits;
 - extending the automatic network in country and rural areas;
 - introducing new services;
 - upgrading the network.
- 9.14 Telecom presents submissions to Government each year concerning overall policy to be followed, its capital program, overall financial arrangements including borrowings, tariffs and other relevant major policy matters. Considerable discussion occurs at inter-departmental and ministerial levels before the final decision is made by Government on Telecom's authorised level of borrowings and the interlocking aspects of capital expenditure and charges for Telecom's services. Because of the effect on future funding requirements, the level of commitments to purchase of material beyond the current financial year is also subject to Government approval.
- 9.15 Telecom's annual publication 'Service and Business Outlook' shows much of the interactive process and the policy and other outcomes for that year.
- 9.16 For 1981--82, the Government fixed Telecom's level of capital expenditure and imposed a ceiling on its staffing resources. The Minister for Finance varied the interest rates applicable to amounts payable to the Commonwealth pursuant to s.71 of the Telecommunications Act 1975 with effect from 1.1.82 which raised the average interest rate on the outstanding amount (some \$4566 million) from about seven percent to ten percent.

SUBMISSIONS

Telecom's submission

- 9.17 Telecom submitted that the multiplicity of controls on financing impeded its ability to raise finance for capital expenditure directed towards improving its services. It contended that removal of these controls would improve the efficiency and economy with which these services can be provided.

Submissions from Treasury and the Department of Finance

- 9.18 Major submissions on Telecom's financial policies were received from the Treasury and the Department of Finance. In view of the particular responsibilities and interests of these Government agencies in Telecom's financial arrangements, the Committee refers extensively to their proposals in the following paragraphs.

9.19 The Treasury discussed Telecom's financial policy in detail. It noted that:

- Telecom, together with Australia Post, accounted for more than half the gross fixed capital expenditure undertaken by the public sector in Australia and around 17 percent of total gross fixed capital formation in the economy as a whole and around ten percent of gross non farm product;
- Telecom is the largest single public sector business undertaking;
- Telecom, together with Australia Post, accounts typically for close to a third of the output of the public sector and a fifth of its fixed capital expenditure.

The Treasury pointed to price distortions in Telecom's services which needed to be corrected. It submitted that a more commercial approach to Telecom's pricing and investment policies was desirable and would require:

- the application of an appropriate discount rate in the genuine economic evaluation of all investment proposals;
- the imposition of an appropriate financial objective centred on total funds employed by Telecom;
- the removal of present borrowing and taxation privileges.

9.20 The Department of Finance suggested that Telecom should be expected to achieve a specified minimum rate of return before interest and tax on the current value of the total assets it employs. That department saw the main advantage of this type of financial objective -- widely used in regulated industry in the United States and in some European countries -- as enabling the overall return achieved by Telecom to be compared with other areas of the economy. It suggested that the prescribed rate of return on assets to be sought by Telecom could be the average of the rates of return before interest and tax on total assets achieved by Australian industry generally over, say, the immediately preceding three years. Such a target might be achieved under present circumstances with an average increase in tariffs of about seven percent (assuming no significant adverse effects on demand).

9.21 The Treasury proposed that the borrowing and investment constraints now imposed on Telecom by the Government generally and the Loan Council in particular should continue until such time as Telecom is more fully exposed to effective competition, no longer enjoys borrowing guarantees and taxation exemption, and bases its pricing and investment policies on more economic criteria.

COMMITTEE CONSIDERATION -- FINANCIAL POLICIES

Issues

9.22 The major issues are:

- . the appropriate level of Telecom's new investment;
- . whether existing Government controls remain appropriate;
- . the appropriate level of Telecom borrowing;
- . gearing ratios;
- . whether Telecom should have greater access to capital markets;
- . inflation accounting.

Consultant studies

9.23 As part of the Committee's own examination of Telecom's financial and accounting policies and practices, a series of studies by consultants, Coopers & Lybrand Services (Coopers and Lybrand), were commissioned on:

- . Telecom's accounting systems;
- . standards and principles in Telecom's financial statements;
- . financial management information systems;
- . application of current cost accounting principles;
- . taxation and other duties;
- . capital expenditure;
- . product costing and profitability analysis;
- . tariff policy;
- . financial models.

Coopers and Lybrand's reports on these matters are included in Volume 3, Section 2. The Committee's comments on the findings of its consultants in relation to Telecom's financial policies and accounting practices are in subsequent paragraphs.

Size of the Telecom investment

9.24 Telecommunications is presently a growth industry of general economic relevance to national productivity. Submissions to the Inquiry highlight the need for increased investment in business

telecommunications. The 'information revolution' not only points to a stronger nexus between telecommunications and the productivity of commerce and manufacture but also gives telecommunications a broadening social and community relevance. A number of submissions reiterated the expanding needs for bibliographical services, educational and other information and entertainment services.

- 9.25 Committee recommendations for terminal equipment marketing, the competitive resale of Telecom capacity and the licensing of independent networks provide increased opportunity for private sector contribution to the future national investment in telecommunications. AUSSAT will also contribute. Telecom, as national terrestrial network operator, will continue to play a major role in meeting overall requirements.
- 9.26 In Chapter 6, the Committee discusses Telecom's pricing policies. It recommends that cost related pricing be adopted in lieu of Telecom's existing pricing policy which is substantially based on the concept of a universal service at a uniform price. The Committee recommends that any subsidy for 'socially desirable objectives' in telecommunications be funded by Government directly to consumers and that Telecom avoid extensive cross subsidisation. These changes are not only desirable in order to ensure economic efficiency in the direction of Telecom's investment but are positively required for the future competitive environment in telecommunications. The result of these changes in pricing policies is that market demands, and hence investment priorities, can be more closely assessed through relative profit contribution.
- 9.27 The Committee discusses Telecom's marketing priorities in Chapter 7. Network utilisation generates over 90 percent of Telecom's revenues. Telecom's investment decisions should give priority to improvements and developments designed to increase financial returns from the network.
- 9.28 Committee recommendations for the removal of Telecom from the direct marketing of terminal equipment reinforce this investment priority.
- 9.29 These considerations lead the Committee to a conclusion that Telecom's investment should be sufficient to meet market demand subject to several balancing considerations -- in that regard:
- . Telecom should be allowed to expand as long as it makes a sufficient profit which, together with borrowings, can service the growth requirements;
 - . Telecom's individual markets should be separately assessed as to profitability and demand;
 - . controls over Telecom's total investment funding should be exercised through requirements of a minimum percentage internal funding from operating surplus;
 - . in its own investment decision making Telecom should give priority to network development.

9.30 The Committee notes that the availability of skilled labour resources also imposes restraints on Telecom's capital works, especially under existing employment policies which exclude the use of contractor services. Manpower considerations are discussed by the Committee in Chapter 10.

9.31 Adoption of the market based financial policies referred to in paragraph 9.26 renders inappropriate some of the controls and exemptions now applicable to Telecom -- in particular:

- Loan council

The Treasury acknowledges that there would be a case for exempting Telecom from Loan Council controls if Telecom no longer enjoyed its present borrowing and taxation privileges, based its pricing and investment policies on more economic criteria and earned a more 'commercial' rate of return. The Committee's recommendations ensure that these pre-conditions are met.

The Committee notes the recommendations of the Campbell Report in relation to relaxation of Loan Council controls over borrowing programs of semi-government trading organisations and recent decisions to permit State electricity authorities to access offshore markets.

The Committee concludes that Loan Council controls over Telecom's borrowing should be removed.

- Statutory controls

Treasurer's approval to Telecom's borrowing programs is no longer appropriate and should be removed. Governmental controls over Telecom's investments and short term borrowings should also be removed.

- Taxation and other charges

Taxation exemptions for Telecom provide cost advantages over the private sector. The Committee's financial consultants have estimated that Telecom's liability for tax, other company tax, in 1981 would have been \$257 million of which \$128 million would be capitalised and \$129 million would be a charge to operating expenses and is equivalent to 5 percent of revenue.

Table 9.2: Estimated value of Telecom's exemption from taxes and other charges: 1980--81

CATEGORY	CHARGED TO:	
	OPERATING EXPENSES (\$ MILLION)	CAPITAL EXPENDITURE (\$ MILLION)
<hr/> COMMONWEALTH		
Sales tax	10.0	71.0
Customs and other duties	10.0	36.0
	<hr/>	<hr/>
STATE		
Payroll tax	46.0	21.0
Motor vehicle registration and insurance	8.0	--
Local and state taxes	55.0	--
Total	<hr/> 129.0	<hr/> 128.0

Source: Coopers and Lybrand Services

The Committee notes that the Overseas Telecommunications Commission pays State payroll tax and all Commonwealth taxes and duties. AUSSAT will be liable for all taxes and duties.

The Committee concludes that Telecom should also pay all State and Federal taxes and duties.

Coopers and Lybrand point out that under the Government's new tax depreciation package announced on 19 July 1982 Telecom would be unlikely to be liable to Income Tax while that package remains in effect if the financial results and capital additions pertaining in the financial year 1980--81 continued unchanged in the future.

Guarantees

Telecom's entry into the capital markets backed by Commonwealth guarantee is inappropriate to the future competitive environment for telecommunications. Telecom's borrowings should no longer be guaranteed by the Commonwealth.

Telecom's financial objectives

- 9.32 If Telecom is to be freed from financial supervision by the Government the relevant statute should impose sound financial objectives on the organisation.
- 9.33 The essential requirements are that:
- . Telecom should be required to generate sufficient profit which, together with borrowings, can finance its growth;
 - . Telecom should prepare annually a three year financial plan;
 - . Telecom should maintain an appropriate interest cover.
- 'Interest cover' is the ratio of operating profit before interest and tax to total interest liability.
- 9.34 The provision of the telecommunications infrastructure is capital intensive with cash flows very robust because of depreciation and since revenues are not subject to significant fluctuations. The Committee concludes that in the light of these industry characteristics the minimum interest cover should not be less than two (the ratio of operating profit to interest) and could conceivably be higher. The relevant statute should therefore impose an obligation on Telecom to adopt financial policies designed to ensure that Telecom's interest liability should not exceed 50 percent of its operating surplus before tax, interest and dividend.
- 9.35 The effects of higher rates of internal funding on Telecom's overall financial circumstances are analysed by the Committee at paragraphs 9.44--9.49 below in its discussion of financial models.
- 9.36 Several submissions, in particular the Treasury and the Department of Finance, argued that Telecom should also be obliged to meet a minimum rate of return on its total investment.
- 9.37 Rates of return on capital will be subject to a number of factors such as rate of growth, cost of money and market expectation. Business in high growth industries, such as telecommunications, must have higher returns on investment than those in low growth industries in order to generate the funds required to keep pace with developments. The Committee's financial models confirm this market relationship.
- 9.38 The Committee does not consider that return on investment is an appropriate corporate criterion in setting financial objectives as it must be permitted to vary with changing market conditions. It considers that controls over the interest cover proposed by the Committee will meet the rate of return objective because it requires a rate of return that is related to the rate of growth. Committee proposals for a three year financial plan to be submitted annually by Telecom would ensure that Government is appropriately informed on the directions of Telecom investment.

Depreciation policies

- 9.39 Telecom has maintained its accounts on an historical cost basis (HCA) except for a major revaluation of \$1 287.5 million in 1975 and adjustments for changed service lives as follows:

Table 9.3: Adjustment for changed service lives of fixed assets(1)

<u>YEAR</u>	<u>\$ M</u>
1976	nil
1977	nil
1978	nil
1979	(7.7)
1980	3.8
1981	(180.8)

(1) The communications plant was revalued in 1975 by the application of a Capital Works Index (CWI).

Source: Coopers and Lybrand Services

- 9.40 The substantial negative adjustment to the fixed assets for changed service lives in 1981 raises the question as to the adequacy of the rates of depreciation. If the rates of depreciation are too low, which is the view of the Committee, the profit will have been overstated. With continued inflation and substantial technological change, historical cost accounting leads to misleading conclusions as to the profitability of the business and the effectiveness of its use of resources. In view of Telecom's high capital to sales ratio (3.2:1) the operating cost needs to be adjusted to reflect current costs and the useful life of the assets.
- 9.41 Telecom has carried out a notional exercise to update the revaluation conducted in 1975 for inflation that has occurred up to 30 June 1980. The Committee's financial consultants (Volume 3, Section 2 refers) reviewed Telecom's methodology and restated the accounts for the year ending 30 June 1981 on a current cost basis. The consultants concluded that on a current cost basis the net book value of fixed assets increased by \$2 799 million, depreciation expense for the 1981 year increased by \$228 million and profit for the year decreased from \$232 million to \$4 million.
- 9.42 The Committee's consultants also questioned the appropriateness of Telecom's Capital Works Index and have suggested that greater precision could be achieved by developing a more specific series of indices applicable to the various groups of assets which it is known are subject to technological changes in capacity as well as price changes.
- 9.43 The Committee emphasises that the charge for depreciation against profits needs to be adjusted to reflect the current cost and life of capital assets. Adequate depreciation provision should therefore be made either by accelerated write off or by adoption of current cost accounting principles.

Analysis of changes in Telecom's financial parameters

9.44 The Committee commissioned Coopers and Lybrand to run financial models based on Telecom's operating ratios to assess the effects of changes in financial parameters.

9.45 The model was run for ten years in yearly increments with results printed out for the end of each year. Selected changes in:

- volume of sales -- growth;
- cost inflation;
- price increase;

were applied at the commencement of each year and remained constant throughout the year. Increments of three or six months could have been used if more frequent changes had been desired. The trading ratios of Telecom for the year 1980--81 were used to establish the start of the model as follows:

Table 9.4: Financial ratios

	TELECOM YEAR ENDING 30-6-81 \$ MILLION	MODEL END YEAR 0
<hr/>		
PROFIT AND LOSS STATEMENT		
Sales	2 609	1 000
Less expenses (cost of sales)	1 435	550
Gross Profit	1 174	450
Less Depreciation	(534)	
Less Interest	(408)	
Net Profit	232	
<hr/>		
BALANCE SHEET:		
Fixed Assets:		
Gross Book Value (GBV)	11 700	4 480
Less Acc. Depreciation	3 502	1 340
Net Assets (NBV)	8 198	3 140
<hr/>		
Financed by:		
Share Capital	-	954
Shareholders' Reserves	2 424	930
Debt	5 774	1 256
	8 198	3 140

Source: Coopers and Lybrand Services

Comments on model assumptions

- Sales (year '0' = \$1 000) -- increases by the selected growth and price increase is calculated to balance the cash flow for the year.
- Expenses (cost of sales) -- is 55 percent of value of sales of previous year increased in proportion to growth and general inflation (which was 10 percent per annum for all models).
- Depreciation -- five percent flat on Gross Book Value of assets at end of previous year.
(Telecom 1981 = 534/1 0926 = 4.9%)
- Interest -- eight percent of debt at commencement of model.
(Telecom paid 1981 408/5 406 = 7.55%) 16 percent of additional borrowing added during the model.
- Funds Employed -- Comprises only fixed assets. Stocks, current assets, current liabilities, and provisions for long service leave and superannuation have been omitted. The net effect of these items is to reduce the funds employed by \$163 million which represents two percent of fixed assets. As the trend of these items follows the cost trend their omission has no significant effect on the trends produced by the model. Telecom, being a statutory corporation, has no issued capital. The funds are provided by reserves retained in the business plus public loans and loans from the Federal Government. For modelling purposes part of the debt was transferred to issued capital so that the remaining debt was 40 percent of funds employed. Dividend is paid on the issued capital at the rate of interest previously applied to the debt, eight percent.
- Tax -- Whilst provision was made in the model for payment of Company Tax, the new taxation depreciation rate of 20 percent provides Telecom with allowable deductions in excess of any likely operating surplus and application of income tax is not relevant.
- Fixed asset additions -- The telecommunications network must be maintained and expanded in proportion to the increased traffic. Fixed assets were added each year to replace the depreciation provision plus a proportion of the gross book value equal to the growth. The value of the fixed asset 'F/A additions' was increased by the fixed asset inflator 'F/A INFL' which may be different from the cost inflation. An 'F/A INFL' lower than cost inflation is used where the inflation of the capacity per unit of cost is less than the cost inflation.
- Fixed asset retirement -- The Gross Book Value (GBV) of fixed assets must be reduced each year by the value of the assets which are 'retired' because they have been fully depreciated. The GBV at commencement of the model reflects the asset life, growth and F/A inflation of the previous history but the model adopts different factors. Telecom's accounts have retired (written out) approximately 18 percent per year of GBV in recent years. A growth

of seven percent, F/A inflation seven percent and asset life 20 years would require a retirement of 6.7 percent per year. It is probable that the effective asset life is less than 20 years. An asset life of 15 years would require a 13 percent retirement per year in this example. Fifteen years were adopted for calculating retirements. The effect of an error in this assumption is not great within the ten years of the model.

9.46 The Committee acknowledges the limitations of the models. It is satisfied from its own work on alternative models that the models described above provide a sufficient indication of trends and pricing effects of the varying growth, inflation and financing assumptions.

9.47 The financial models developed by Coopers and Lybrand in accordance with the Committee's specifications are summarised in Table 9.5 below for the following variables:

- years one, four, seven and ten;
- fixed asset inflation at four percent, eight percent and twelve percent;
- volume growth in sales of zero percent, five percent and ten percent;
- internal funding at 60 percent and 100 percent;
- general inflation of ten percent per year applied to costs.

Table 9.5: Telecom financial models

Unit prices -- deflated by the cost of inflation

		YEAR 0	YEAR 1	YEAR 4	YEAR 7	YEAR 10
NO GROWTH						
F/A 4%	F100	1.00	0.92	0.85	0.79	0.75
	F60	1.00	0.85	0.82	0.79	0.76
F/A 8%	F100	1.00	0.93	0.88	0.84	0.80
	F60	1.00	0.86	0.84	0.83	0.82
F/A 12%	F100	1.00	0.94	0.92	0.89	0.89
	F60	1.00	0.86	0.87	0.88	0.89
VOLUME GROWTH 5% YEAR						
F/A 4%	F100	1.00	1.11	0.99	0.90	0.84
	F60	1.00	0.97	0.93	0.89	0.85
F/A 8%	F100	1.00	1.12	1.05	0.99	0.95
	F60	1.00	0.98	0.97	0.96	0.94
F/A 12%	F100	1.00	1.14	1.11	1.10	1.10
	F60	1.00	1.05	1.02	1.04	1.06
VOLUME GROWTH 10% YEAR						
F/A 4%	F100	1.00	1.27	1.12	1.01	0.92
	F60	1.00	1.08	1.03	0.97	0.92
F/A 8%	F100	1.00	1.30	1.20	1.13	1.08
	F60	1.00	1.09	1.09	1.07	1.05
F/A 12%	F100	1.00	1.32	1.29	1.29	1.31
	F60	1.00	1.11	1.15	1.20	1.23

- (1) Company Tax liability -- Nil
 (2) General inflation -- applied to costs 10 percent per year
 (3) F -- Internal funding ratio percentage
 (4) F/A -- Fixed asset inflation factor percentage

Source: Committee analysis of Coopers and Lybrand Services data

9.48 Committee discussion of its conclusions on aspects of the financial parameters of Telecom's finances follows:

• Internal funding

Several submissions to the Committee argued that the high rate of Telecom's internal funding (73 percent in 1980--81) resulted in excessive prices which could be substantially reduced if the internal funding was reduced.

The Committee disagrees with the above proposition. The financial model demonstrates that if the internal funding is suddenly increased there is an increase in price to provide the additional funds but this effect gets progressively less with time -- after ten years for fixed asset inflation of eight percent the

difference in price between 60 percent and 100 percent internal funding is one percent for a growth of five percent and three percent for a growth of ten percent except where the fixed asset inflation is greater than the general cost inflation.

The Committee considers that Telecom's existing internal funding ratios are appropriate. It is important to keep the ratios high in order to maintain an acceptable interest cover.

- Growth

The model also demonstrates the price increase required to finance growth.

At 60 percent internal funding and with fixed asset inflation of eight percent (i.e. two percent less than cost inflation) the deflated price after ten years is:

- at zero growth -- 82 percent of year 0;
- at five percent per year growth -- 94 percent of year 0;
- at ten percent per year growth -- 105 percent of year 0.

- Productivity improvement

The model demonstrates the effect that, if by technology advancement and improvements in productivity, the fixed asset inflation factor is reduced.

For 60 percent internal funding with ten percent per year growth:

- with fixed asset inflation at four percent (i.e. six percent below cost inflation) there is an eight percent decrease in the price per unit over ten years;
- with fixed asset inflation at eight percent (i.e. two percent below cost inflation) there is a five percent increase in the price per unit over ten years.
- with fixed asset inflation at 12 percent (i.e. two percent above cost inflation) there is a 22 percent increase in the price per unit over ten years.

- Level of capital investment

The model also helps in assessing the likely level of capital expenditure required to provide the telecommunications infrastructure needed to meet particular growth rates.

At a fixed asset inflation of eight percent and cost inflation of ten percent, after five years the capital expenditure requirements as multiples of depreciation are:

-- for no growth : 1.3;
-- for five percent growth : 2.5;
-- for ten percent growth : 3.6.

9.49 The Committee's conclusions on the basis of these models are:

- . Telecom's existing internal funding ratios are appropriate.
- . The rate of Telecom's capital expenditure should be increased if customer's requirements are to be met. McKinsey and Company Inc. in their Report (1980) concluded "adopting the recommended policies is likely to involve a moderate increase in capital expenditure, from \$925 million today to \$1 000 million in 1990 in real terms" (page xi). The Committee's own conclusions are that Telecom would be well advised to increase its capital expenditure on network by as much as 50 percent. That assessment is, of course, very much conditioned by other assumptions as to depreciation rates, estimates of technological capacity gains and future inflation rates. It nevertheless affords a useful guide. Departure of Telecom from the terminals equipment market (where it spent \$224 million or 22 percent of its total capital expenditure in 1980--81) would also allow these network priorities to be met with greater ease.
- . The faster the growth of the business, the higher must the prices be to generate investment funds to meet the growth. The financial models confirm that servicing a ten percent growth rate requires higher prices than five or zero percent growth. If interest rates were lower and the business was not so capital intensive the profit margins necessary for growth would be less.

Recommendations

9.50 The Committee recommends that:

Financial objectives

- . THE STATUTE SHOULD IMPOSE ON TELECOM A FINANCIAL OBJECTIVE THAT TELECOM SHOULD GENERATE SUFFICIENT PROFIT AFTER INTEREST, DIVIDEND AND TAX WHICH TOGETHER WITH LOANS WILL FINANCE THE ASSETS REQUIRED TO MEET THE DEMAND FOR ITS SERVICES.
(R73)
- . THE MINIMUM INTEREST COVER (THE RATIO OF OPERATING PROFIT BEFORE INTEREST AND TAX TO INTEREST LIABILITY) SHOULD NOT BE LESS THAN TWO.
(R74)

Financial controls

- TELECOM'S BORROWINGS SHOULD NOT BE SUBJECT TO LOAN COUNCIL APPROVALS.
(R75)
- TELECOM'S LOAN RAISINGS SHOULD NOT BE GUARANTEED BY GOVERNMENT.
(R76)
- TELECOM SHOULD HAVE THE SAME FREEDOM AS PRIVATE ENTERPRISE TO BORROW OVERSEAS AND TO ENGAGE IN A RANGE OF COMMERCIAL FINANCING METHODS (INCLUDING LEASE-BACK AGREEMENTS) APPROPRIATE TO ITS REQUIREMENTS.
(R77)
- TELECOM SHOULD PREPARE ANNUALLY A THREE YEAR FINANCIAL PLAN.
(R78)

Taxation

- TELECOM SHOULD PAY ALL TAXES, RATES AND CHARGES UNDER ANY LAW OF THE COMMONWEALTH, A STATE OR A TERRITORY AND SHOULD NOT BE CLASSED AS A PUBLIC AUTHORITY FOR THE PURPOSES OF THE INCOME TAX ASSESSMENT ACT 1936.
(R79)

Depreciation practices

- TELECOM'S DEPRECIATION PROVISION SHOULD REFLECT THE CURRENT COST AND LIFE OF CAPITAL ASSETS.
(R80)

COMMITTEE CONSIDERATION -- FINANCIAL MANAGEMENT AND ACCOUNTING PRACTICES

Issues

9.51 The major issues are:

- whether Telecom's investment decision making practices are appropriate;
- whether Telecom's accounting follows business principles and practices.

Telecom's investment decision making

- 9.52 Investment decisions for 'discretionary' projects are subject to economic evaluation in accordance with broad guidelines laid down by Telecom's Finance Directorate. Telecom's approaches to investment evaluation were examined in some detail in the 1980 Report of McKinsey and Company Inc. McKinsey noted that Loan Council control on the timing and amount of long-term debt that can be raised and government control over tariff changes restrict the level of Telecom's capital spending. These constraints have forced Telecom to adopt a discount rate of 28 percent (in 1980 it was 26 percent) for evaluating 'discretionary' projects and for deciding between options.
- 9.53 McKinsey commented in 1980:
- "Using a 26 percent hurdle rate for investments is above Telecom's true cost of capital. Whilst aiding rationing, it is biased against economic capital investment for several reasons. First, new service projects will not be undertaken that have yields below 26 percent. Second, higher charges to users may be set than would otherwise be necessary, to allow projects to exceed the 26 percent rate. Third, projects are chosen that have relatively lower initial capital costs and relatively higher future operating costs. Finally, smaller capacity increments are favoured due to high discounting of future cash flows."
- 9.54 The Committee agrees with McKinsey's views. Use of a 28 percent hurdle is not related to Telecom's current performance and leads to a disproportionate number of projects escaping investment analysis on the grounds of 'essentiality'.
- 9.55 The Committee notes McKinsey's alternative proposal that Telecom should adopt a net present value (NPV) approach to all projects. The Committee's view is that Telecom could well use different methods of investment evaluation for different project categories. The essential feature of all alternative methods is that the investment appraisal should be related to the cost of financing.
- 9.56 In Chapter 6, the Committee recommends that pricing policies be more closely related to costs. Given adoption of those policies fewer projects will be uneconomic. Consistent with the Committee's proposals in relation to Telecom's financial objectives (paragraphs 9.32--9.38 above), projects could only be undertaken where compensating revenue surplus can be obtained from other classes of investment. These procedures will ensure that investment decisions contribute to improved network utilisation since Telecom's profits are generated in the main from call revenues.

Telecom's accounting principles and practices

- 9.57 The Committee's financial consultants reviewed Telecom's financial statements to ascertain whether presentation accords with established accounting standards and principles. Detailed reports by Coopers and Lybrand are included in Volume 3, Section 2.
- 9.58 Coopers and Lybrand note that with few exceptions Telecom's published financial statements comply with established standards and practices. The departures, although not generally material, are matters which Telecom should review in moving to the accepted accounting principles of large business enterprises in the private sector -- in particular:
- . practices in relation to the capitalisation of interest, depreciation and administration overheads (\$182.9 million in 1980--81);
 - . fixed asset accounting procedures;
 - . Telecom's depreciation practices;
 - . provision for annual leave accruals.
- 9.59 The Committee also notes the comments of Coopers and Lybrand in relation to Telecom's internal use of funds provided for superannuation. The Committee is satisfied that Telecom's retention of a portion of the accruing employer superannuation liability to assist in financing its approved capital program is properly brought to account and attracts interest payments to the Commonwealth at rates comparable to those applicable to Telecom Loan Stock. Its recommendations for a separate Telecom employee pension scheme (Chapter 8 refers) would make continuation of these arrangements inappropriate. It is not sound practice for a company to use its superannuation provisions. These funds should at all times be independent of company finances to protect employees' interests.

COMMITTEE CONSIDERATION -- FINANCIAL ACCOUNTING AND REPORTING SYSTEMS

Issues

- 9.60 The issues are:
- . whether Telecom's current financial and reporting systems are adequate to assist in management planning, decision making and control;
 - . the implications of a more competitive environment for Telecom's management control of costs and revenues.

Product costing system

9.61 The Committee's financial consultants reviewed Telecom's product accounting systems which currently serve two main purposes:

- to provide summarised annual results of financial performance by broad product type;
- to provide more detailed product profitability information to management, particularly commercial services management, for product management, tariff and investment analysis purposes, during the year.

Coopers and Lybrand commented (Volume 3, Section 2) that the existing product accounting systems suffer from significant difficulties with regard to both revenue and cost apportionment. The conceptual problems inherent in the systems' attempts to describe products in terms of terminals and traffic are highlighted in the treatment of revenue from leased coin and public telephones. In the view of the Committee's consultants, this leads to understatement of the real revenue which those products generate. As to network costing, Coopers and Lybrand point out that many costs are joint costs which relate to the total network. In their view, depending on the objective for which the cost allocation is made, costs can be allocated many different ways to produce many different results. The consultants conclude:

"when this uncertainty regarding the methods of apportioning costs is added to the difficulties with the allocation of revenue under present revenue accounting systems, the analysis of product profitability produced by the product accounting system is unreliable for the uses being made of the data externally".

9.62 The Committee endorses the views of its consultants. Telecom should undertake a major review of its product costing systems. Faced with competitive pressures, Telecom's marketing management will require better information on the effects on profitability and market share of changes in marketing and pricing policies. Sound product costing procedures are also required under the Committee's proposals for cost related pricing and external funding of 'socially desirable' but otherwise uneconomic projects.

9.63 Coopers and Lybrand have identified three primary segments to which costs can be identified with certainty even at district level:

- terminal equipment;
- subscribers' lines;
- network (junctions, trunks and exchanges).

Revenues can be similarly allocated:

- equipment rental, installation and maintenance charges;
- telephone facility charges;
- call charges.

Adoption of this primary allocation system for costs and revenues would yield a gross contribution for each segment, with the remaining costs (overheads) to be deducted from the aggregate of the product contributions to obtain overall net profit.

- 9.64 Implementation of this revised product accounting system would require separation of the present telephone rental into a 'telephone instrument rent' plus 'telephone facility charge'. The telephone facility charge would cover the capital cost of wiring from the local exchange to the customer's premises. That wiring remains at all times Telecom property but is dedicated for the sole use of the customer. Such a separation will also be necessary under the Committee's recommendations for the transfer of Telecom's existing terminal marketing activities to a separate organisation, 'Telequip'.

MANAGEMENT INFORMATION SYSTEMS

Perspective

- 9.65 The Committee's financial consultants also reviewed Telecom's management information systems. The consultants concluded that Telecom is in somewhat of a hybrid situation and the responsibilities of management for the achievement of profitability and return on investment, while recognised in principle, are not clearly specified. The consultants comment:

"The emphasis in financial management reporting still appears to be geared towards the control of cash expenditure (both capital and operating expenditure combined) against the fiscal budget and the control of cash receipts for sales and services provided. Generally, profitability is reported only at the half year. In other respects reports are essentially on a cash basis.

The financial information for management is supplemented by a considerable amount of detailed statistical reporting which we have not examined in this review. The information provided may well be adequate for current management needs. However, if Telecom were organised along typical private enterprise lines, the financial management information produced during the year would need to be enhanced considerably to meet normal commercial requirements."

- 9.66 In Chapter 7 the Committee discusses the need for Telecom to review its corporate strategies and its organisation and management structures to develop a greater business orientation. The Committee recommends the development of management information systems which would permit profit contributions above direct costs to be identified down to district level. These organisational developments are a necessary forerunner to the establishment of delegated profit responsibility and accountability centres.

9.67 The Committee notes that Telecom plans installation of a general ledger and reporting software package, ACCUDATE, which is intended to produce accrual accounting reports for a pyramidal responsibility structure. Telecom has informed the Committee that its ACCUDATE project will facilitate the production of cost centre and profit centre type reports.

9.68 The Committee sees an urgent need for an integrated management information system designed to furnish key managers with the information needed to perform their tasks effectively. The system should be designed to facilitate management by exception. Computer resources available to Telecom would undoubtedly be adequate to permit an integrated system to be developed. Its ACCUDATE project may indeed provide for the accounting needs of Telecom. Essential management needs may not be sufficiently taken into account in system design. Coopers and Lybrand commented:

"it is clear that before ACCUDATE or any other such system can be successfully implemented, considerable work needs to be done in defining the organisational and reporting philosophy and structure appropriate for Telecom's future operations as a commercially oriented enterprise, and specifying the hierarchy of management reports and the underlying charts of accounts, responsibility accounting, costing and budgetary control systems."

9.69 The Committee agrees with that view.

Recommendations

9.70 The Committee recommends that:

Investment analysis

- CAPITAL PROJECTS SHOULD BE SUBJECT TO INVESTMENT APPRAISAL RELATED TO THE COST OF FINANCING.
(R81)

Product costing

- TELECOM'S PRODUCT COSTING SYSTEMS SHOULD BE REVIEWED TAKING INTO ACCOUNT THE ALTERNATIVE PRIMARY PRODUCT COSTING SYSTEM SUGGESTED BY THE COMMITTEE'S CONSULTANTS.
(R82)

Management accounting systems

- TELECOM SHOULD DEVELOP DELEGATED PROFIT RESPONSIBILITY AND ACCOUNTABILITY CENTRES.
(R83)

CAPITAL WORKS AND NETWORK MAINTENANCE

INTRODUCTION

Scope

- 10.1 The Committee has already discussed some aspects of the capital works programs:
- . planning and organisation aspects (Chapter 7 refers);
 - . financing, investment decision making and accounting practices (Chapter 9 refers);
 - . Telecom's possible involvement in construction of large capacity cable systems ('cable TV') and related issues discussed in the recent Report by the Australian Broadcasting Tribunal (Chapters 2 and 4 refer).
- 10.2 This Chapter makes only brief comments on those aspects. The following matters are dealt with in detail:
- . Telecom's productivity;
 - . work practices and application of new technologies;
 - . manning levels and use of contract resources;
 - . country services -- capital and operating costs;
 - . Telecom's use of other public sector resources;
 - . Telecom and the Australian Broadcasting Commission.

Objectives

- 10.3 The Committee reviews Telecom's performance in network operations within the following national perspectives:
- . Australia requires a thoroughly modern and efficient national telecommunications infrastructure;
 - . Telecom, as national terrestrial common carrier, must be assigned a central role in Australia's general telecommunications strategies;

- . Telecom should be permitted to meet that demand subject only to some balancing considerations as to self-funding;
- . 'market' rather than 'capital rationing' should dictate the pace and priorities of investment;
- . in its management, organisation, work practices and planned applications of technology, Telecom, as with any competitive organisation, should attempt to adopt the most efficient, modern and cost effective business and operational methods.

10.4 Volume 2 of the Committee's Report includes relevant background information on Telecom's national infrastructure (Section 2), services (Section 3) and related technologies (Section 6).

Committee studies

10.5 The Committee commissioned a number of studies relevant to Telecom's capital works and network installation -- in particular:

- . Studies by Mr P.L. Skey, Principal Consultant (National Telephone Systems), Cable and Wireless P.L.C. (London) in relation to Telecom's productivity, manning levels, applications of telecommunications technology and current work practices (Volume 3, Section 1 refers);
- . Several studies (Volume 3, Section 2 refers) by Coopers and Lybrand Services dealing with financial and accounting aspects and with management reporting systems relevant to the capital works program:
 - 'Capital expenditure';
 - 'Management information systems';
- . 'Review of Non Metropolitan Telecommunications Systems and Services in Australia' (Committee Secretariat) (Volume 3, Section 3 refers).

PRESENT ARRANGEMENTS

Size of capital works program

10.6 The value of Telecom's fixed assets, net of depreciation, at 30 June 1981 was \$8 198.2 million. The breakdown of those assets in Telecom's 1980--81 Annual Accounts is tabulated below:

Table 10.1: Value of Telecom's fixed assets at 30 June 1981

<u>ASSET ITEM</u>	<u>NET VALUE</u>
<u>At Cost:</u>	\$000's
Communications Plant	4 761 361
Land	92 787
Buildings	739 936
Motor Vehicles	90 584
Other Plant and Equipment	187 821
<u>At Telecom's Valuation:</u>	
Communications Plant (Cost at 30 June 1975, \$2 913 121)	2 325 669
<u>Balance Sheet Total</u>	<u>8 198 158</u>

Source: Telecom Annual Report 1980--81

- 10.7 Additions to Fixed Assets in 1980--81 totalled \$1 164.4 million comprising:

Table 10.2: Additions to Telecom's fixed assets 1980--81

<u>ASSET ITEM</u>	<u>VALUE</u>
	\$m
Communications Plant	1 012.1
Land and Buildings	73.1
Motor Vehicles	30.1
Other Plant and Equipment	49.1
<u>Total</u>	<u>1 164.4</u>

Source: Telecom Annual Report 1980--81

- 10.8 Relevant financial information on the composition of Telecom's fixed assets and annual capital expenditure are included in Appendix A to Volume 1.
- 10.9 Some 28 500 Telecom employees are involved with implementation of the annual capital works program. They include 22 000 direct labour. There is also a significant back-up of professional, technical and administrative staff in the States and Headquarters associated with design, development, selection and general resourcing of the program. Workforce distribution is tabulated below:

Table 10.3: Distribution of Telecom workforce for capital works activities at June 1981

Direct Labour	
. Network	16 508
. Customer Equipment	4 938
. Data and Telegraph	443
. Broadcasting and Television	81
Indirect Labour	2 636
Engineering	2 818
Research, Development and Innovation Program	<u>799</u>
	<u>Total 28 223</u>

Source: Telecom data

- 10.10 With few exceptions all Telecom's network construction and associated capital works are carried out by Telecom through its own workforce.

Involvement of other public sector organisations

- 10.11 Telecom's acquisition and disposal of property and lease of accommodation is arranged through the Department of Administrative Services, in accordance with the provisions of s.66A of the Lands Acquisition Act 1955. Detailed working arrangements between Telecom and the Department of Administrative Services are incorporated in an Administrative Agreement negotiated between the two organisations in October 1977. Property purchases for Telecom are undertaken by the Department of Administrative Services against annual programs compiled and funded by Telecom. Telecom owns and leases some 7 900 properties which represent some 36 percent of total Commonwealth holdings. This includes some 355 600 square metres of leased office space at an estimated annual rental cost of \$32.5 million.
- 10.12 The construction and maintenance of Telecom buildings, associated services and facilities are arranged under an Administrative Agreement negotiated in 1976 with the then Department of Construction (now Department of Transport and Construction). After development of a Commission approved works program, Telecom authorises that Department to invite tenders in Telecom's name and on its behalf. The tendering process is tied to the public tender system except in very urgent or highly technical projects. For the latter, tenders are invited from a selected panel of contractors.
- 10.13 As with property acquisitions and equipment purchases, construction contracts in excess of \$500 000 necessitate Ministerial approval in accordance with s.79 of the Telecommunications Act 1975.

MANAGEMENT OF CAPITAL WORKS PROGRAM

Planning

- 10.14 Telecom's capital investment planning generates each year a series of capital works programs. These detail the proposed capital investment in telecommunications plant and equipment, sites and buildings and other ancillary equipment. These programs constitute the annual capital expenditure budget.
- 10.15 The major capital works program is the 'Three Year Engineering Construction Program' (ECP) which details the proposed capital investment in telecommunications plant. The ECP is prepared annually for a three year 'rolling' program of capital works. It is formulated within the framework of Commission established objectives and guidelines, taking into account:
- . forecasts of demands for services and lines;
 - . Telecom's marketing plans;
 - . state and regional network development plans;
 - . exchange and cable occupancy studies;
 - . manpower plans, labour productivity targets, material availability;
 - . level of funds available.
- 10.16 Subject to Headquarters' functional oversight, Telecom's Engineering, Operations and Commercial Departments within each State are involved in implementing the approved ECP. Extensive progress control and reporting systems operate both in respect of individual projects and the ECP overall.
- 10.17 A significant constraint on Telecom's flexibility in managing its capital program is the size and geographical distribution of its workforce.

SUBMISSIONS

Views

- 10.18 The Committee referred to public submissions and additional information supplied by Telecom and other public sector agencies engaged in various aspects of Telecom's capital works and network maintenance.

- 10.19 Most submissions came from metropolitan business and residential users of Telecom's services. Submissions from non metropolitan subscribers criticised aspects of Telecom's rural development programs: quality of service; conversion from manual to automatic exchange; operations; and the low priorities which they asserted Telecom gave to network upgrading within their own areas.
- 10.20 The Committee paid particular attention to views on non metropolitan services, and included a number of rural areas in its schedule of public hearings and discussions. The Committee also commissioned a detailed study to compare the quality of country services with metropolitan services.

COMMITTEE CONSIDERATION

Perspective

- 10.21 Evidence to the Committee confirmed that Telecom's overall network performance is satisfactory and that productivity has increased steadily in recent years. Telecom's submission to the Committee includes a number of statistical studies supporting that view. The Committee's engineering consultant endorsed that conclusion:
- "Telecom has provided a good telecommunications infrastructure at cost which in the main appears to compare satisfactorily with areas having comparable conditions. There is a need to accelerate the introduction and exploitation of an integrated digital system and the phasing out of space divided switching and frequency divided trunks and junctions. There is a need to encourage more flexibility in staffing and acceptance of the need for specialist private sector participation in the very wide-range of value added services which should be encouraged to use the Telecom infrastructure as the bearer. For this the Telecom infrastructure will need to establish a reputation for reliability and freedom from interruptions, whether deliberate or accidental" (Volume 3, Section 1 refers).
- 10.22 Committee recommendations that Telecom concentrate on network development will give the organisation an improved corporate and operational environment in which these goals might be met.
- 10.23 The Committee concludes that in the immediate future new techniques and especially the implementation of an integrated digital network provide the opportunity for a sharp rise in productivity and a reduction in the real costs per added customer. The high growth in telecommunications traffic will substantially reduce the impact on employment.
- 10.24 The challenge will only be met for the benefit of consumers if Telecom:
- accepts the new technologies;

- secures the necessary levels of investment funds to permit network development founded on those new technologies;
- meets the challenge of staff retraining and redeployment from declining disciplines to growing ones.

10.25 The Committee's engineering consultant made the following points in relation to Telecom's application of new technology:

- Telecom has a mainly crossbar switching system using techniques which were up-to-date in the 1950s;
- a more positive drive toward an integrated digital network should be made on the grounds that:
 - digital switching cost advantages are significant;
 - labour savings and service improvements justify early retirement of existing space division switching;
 - building construction can frequently be avoided by change to compact digital switching and transmission techniques;
 - international communications are significantly improved;
 - digital switching permits rapid extension of service to new areas served by a remote subscriber stage connected to the group selector stage by small cables or by radio mini links;
 - all digital networks generally facilitate rapid introduction of new services.

10.26 The Committee notes that digital technology is a proven technology. Telecom's concerns as to speed of introduction need to be dispelled if its current and cautious program of transition is founded on that consideration. Retraining of staff and labour relations (involving changing duties and overall manpower levels) and the capacity of Australian manufacturers to meet transition demands are further matters which may condition those timetables for change.

10.27 In discussions with the Committee, Australian manufacturers of digital switching equipment indicated they had both the capacity and the enthusiasm to meet accelerated Telecom transfer programs. The Committee's engineering consultant observed:

"From a discussion with the principals (of L.M. Ericsson) in Stockholm it was clear that the latest version of AXE, with digital switching at the subscriber stage and a codec per subscriber whether remote or co-located with the group selector stage, could be produced in Australia only in a few months later than in Sweden if required." (Volume 3, Section 1 refers)

- 10.28 The Committee's own examination of Australian manufacturing capacity confirms that view.
- 10.29 The Committee notes its consultant's comments that retraining for digital exchanges per se is by no means a problem incapable of solution by persons of good will. Related issues need to be debated and resolved. These include:
- . institutional arrangements;
 - . staff morale;
 - . employer/employee consultation;
 - . the accommodation of legitimate employee interests.

Consideration of those issues should be balanced by the potential consumer and national benefits to be derived from technical innovation.

Recommendation

- 10.30 The Committee recommends:
- . TELECOM'S CURRENTLY PLANNED PROGRAM FOR INTRODUCTION OF AXE DIGITAL EXCHANGES SHOULD BE ACCELERATED.
(R84)

Manning levels

- 10.31 Both Telecom and unions face problems in dealing with changes in manning levels created by new technology. The Committee's consultant reports on this aspect:
- . Telecom employs its own staff for virtually all exchange installation work, ductwork and cable installation;
 - . installation costs of a new crossbar exchange are 50--60 percent of the cost of materials whereas for a similarly sized digital local exchange, installation costs are typically only 15--18 percent of the cost of materials;
 - . crossbar exchanges involve a year or more of installation work requiring a large team to erect ironwork, install racks and run cables etc; in contrast, AXE digital exchanges make extensive use of factory made plug-in wiring, have simple racks and adjustable shelving; the manufacturer usually sets up the exchange at factory site, tests the equipment pre-installation -- actual installation by manufacturer's staff is effected in a few weeks;
 - . adoption of arrangements applied elsewhere in the world for digital exchange installation would have major efficiency gains for Telecom -- implementation would require the organisation to develop significant new initiatives in staff management including workforce retraining and redeployment;

- numerous digital exchanges can be controlled and monitored from a single operation centre -- also requiring further initiatives in operations staff redeployment to new fields of work.

Telecom's use of contractor services

10.32 Before 1973 Telecom's predecessor, the Postmaster-General's Department, made extensive use of contract labour for conduit work and exchange installation. Under agreements entered into with relevant unions in August and November 1973, the Postmaster-General's Department agreed to:

- phase out conduit contract allocations from works programs as the Departmental workforce increased;
- recruit staff for construction works to a level necessary to match program requirements;
- reduce the proportion of contract installation in the exchange installation area with a view to eliminating contractor usage in other than special projects by July 1975;
- use contractors only for special projects and subject to union agreement.

It was also agreed that in the event that the Department proposed use of contractors in any area of conduit laying and cable handling, contracts would not be let without union agreement: in the absence of agreement, the matter would be referred to the Minister for determination.

10.33 Telecom has adhered to the above agreements. Late in 1981 the Minister for Communications requested Telecom to reconsider the use of private contractors. Telecom has deferred its review pending the outcome of this Inquiry. The Committee's engineering consultant has commented on Telecom's present manning arrangements (Volume 3, Section 1 refers):

"Telecom Australia appears unusual, if not unique, in employing its own staff for virtually all exchange installation work, ductwork, and cable installation. Agreements with unions apparently formalised such arrangements. Normally, it is an axiom that if an administration has sufficient staff for capital works it is over-staffed for normal operations. The alternative is to spread the capital works so that there are continuous but piecemeal extensions. The unions' agreements and capital limitations imposed on Telecom management would tend to promote this trend and it was understood that this piecemeal expansion is the tradition. If so, it is a bad one."

- 10.34 The Committee endorses those comments. Prior to 1973 the private sector met a substantial amount of Telecom's capital works program. It should be permitted to do so again. The present arrangements prevent flexibility in implementation of construction programs. These are an important contributing factor to Telecom's present inability to expand its rate of investment. In many cases the arrangements require duplication in supply of construction equipment already available from private enterprise. Telecom's own labour force has to be relocated at considerable expense according to program requirements. The alternative is use of local contract labour.

Recommendation

- 10.35 The Committee recommends:

- TELECOM SHOULD REVIEW ITS PRESENT POLICIES ON USE OF ITS OWN WORKFORCE FOR CAPITAL WORKS AND ADOPT A TARGET OF 50 PERCENT USE OF CONTRACTORS.
(R85)

Country services

- 10.36 Country telecommunications services particularly those in rural and remote areas of Australia are more expensive to provide, operate and maintain than those in metropolitan areas. The study of non metropolitan services commissioned by the Committee (Volume 3, Section 3) shows the investment required in providing country services (rural and urban) to be significantly higher than for metropolitan services:

Table 10.4: Summary of estimated costs of new services -- basic telephone facility

AREA	AVERAGE COST PER SERVICE
	\$
Metropolitan	533
Country ⁽¹⁾	
-- 0--4 km from local exchange	1 200
-- 4--8 km from local exchange	3 000
-- 8--16 km from local exchange	7 000
-- over 16 km from local exchange	13 000

(1) Country estimates based on three NSW country districts

Source: Committee analysis of Telecom data

10.37 The costs of providing services using physical lines primarily reflect the distance between customers. They also reflect the distance between a subscriber and the local exchange. Telecom estimates that the overall cost per service is some \$2 500 per kilometre. Use of physical lines and cable to service district rural subscribers is being phased out. Telecom plans introduction of digital radio concentrator equipment to provide remote services. Some 8 000 such systems will be installed in implementation of the rural automatic conversion program to be completed by 1990.

10.38 Cost differentials between metropolitan and country services are partly attributable to differing maintenance, productivity and costs. Table 10.5 summarises relative productivity performance:

Table 10.5: Maintenance productivity -- metropolitan and country services: 1980--81

	NATIONAL	NATIONAL	WEST AUST.	SOUTH AUST.
Category	Metro	Country	Country	Country
External(1)	1.28	2.92	4.0	4.0
Internal(2)	2.18	2.87	4.4	4.9

(1) Manhours per service per year

(2) Manhours per telephone handset per year

Source: Committee analysis of Telecom data

10.39 The study analysis shows that:

- on a national basis maintenance manpower requirements for both external and internal plant are greater in country areas than metropolitan areas;
- manpower requirements for country external plant are more than twice that for metropolitan services. Metropolitan figures on average are about 42 percent of country figures;
- external plant maintenance manpower requirements rise rapidly in those states with lower service densities. Maintenance manhours per service in both South Australia and Western Australia are nearly four times the national metropolitan average.

- 10.40 Maintenance and operational costs exhibit similar patterns. Based on a NSW metropolitan/country comparison, the average annual maintenance costs are:
- metropolitan : \$ 71 per service
 - country : \$143 per service
- 10.41 The study showed that maintenance costs, like costs of service provision, increase rapidly with lower service densities. Overall factors contributing to higher external plant maintenance costs of country services are:
- fragmented nature of the switching network associated with country services;
 - longer cable and open wire networks;
 - larger exchanges lead to better productivity because fewer technicians are required for a given number of services;
 - low service density requires dispersion of exchanges to optimise the network design;
 - a large number of small exchanges in country areas;
 - in metropolitan areas optimum network design results in fewer, large exchanges.
- 10.42 Table 10.6 below clearly illustrates the high dispersion of exchanges in country areas:

Table 10.6: Number of exchanges at June 1981: NSW districts

REGION	AUTOMATIC EXCHANGES	SERVICES PER		SERVICES PER		TOTAL EXCHANGES
		AUTOMATIC EXCHANGE	MANUAL EXCHANGES	MANUAL EXCHANGE		
Metro	127	8982	--	--		127
Country	1297	578	379	70		1676

Source: 'Telephone, Exchanges, Services and Stations', Telecom.

- 10.43 Metropolitan services are exclusively automatic services with STD facilities. Some 61 000 subscribers in country areas are limited to manual services. The number of full time manual exchanges at June 1981 was 1 020. There were also 333 part time manual exchanges. Under Telecom's rural conversion program Telecom plans to convert all services to automatic throughout Australia by 1990 and to replace existing part privately erected (PPE) lines by Telecom provided radio communications systems (analogue and digital radio concentrator systems and satellite as appropriate). Telecom has estimated the remaining capital cost for completion of its rural conversion program to be approximately \$204 million (1981 prices).
- 10.44 The study shows that, relative to automatic services, manual services:
- . have significantly higher maintenance costs;
 - . have substantially inferior quality and a fault occurrence about twice that of automatic services;
 - . require significantly higher exchange operational costs.
- 10.45 The program of conversion from manual to automatic and the replacement of PPE lines by modern radio communications systems will not only improve the quality but will substantially reduce the cost of service operation and maintenance.
- 10.46 Telecom has advised the Committee that subscriber contribution to the manual conversion program, by payment of a rural conversion fee, is \$0.6 million. Contribution is limited to some 2 650 of the estimated 61 000 subscribers.
- 10.47 In Chapter 6, the Committee proposes that prices be closely related to costs of service provision and the introduction of distance dependent rentals. The rural program could be accelerated if Telecom's pricing policies produced a greater profit contribution by country districts. It would be in the interests both of Telecom and its country subscribers if the rural conversion program was accelerated.
- 10.48 The Committee also notes that some 44 000 people in remote areas of Australia presently have no telephone service. Telecom's additional capital investment to cater for their needs is some \$60 million. These services could be provided either by DRCS or leased satellite capacity. The service issue is the availability of capital. Under Committee proposals for cost related pricing, Telecom would have a greater financial capacity to meet these remote area demands.

Recommendation

- 10.49 The Committee recommends:
- . TELECOM'S RURAL CONVERSION PROGRAM SHOULD BE ACCELERATED.
(R86)

TELECOM'S RELATIONS WITH OTHER PUBLIC SECTOR AGENCIES

Department of Administrative Services

10.50 The Department of Administrative Services handles all Telecom's acquisition and disposal of properties, building and accommodation in accordance with the provisions of the Lands Acquisition Act 1955. Telecom's submission to the Committee referred to a number of disadvantages in this arrangement. The disadvantages include:

- . delays;
- . double handling;
- . failure to achieve overall project targets;
- . requirement to follow practices appropriate to Government departments.

10.51 The Committee notes the 'advantages' to be:

- . access to automatic title to land;
- . possibly lower acquisition costs through co-ordination with other Commonwealth property managements;
- . access to the Commonwealth's compulsory acquisition powers;
- . freedom from local government, environmental and planning controls.

10.52 The Committee notes that business undertakings of the Commonwealth such as QANTAS and TAA maintain their own independent property management functions.

10.53 Under the Committee's recommendations, Telecom will operate in a competitive business environment and will assume a corporate status appropriate to a large commercial undertaking. Consistent with that status, Telecom should be subject to all local government property and planning controls. It should not use Commonwealth powers of compulsory acquisitions.

10.54 Telecom in its submission noted that all of its real estate could be handled more economically by agents in the private sector with no increase in Telecom's manpower resources. The Committee agrees.

Department of Transport and Construction

10.55 The Committee notes that Telecom's existing arrangement with the Department of Transport and Construction has generally worked satisfactorily. Telecom is a large construction organisation in its own right and is well equipped to handle its own planning, procurement and

supervision functions. In the future Telecom should arrange its own tendering and civil works consistent with the commercial status which the Committee recommends.

Department of Communications and Australian Broadcasting Commission

- 10.56 Telecom, as agent for the Minister and the Department of Communications, now carries out the design, procurement, installation, operation and maintenance of the national transmitter network used to transmit programs of the Australian Broadcasting Commission (ABC).
- 10.57 The Committee notes the recent decisions of Government on progressive transfer of these functions and associated Telecom staff to the Department of Communications (construction) and the ABC (operation and maintenance). Approximate staff numbers in Telecom employed on these broadcasting functions are:
- . actual (both full time and part time) : 1 200
 - . equivalent full time : 900
- 10.58 In addition, supporting resources covering such areas as accounting, drafting, stores handling and supply total some 90 staff (full or part time).
- 10.59 Telecom's withdrawal will necessitate staff redeployment and some rationalisation of interests at transmitter sites since many sites also include separate or integrated Telecom facilities and transmission systems.
- 10.60 The Committee supports the transfer of the broadcasting function from Telecom.

Recommendations

- 10.61 The Committee recommends:
- . TELECOM SHOULD NOT BE SUBJECT TO THE LANDS ACQUISITION ACT 1955 AND IN CONSEQUENCE:
 - (a) SHOULD HANDLE ITS OWN PROPERTY MATTERS INDEPENDENTLY OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES;
 - (b) SHOULD NOT USE COMMONWEALTH POWERS OF COMPULSORY ACQUISITION.
(R87)
 - . TELECOM SHOULD USE PRIVATE SECTOR PROPERTY MANAGEMENT RESOURCES.
(R88)
 - . TELECOM SHOULD BE SUBJECT TO LOCAL GOVERNMENT PROPERTY AND PLANNING CONTROLS.
(R89)
 - . TELECOM SHOULD MANAGE ITS OWN BUILDING WORKS AND SERVICES.
(R90)

TELECOM AUSTRALIA LIMITED

INTRODUCTION

Perspective

- 11.1 The Committee recommends that Telecom should continue to have a dominant place as national terrestrial network operator. It is in the national interest both to license other independent networks for special purposes and to ensure that innovation through effective competition develops in the terminals market. The Committee recommends that Telecom's activities in the marketing of terminal equipment be transferred to a separate marketing organisation, 'Telequip'.
- 11.2 Responsibility for setting equipment standards should be transferred from Telecom to an independent standards authority and should be a publicly visible process.
- 11.3 Effective competition requires that Telecom should neither be advantaged because of its network ownership nor enjoy any special immunity or exemption from the business imposts, rates and taxes which its competitors carry.
- 11.4 The Committee also recommends that any social welfare or national development initiative which Government wishes to implement through subsidised telecommunications should be funded from outside Telecom and preferably be directed to consumers, not Telecom. Telecom should not cross subsidise services. Its prices should be fixed on a cost related basis.
- 11.5 Implementation of these recommendations will require major changes in Telecom's corporate status, its operation in competitive markets and its relationship with its Government owner.

TELECOM'S CORPORATE STATUS

Telcom's changed role

- 11.6 Telecom was established in 1975 as a statutory authority of the Commonwealth. The Vernon Commission of Inquiry saw Telecom engaged in an essential community service with the basic characteristics of a commercial enterprise. The Telecommunications Act 1975 assigned three functions to Telecom:

- public utility and national development

s.6(1) of the Act requires Telecom to perform its functions in such a manner as will best meet the social, industrial and commercial needs of the Australian people. It is required, so far as it is practicable to do so, to make its services available throughout Australia for all people who reasonably require those services. It must have regard to the special needs of people who reside in or carry on business outside the cities.

- business enterprise

s.73 of the Telecommunications Act 1975 requires Telecom to act as an efficient business enterprise: to operate as efficiently as possible and to make its services available at charges that are as low as practicable.

- regulator of telecommunications services

s.94 of the Telecommunications Act 1975 establishes an effective Telecom monopoly; s.13 of the Act enables Telecom to authorise other persons to provide telecommunications services and to attach equipment to its network upon terms and conditions that it specifies.

11.7 The Committee recommends that Telecom's authority to regulate equipment be removed and that the Minister be empowered to license other persons to establish telecommunications systems. As designated national terrestrial common carrier, Telecom is obliged to provide network capacity throughout Australia. Direct subsidy is suggested for the social or national development initiatives of Government.

11.8 These changes would enable Telecom to act as a business undertaking. It must do so in an increasingly competitive environment without the protection of statutory monopoly.

Alternatives to a statutory corporation

11.9 The first step towards business orientation was taken in 1975 with the shift from a department of the public service to a statutory corporation.

11.10 The further step now necessary is to make Telecom a company incorporated under the relevant companies legislation.

11.11 As a statutory corporation, Telecom's 'independence' is circumscribed by a web of Government controls, policy interventions and constraints exercised as part of the 'disciplines of the public sector':

- the Minister approves contracts over \$500 000 and controls basic telephone charges;

- Telecom's financial policies, borrowings and investments are controlled by Government;
 - the chief executive and his top aide are appointed by Government;
 - industrial relations and employee terms and conditions are subject to the Government's Industrial Co-ordination Committee;
 - the Minister may give directions to Telecom; by 'request', he may also oblige Telecom to follow Government policy in relation to employment levels, Australian offsets and purchasing preferences;
 - in compliance with statutes or general Government policies, Telecom's civil works, its lands acquisition and property management and its tendering for goods and services are carried out on behalf of Telecom by public service departments;
 - Telecom is subject to a variety of statutes which impose public obligations and special rules on many aspects of its operations -- public rights of access to information are recognised and avenues for review of its decisions are provided.
- 11.12 Special freedoms are available to Telecom as a monopoly public utility. It pays no taxes. Its property requirements for public purposes can be met if necessary by compulsory acquisition under the Lands Acquisition Act. It is immune from suit even for negligence.
- 11.13 The Committee recommends that these constraints and freedoms should no longer apply.

The case for incorporation

- 11.14 Under the Committee's recommendations:
- Telecom will no longer regulate telecommunications systems in Australia;
 - licensing of other telecommunications systems will be performed by the Minister;
 - equipment standards will be set by an independent standards authority;
 - Government will set 'social objectives' in telecommunications and will fund any welfare initiatives from sources outside Telecom.
- 11.15 Telecom has not been permitted the degree of independence it needs today. In the future, the need is far greater. Incorporation would place Telecom on an equal footing with other companies, including AUSSAT, engaged competitively in the provision of telecommunications. The accountability and responsibility of a business undertaking both to its shareholders and to the public is more clearly defined with incorporation. In this regard, the companies legislation and the

general law place onerous responsibilities on directors to act always in the best interests of the Company, and they are accountable under the law for that performance.

- 11.16 The authority and independence of Telecom's Board of Directors need to be strengthened. The Board should be the 'source' of policy and Telecom's executive authority, not simply the administrators of a statute. Incorporation adopts a full commercial orientation for Telecom. It would assist in eradicating Telecom's public service culture. It should motivate management and employees to provide better and more cost effective service to users. It will allow Telecom to meet competition from others.

Recommendation

- 11.17 The Committee recommends that:

- . THE AUSTRALIAN TELECOMMUNICATIONS COMMISSION SHOULD BE ABOLISHED AND REPLACED BY AN INCORPORATED COMPANY -- 'TELECOM AUSTRALIA LIMITED' -- OWNED 100 PERCENT BY THE COMMONWEALTH GOVERNMENT.
(R91)

STRUCTURE OF TELECOM AUSTRALIA LIMITED

Memorandum and articles

- 11.18 Appropriate 'Memorandum and Articles of Association' for Telecom Australia Limited are included in Appendix B to Volume 1.
- 11.19 A new Telecommunications Act is discussed in Chapter 12. Telecom Australia Limited would be subject to that Act in relation to the telecommunications systems which the company provides.
- 11.20 The main features of the Company as reflected in its Memorandum and Articles of Association are:

OBJECTS

- . the Company is established to provide telecommunications systems and services in Australia in accordance with the relevant statutory authorisations;
- . the Company has all powers to give effect to this object and may enter joint ventures or partnerships as well as form or participate in the formation of subsidiary companies which have as an object the provision of telecommunications systems and services.

SHARE CAPITAL

- the Company has a share capital under the control of the Board of Directors, subject to the relevant provisions of the Telecommunications Act.

BOARD OF DIRECTORS

- the management of the Company is vested in a Board of Directors who may exercise all the powers of the Company under its Memorandum of Association, subject to the new Telecommunications Act;
- the number of Directors is not less than eight and not more than 12 appointed by the shareholders (the Commonwealth) in general meeting;
- the Chairman of the Board is appointed by the shareholders (the Commonwealth) in general meeting;
- the Deputy Chairman of the Board is elected by the Board of Directors;
- remuneration to Directors, other than the chief executive, is paid out of funds of the Company determined by the shareholders (the Commonwealth) in general meeting.

CHIEF EXECUTIVE

- the Chief Executive is a Director;
- the Chief Executive is appointed by the Board on such terms and conditions as it thinks fit and is at all times and in all respects subject to the control of the Board.

BORROWING

- the Directors may raise or borrow moneys for the purposes of the Company by way of bonds, debentures or other securities, and may secure such borrowings by charge upon all or any part of the property of the Company.

Company formation

- 11.21 Procedures for Company formation and transfer of staff and Telecom's assets and liabilities are matters provided for under the proposed new Telecommunications Act. These are discussed in their statutory context in Chapter 12. The following general principles should be adopted by Government in implementation:

STAFF TRANSFERS

- All staff of Telecom should be transferred to Telecom Australia Limited without loss of existing rights, benefits and entitlements.
- The Company should establish its own Company based retirement scheme. Any differential of rights and entitlements of transferred employees as between the company based scheme and the Commonwealth superannuation scheme at its commencement should be funded by Government (discussed in Chapter 8).

EQUITY/LOAN STRUCTURE

- In establishing the Company it will be necessary to transfer Telecom's net tangible assets and liabilities to the Company and to provide an appropriate equity structure. The appropriate machinery to enable this transfer and reconstruction is discussed in Chapter 12.
- The Committee recognises that the Government, as shareholder and major lender to the Company, will exercise its own judgement as to what the Government would regard as an appropriate balance between equity and loans. The Committee concludes that a suitable initial capital structure for the Company could be established by the conversion of so much of Telecom's current debt to the Commonwealth as would result in a one to one relationship between debt capital and shareholders' funds.

Recommendations

- 11.22 The Committee recommends that:

Company memorandum and articles of association

- THE MEMORANDUM AND ARTICLES OF ASSOCIATION OF TELECOM AUSTRALIA LIMITED SHOULD BE DEVELOPED ALONG THE LINES OF THE DRAFT DOCUMENTATION INCLUDED IN APPENDIX B TO VOLUME I OF THIS REPORT. THE COMPANY:
 - (a) SHOULD HAVE ALL NECESSARY POWERS TO PROVIDE TELECOMMUNICATIONS SYSTEMS IN AUSTRALIA IN ACCORDANCE WITH RELEVANT STATUTORY AUTHORISATIONS;
 - (b) MAY ENTER JOINT VENTURES OR PARTNERSHIPS AS WELL AS FORM OR PARTICIPATE IN THE FORMATION OF SUBSIDIARY COMPANIES WHICH HAVE AS AN OBJECT THE OPERATION OF TELECOMMUNICATIONS SYSTEMS;
 - (c) SHOULD PLACE WITH ITS BOARD OF DIRECTORS FULL RESPONSIBILITY FOR MANAGEMENT OF THE BUSINESS OF THE COMPANY.
- (R92)

Transfer of Telecom's staff, assets and liabilities

- . ALL TELECOM STAFF SHOULD BE TRANSFERRED WITHOUT LOSS OF EXISTING RIGHTS, BENEFITS AND ENTITLEMENTS.
(R93)
- . AN APPROPRIATE INITIAL EQUITY STRUCTURE OF THE COMPANY SHOULD BE ESTABLISHED BY THE CONVERSION TO SHAREHOLDER FUNDS OF PART OF THE EXISTING TELECOM DEBT TO THE COMMONWEALTH: A ONE-TO-ONE RELATIONSHIP SHOULD BE ESTABLISHED BETWEEN THE COMPANY'S DEBT CAPITAL AND SHAREHOLDERS' FUNDS.
(R94)

RELATIONS WITH GOVERNMENT

Recognition as a business undertaking

- 11.23 Incorporation places the Commonwealth Government in a position of shareholder and major lender to Telecom. It should permit the Company's Board of Directors to manage the commercial affairs of the Company in the normal business manner.
- 11.24 In Chapter 5 the Committee recommends that Telecom be no longer subject to Government purchasing policies in relation to Australian preference or offsets. It should be free to purchase at the best commercial price and make decisions in the best business interests of the Company.
- 11.25 In Chapter 6 the Committee recommends that Telecom, not Government, should set its own telecommunications prices and should adopt a cost related pricing policy.
- 11.26 In Chapter 8 the Committee recommends removal of statutory and policy constraints affecting Telecom's management of its employees and its industrial relations.
- 11.27 In Chapter 9 the Committee recommends removal of Government controls over Telecom's borrowings. The Committee considers that the rate of growth in Telecom's investment should be sufficient to meet the market but subject to some 'balancing' considerations -- in this regard:
- . Telecom should be allowed to expand as long as it makes a profit which together with borrowings is sufficient to fund its growth;
 - . controls over Telecom's total investment funding should be exercised through a statutory requirement that Telecom maintain a minimum interest cover of not less than two;
 - . Telecom should prepare annually a three year financial plan.

- 11.28 In Chapter 10 the Committee recommends that Telecom should not be subject to any statutory or Government policy constraints requiring use of Government Departments for purchasing, civil works, land acquisition and property management.
- 11.29 These recommendations give Telecom's Board of Directors the opportunity to manage the business effectively in accordance with its statutory licence under the new Telecommunications Act. As sole shareholder, the Commonwealth Government retains power to appoint Directors and to influence but not override the decisions of the Board.
- 11.30 Telecommunications development is long run and capital intensive. Through its three year selections for the Board of Directors the Government can ensure that Telecom's planning and operations remain consistent with the national interest.
- 11.31 The Government can always dismiss a Board which moves to do otherwise.
- 11.32 On broad policy issues the Government should communicate directly with the Chairman of the Board who would ensure that the views of Government are taken into account in the Board's deliberations.
- 11.33 The Committee recognises that some issues may arise where Government may need to issue directions to the Company. The capacity of the Minister to issue directions should not extend to revenues, management or resources. In particular, the Minister's powers of direction should not cover:
- the terms and conditions of employment of staff and officers of the Company;
 - any aspect of telecommunications tariffs and charges;
 - the terms and conditions of purchase or supply of telecommunications equipment;
 - contracts for goods and services.
- 11.34 Provision is made for an appropriate ministerial power of direction in the new Telecommunications Act (discussed in Chapter 12).
- 11.35 The Committee notes that under the Telecommunications Act 1975 provision is made for some Commissioners to be appointed to represent certain interests -- section 22(1)(b) and (c) refer. No such representation should be specified for any of the Directors since they have a specific statutory responsibility under the relevant companies legislation to act always in the interests of the company. This is not to deny the merit of having directors with different backgrounds to balance the interests of shareholders, employees, suppliers and customers but to prevent a conflict of interest each director must function solely in the interests of the company as a whole.

Recommendations

- 11.36 The Committee recommends that:

Relationship with the Commonwealth

- . THE COMMONWEALTH'S RELATIONSHIP WITH THE COMPANY SHOULD BE ONE OF SHAREHOLDER TO COMPANY.
(R95)
- . STATUTORY POWERS OF MINISTERIAL DIRECTION SHOULD NOT EXTEND TO THE COMPANY'S TELECOMMUNICATIONS PRICES, COMPANY MANAGEMENT OR STAFFING, PURCHASING POLICIES OR CONTRACTS FOR GOODS AND SERVICES.
(R96)

COMPANY ORGANISATION IN A COMPETITIVE ENVIRONMENT

Organisation priorities

- 11.37 In Chapter 7 the Committee recommends that Telecom should review its corporate strategies, its management structures and organisation with the objective of developing a greater business orientation.
- 11.38 In Chapter 3 the Committee examines issues relating to Telecom's involvement in the terminals equipment markets, including wiring in customer premises, and discusses the conditions which would facilitate effective competition in those markets. The Committee concludes that Telecom's activities in terminal equipment supply should be transferred to a separate organisation ('Telequip'). 'Telequip' would compete with the private sector in those markets, enabling Telecom to concentrate on national network development.
- 11.39 In relation to 'Telequip', the Committee concludes that, subject to an assured separation of its operations from Telecom as national terrestrial network provider, 'Telequip' should continue in competition with the private sector in any terminals markets which are profitable. The continued operation of 'Telequip' would:
- . give widest choice to users;
 - . guard against lack of service in areas where Telecom's resources are now available and provide service;
 - . minimise disruption yet enable the private sector to develop as an alternative source of supply to users.

- 11.40 The Committee is agreed that the objective of separation is to ensure that:
- (a) cross subsidisation of costs and revenues does not occur between network and terminals marketing (including wiring in customer premises);
 - (b) the national terrestrial network operator concentrates on network development and the marketing of network services;
 - (c) effective competition develops in wiring in customers' premises and in terminal equipment supply, installation and maintenance.
- 11.41 Telecom as network operator retains a legitimate interest and responsibility to ensure that connections to its network do not adversely affect its service to other customers. Generally this will be covered by equipment standards but in some cases will require an active and continuing participation by the network operator in the terminal equipment.

Alternatives in 'Telequip's' ownership and functions

- 11.42 Telecom Australia Limited has powers under its Memorandum and Articles of Association to enter joint ventures or partnerships as well as to form or to participate in the formation of subsidiary companies which have as an object the provision of telecommunications systems and services.
- 11.43 A separate terminal equipment marketing company established with its own Board of Directors could provide some measure of structural separation from its parent Company.
- 11.44 The Committee notes that in the United States elaborate regulation is enforced by the Federal Communications Commission (FCC) to oblige a dominant regulated common carrier to undertake terminal equipment marketing through a fully separated subsidiary. Separation conditions are extensive. Detailed financial reporting is required.
- 11.45 The Committee finds no attraction in the FCC model of elaborate regulation. In consequence the Committee must assess whether in the Australian context something more than a 'separate subsidiary' of Telecom is required to ensure effective competition in the terminals market and in the wiring of customers' premises.
- 11.46 The Committee has not formed a common view as to the best corporate organisation and ownership arrangements for marketing of terminal equipment and installation of wiring in customers' premises to achieve the agreed long term objective of effective participation of the private sector and improved customer service in these markets.

- 11.47 The Chairman and one Member (Mr King) consider that the marketing of terminal equipment and wiring within customers' premises should be carried out through 'Telequip' as a company 100 percent owned directly by the Commonwealth Government. Their conclusion in this regard is based on the following arguments:
- . unless 'Telequip' is separately owned by the Government, 'Telequip' will inevitably be obliged to follow Telecom's policies and priorities and will:
 - continue to have its costs cross subsidised from network revenues;
 - reduce Telecom's ability to channel capital for network development;
 - have favoured promotion of its user services and equipment in Telecom's network marketing;
 - . costs involved in establishing 'Telequip' as a separately owned company would not be excessive and would largely be in the nature of displayed costs now hidden within Telecom's overall operations; separation of Telecom from Australia Post in 1975 was a similar if significantly larger exercise; with a staff over 5000, 'Telequip' is large enough to command adequate resources in each of its management functions without an imbalance in overheads;
 - . Telecom is a very different trading enterprise from 'Telequip' and requires different management skills; Telecom's capital:sales ratio is in the order of 3.2:1 while the capital:sales ratio for 'Telequip' will be about 0.5:1;
 - . separation of Telecom and 'Telequip' is consistent with the Committee's principle of ensuring that the network operator does not supply the services that use the network;
 - . provided 'Telequip' can operate profitably its long term participation is not excluded.

11.48 The other two Members (Mr Dick and Professor Karbowiak) consider that the marketing of terminal equipment should be carried out through 'Telequip' as a 100 percent subsidiary of Telecom. Their conclusion in this regard is based on the following arguments:

- . technology is continually changing the demarcation between terminal equipment and the network with which it interacts (e.g. PABX systems); overall strategy of the network operator will need to encompass both elements in the future;
- . there are strong grounds for the marketing strategies of 'Telequip' to be finally co-ordinated within the overall Telecom structure and not in an entirely separate publicly owned enterprise; the level of investment devoted to terminal equipment needs to be kept in sound balance with the demands for maintaining the quality of the network, otherwise there could be a

misallocation of resources which can be ill afforded by the public sector;

- . establishment costs would be avoided if 'Telequip' is not constituted as a 'stand alone' operation;
- . 'Telequip' as a separately owned public sector enterprise would be exposed to greater commercial risks as an originating organisation which would have heavy establishment costs before it could achieve a sound market foothold; 'Telequip' would not be an attractive vehicle for raising capital funding from the market;
- . as a subsidiary of Telecom, 'Telequip' could be set up more readily, leaving flexibility for the future;
- . fair competition could be suitably achieved with an 'arms length' subsidiary.

11.49 In relation to wiring within customers' premises, Professor Karbowski is of the view that this activity should also be included within the functions of 'Telequip'. His conclusion is that the national terrestrial network operator's responsibility should cease at the network terminating unit; wiring within customers' premises is a relatively low technology activity which does not belong to the network and would be more appropriately placed with 'Telequip' on the basis that those activities are not network related and would decline in importance as the subsidiary's marketing functions grow.

11.50 Mr Dick, on the other hand, is of the view that activities in wiring within customers' premises should remain within Telecom and not be transferred to 'Telequip'. His conclusion in this regard is that any longer term plan to take the public sector out of wiring activities will require complex manpower planning achievable only with full co-operation between Telecom, the unions and the private sector. That longer term goal could be more readily achieved within Telecom and management of that program of withdrawal should not be permitted to confuse the very important marketing role of 'Telequip'.

Recommendation

11.51 The Committee recommends that:

- . TELECOM'S STAFF AND ASSETS ASSOCIATED WITH THE MARKETING OF TERMINAL EQUIPMENT SHOULD BE TRANSFERRED TO A SEPARATE ORGANISATION ('TELEQUIP'); WIRING IN CUSTOMERS' PREMISES SHOULD BE REORGANISED IN SUCH A WAY AS TO PERMIT EFFECTIVE PRIVATE SECTOR PARTICIPATION IN THAT FIELD.

(R97)

A NEW TELECOMMUNICATIONS ACT

INTRODUCTION

Existing statutes

- 12.1 Volume 2 Section 1 summarises existing regulation of communications within Australia involving use of electromagnetic signals.
- 12.2 The several statutes establish a complex framework of public regulation for the various communications 'sectors' and create the institutions and administrative arrangements designed to achieve that result:
- The Telecommunications Act 1975 establishes Telecom with a wide charter to plan, establish, maintain and operate telecommunications services within Australia. Regulation of radio communications services is separately administered by the Wireless Telegraphy Act 1905 and the Broadcasting and Television Act 1942.
 - Excluding the separately regulated area of broadcasting, the Wireless Telegraphy Act 1905 gives the Minister the exclusive privilege of engaging in radiocommunications within Australia and licensing other persons to do so. Radiocommunications for purposes of radio or television broadcasting to the general public are separately regulated by the Broadcasting and Television Act 1942.
 - The Broadcasting and Television Act 1942 gives the Minister responsibility for the planning and development of radio and television broadcasting services in Australia. It establishes:
 - the Australian Broadcasting Tribunal with powers to license and regulate commercial and public broadcasting;
 - the Commonwealth's own broadcasting organisations, the Australian Broadcasting Commission and the Special Broadcasting Service.
- 12.3 The regulatory framework distinguishes between radiocommunications systems (satellite and terrestrial) and reticulated or guided communications systems (twisted pair, coaxial cable, optical fibre, wave guide). It also distinguishes systems according to purpose -- broadcasting and non broadcasting:
- the Broadcasting and Television Act 1942 regulates radiocommunications systems used for the purpose of broadcasting programs intended for reception by the general public;

- the Wireless Telegraphy Act 1905 regulates other radiocommunications systems within Australia;
- the Telecommunications Act 1905 regulates all other communications systems within Australia involving electromagnetic transmission.

By Regulations made under the Wireless Telegraphy Act 1905 the Minister imposes a number of restrictions on the purposes for which individual licensed radiocommunications systems may be used. Through By-Laws made under the Telecommunications Act 1975, Telecom also limits the purpose for which authorised telecommunications systems can be used.

- 12.4 There is separate recognition of the Overseas Telecommunications Commission under the Overseas Telecommunications Act 1946 as Australia's international telecommunications carrier.
- 12.5 The several statutes have complex interrelationships. Telecom must obtain licences issued under the Wireless Telegraphy Act 1905 in order to use radiocommunications systems in its own telecommunications services provision. Broadcasters need licences under the Wireless Telegraphy Act 1905 for any separately constructed microwave links between studios and broadcast transmitters; if coaxial cable systems are used for that purpose these systems must either be provided by or be authorised by Telecom under the Telecommunications Act 1975. Coaxial cables used in connection with the distribution of programs received by a community television aerial must be authorised under the Telecommunications Act 1975 and must also be licensed under the Broadcasting and Television Act 1942.

Impact of recommendations on existing statutes

- 12.6 The changes recommended by the Committee in relation to Telecom's role and function within Australia's telecommunications services render some of these regulatory arrangements inappropriate. The following recommendations of the Committee especially affect the existing statutory regime:
- Telecom should no longer hold a statutory monopoly in the provision of telecommunications services;
 - the Minister may license other persons to establish and operate telecommunications networks;
 - responsibility for setting standards for terminal equipment and for interconnection of networks should be transferred from Telecom to an independent standards authority;
 - Telecom should be incorporated as Telecom Australia Limited and be designated as national terrestrial common carrier;

- the private sector should be free to market the full range of terminal equipment in competition with a separate marketing company, 'Telequip', subject to:

- compliance with standards;
- installation and maintenance carried out by suitably qualified technicians.

12.7 The Committee has also discussed a number of future communications developments having regard especially to their impact on Telecom and how they might best be integrated into Australia's overall telecommunications services. It has noted that:

- a national communications satellite system will be operational in 1985 under the management of AUSSAT, an incorporated company ultimately to include up to 49 percent non Government shareholding;
- the recent Report of the Australian Broadcasting Tribunal on cable television services has recommended that:
 - cable systems be introduced in Australia;
 - that these systems be permitted to carry both television programming and general telecommunications services;
 - the private sector and public authorities, including Telecom, should have opportunities to construct and maintain cable reticulation systems;
 - such systems should initially be licensed under the Broadcasting and Television Act 1942 suitably amended;
 - in the longer term, new legislation is desirable to bring together all communications regulation.

Impact of new technologies

12.8 The Committee has discussed the changing telecommunications technologies and their application to the integrated digital networks of the future. With combination of voice, data, and image traffic within one transmission signal, networks become 'information highways' capable of delivering a multiplicity of services distinguishable by the type and technical sophistication of the terminal equipment used and the bandwidth required for transmission of the information. With cable systems and the new distribution technologies, the traditional boundary between 'broadcasting' and 'telecommunications' no longer exists.

- 12.9 Adoption of the recommendations of the ABT Cable Report for the licensing of cable systems under the broadcasting legislation would exacerbate the problem.
- 12.10 The Committee notes that the proposed national satellite system will provide for telecommunications as well as broadcasting applications.
- 12.11 It is therefore timely to consider whether the 'overlap' of broadcasting and telecommunications should be resolved by appropriate changes in the statutory framework of communications regulation. The Committee notes a growing interest within Government in simplifying regulations in relation to broadcasting installations, as distinct from control over program content and ownership of broadcasting services.

A NEW TELECOMMUNICATIONS ACT

Perspective

- 12.12 Legislative action is required to give effect to the Committee's recommendations on independent networks and on changes to Telecom's role, function and corporate status:
- staff, assets and liabilities of the existing Australian Telecommunications Commission need to be transferred to a new Company, Telecom Australia Limited;
 - Telecom Australia Limited needs to be authorised as national terrestrial common carrier and placed in an appropriate accountable relationship with the Commonwealth;
 - the Minister needs to be empowered to license independent networks;
 - an independent authority needs to be established to set standards for terminal equipment and for network interconnection;
 - a licensing board needs to be established to provide for the licensing of persons installing and maintaining terminal equipment;
 - appropriate transitional provisions will be necessary.
- 12.13 This minimum legislative package is extensive and requires overhaul of the existing Telecommunications Act 1975.

A unified legislative regime

- 12.14 The Wireless Telegraphy Act 1905 empowers the Minister to license radio communications other than for purposes of broadcasting intended for reception by the general public. His Department has substantial

resources devoted to the management of the radio frequency spectrum, the development and approval of standards for transmitters and the training and examination of transmitter operators and their certification. The Department has a field force of inspectors in each State concerned with investigations of interference and enforcement of wireless telegraphy regulations.

- 12.15 Telecommunications systems increasingly use the radio spectrum. Satellite based networks, multi-point microwave distribution systems, Telecom's new DRCS system for remote area communications, mobile telephones, radio paging and cordless telephones are examples. It is desirable that the legislative and administrative arrangements for radio communications be integrated with the new arrangements which the Committee recommends for telecommunications.
- 12.16 With respect to transmission systems used by persons licensed or authorised under the Broadcasting and Television Act 1942, the Committee notes that the existing broadcasting legislation regulates both the transmitter installations and separately through the Australian Broadcasting Tribunal regulates in detail the broadcasting services provided. Other authorisations are required under either the existing Telecommunications Act 1975 or the Wireless Telegraphy Act 1905 in respect of associated transmission systems peripheral to the 'broadcasting station'.
- 12.17 The separate regulatory regimes now applicable to different communications systems impose unnecessary administrative costs.

Licensing: 'systems' or 'services'

- 12.18 The Committee concludes that telecommunications networks or systems are the appropriate subject for any necessary regulation. The variety of services which can be provided by use of terminal equipment in conjunction with the network should generally not require regulation.
- 12.19 Terminal equipment should attract statutory interest only in so far as the equipment needs to comply with technical standards ensuring safety and network compatibility.
- 12.20 The distinction drawn between network provision and network utilisation is one which assumes particular importance under the Committee's proposals for increased competition in telecommunications services. The Committee's recommendations provide for the licensing of independent networks and open resale of leased Telecom network capacity without restriction on the type of traffic carried or the services provided. It also recommends open competition in the marketing of terminal equipment. Under the statutory arrangements which the Committee proposes:
- an independent network operator would require a licence issued by the Minister under the Telecommunications Act but generally would not be restricted as to the services provided or traffic carried;

- a leased network operator would not require a licence and would not be restricted as to the services provided or traffic carried;
- terminal equipment could be attached to any network subject to compliance with technical standards;
- leased networks could have interconnection with Telecom's public switched network as required;
- independent networks could interconnect with Telecom, subject to the Minister's agreement.

- 12.21 As discussed earlier in this Report, the Committee's preferred view on the industry structure for introduction of large capacity cable systems is that there should be a separation of system ownership from the provision of information and entertainment content. Similar arrangements would operate for other packaged and computer based information services such as 'videotex'.
- 12.22 If independent networks are constructed for large capacity cable systems, the networks would require a licence under the new Telecommunications Act.
- 12.23 In the case of any 'cable television' component within these 'videographic' services, the entertainment providers would also require a franchise granted under the Broadcasting and Television Act 1942 with respect to any 'CTV' programming regulation.
- 12.24 The above arrangements permit separation of 'carriage' from 'content'. Some situations may arise where separation of ownership of the system from the service provision will be important in the public interest. In Chapter 4 the Committee comments on the undesirability of participation by a monopoly network owner in services (information 'content') other than those which are network based. The Committee recommends that there be separation of the two roles in all 'videographic' services.
- 12.25 This separation of system from service would also enable the present overlapping boundary between 'broadcasting' and 'telecommunications' to be resolved, with overall simplification of the existing legislation with respect to broadcasting systems as distinct from the services they carry.

Legislative proposals

- 12.26 The Committee's legislative proposals include:
- repeal of the existing Telecommunications Act 1975 and the Wireless Telegraphy Act 1905 and inclusion of all necessary regulation of telecommunications systems, including radio communications, under a new Telecommunications Act;
 - transfer of the staff, assets and liabilities of Telecom to Telecom Australia Limited;

- recognition of Telecom Australia Limited as national terrestrial common carrier;
- recognition of AUSSAT as national satellite common carrier;
- the establishment of a National Telecommunications Advisory Council to assist the Minister in his overall planning and
- development of Australia's future telecommunications services;
- the licensing of broadcasting transmission systems and large capacity cable systems, with television programming (the 'entertainment content provision') regulated under the Broadcasting and Television Act 1942 suitably amended.

12.27 Model legislation to implement the above proposals is included at Appendix C to Volume 1. The Bill has been prepared by the Committee's legal consultants, Allen Allen and Hemsley.

FEATURES

Integration of telecommunications and radiocommunications regulation

12.28 The model legislation prepared by the Committee provides a common framework for:

- licensing

The licensing provisions enable the Minister to license both independent telecommunications networks and other radiocommunications systems, including broadcasting transmitter installations.

- standards

The standards setting provisions enable the Standards Authority to set standards for both telecommunications equipment and transmitters. The legislation provides for standards to be prepared by a Standards Authority and gazetted by the Minister. The Standards Authority is the Standards Association of Australia (SAA) and such other organisations as are prescribed. The Committee sees merit in the progressive transfer to the SAA of responsibility for preparation of transmitter standards. Prohibitions are included against persons supplying or using telecommunications equipment not complying with standards.

• technician and operator proficiency

The legislation provides for the establishment of a Licensing Board responsible for the licensing of persons engaged in wiring, installation and maintenance of telecommunications equipment. That Board could also be used for certification of transmitter operators. The Committee proposes that the resources of established technical education institutions be used wherever possible.

- 12.29 Upon introduction of the new Telecommunications Act, the administrative arrangements for radio frequency management within the Department of Communications should be reviewed to ensure effective integration of these functions with the new elements of telecommunications regulation.

Common carrier

- 12.30 The proposed new Telecommunications Act introduces the concept of a statutory common carrier. The Act authorises Telecom Australia Limited as the national terrestrial common carrier and AUSSAT as national satellite common carrier.
- 12.31 Should the Minister issue licences to other persons to establish independent networks, the network operator could, if necessary, be licensed as a common carrier. An example of a possible independent common carrier is the Royal Flying Doctor Service (RFDS) providing telecommunications services in sparsely populated areas of inland Australia. Under the new Telecommunications Act that service could be licensed as a telecommunications network, individual transceivers being in the nature of 'terminal equipment' and covered by that licence for use in the RFDS subject to compliance with transmitter standards and any relevant operating conditions.
- 12.32 By the Act a person authorised or licensed as a common carrier:
- is obliged to offer non discriminatory access to persons wishing to use the network;
 - may not make any unjust or unreasonable discrimination in charges, practices, classifications, regulations or services for or in connection with use of the network;
 - may only provide interconnection with another licensed or authorised independent network if, as a condition of the licence held by that independent network, the Minister has authorised interconnection.

Minister's planning powers

- 12.33 Under the Act, the Minister is responsible for the planning and development of Australia's telecommunications services. In relation to the radio frequency spectrum, special provision is made for development of a spectrum plan.

National Telecommunications Advisory Council

- 12.34 The Act provides for the establishment of a National Telecommunications Advisory Council to advise the Minister on matters relevant to telecommunications planning and development in Australia. Its reports, either in response to particular matters referred by the Minister or flowing from its own enquiries, are reports presented to the Minister for presentation to the Parliament.

Commonwealth's relations with Telecom Australia Limited

- 12.35 The Act provides for the transfer of staff and assets and liabilities of the existing Australian Telecommunications Commission to the new Company. The future statutory relationship between the Company and the Commonwealth is also established by specific provisions covering:
- . Commonwealth shareholding;
 - . ministerial powers of direction and supervision;
 - . rights and entitlements of transferred staff;
 - . taxation;
 - . accounting statements;
 - . maximum interest liability -- which shall not exceed 50% of its operating surplus before tax, interest and dividend;
 - . Annual Report and other information requirements;
 - . powers of the Company in relation to land;
 - . exemptions from other Commonwealth statutes.

Structure of the new Telecommunications Act

- 12.36 Appendix C includes a detailed commentary on clauses of the model legislation.

Recommendations

12.37 The Committee recommends:

- . THE TELECOMMUNICATIONS ACT 1975 AND WIRELESS TELEGRAPHY ACT 1905 BE REPLACED BY A NEW TELECOMMUNICATIONS ACT ALONG THE LINES OF MODEL LEGISLATION INCLUDED IN APPENDIX C OF THE COMMITTEE'S REPORT.
(R98)
- . A NATIONAL TELECOMMUNICATIONS ADVISORY COUNCIL BE ESTABLISHED.
(R99)

CHAPTER 13

TRANSITIONAL ARRANGEMENTS

INTRODUCTION

Scope

- 13.1 Implementation of the Committee's recommendations requires careful phasing to ensure orderly change in Australia's telecommunications services. Unless these changes are managed successfully, Australia will miss the economic and social benefits which the new information technologies offer.
- 13.2 Telecom and the private sector need time to adapt to competition. Reforms of pricing policies need to be introduced progressively. Changes in the institutional arrangements for licensing and public regulation of telecommunications systems require the co-operation and assistance of many public sector organisations and industry associations.
- 13.3 The incorporation of Telecom as Telecom Australia Limited and transfer of functions to an independent equipment marketing company are programs requiring close consultation with employees and their organisations. The development of procedures for equipment standards preparation and the creation of a sufficient base of skilled technical manpower in the private sector to install and maintain terminal equipment are preconditions to effective competition in that market.
- 13.4 The Committee's proposals for transitional arrangements are developed in this Chapter.

MANAGING IMPLEMENTATION

The new Telecommunications Act

- 13.5 The Committee's proposed new Telecommunications Act to replace the existing Wireless Telegraphy Act 1905 and Telecommunications Act 1975 is an important first step in implementation. It provides the framework within which detailed programs for change in the structure and administration of the telecommunications services industry can proceed. Relevant sections of the Act can be brought into operation by proclamation at the appropriate times.
- 13.6 Passage of the new Telecommunications Act is a commitment to the directions of change which the Committee is recommending but not necessarily to the detailed structures, management policies and administrative procedures which the Committee also recommends. Confirmation of that detail, in some cases with modification or

elaboration, will require co-ordinated action by Government, its advisers, Telecom and its employees, manufacturers and industry associations over several years.

National Telecommunications Advisory Council

- 13.7 In Chapter 12, the Committee has recommended establishment of a statutory National Telecommunications Advisory Council to assist the Minister in his planning and development of Australia's telecommunications. That Advisory Council would include representatives from relevant industry sectors as well as the public sector participants in telecommunications. The Committee considers that the Advisory Council could assist Government in obtaining advice and supervising the changes recommended in the Committee's Report.
- 13.8 The Committee notes that the usual practice of Government is to establish an Inter Departmental Committee (IDC) to examine and advise on recommendations included in the Report of a Committee of Inquiry. Such IDC examinations may extend over many months and sometimes years. IDC operations rarely include inputs from industry.
- 13.9 The Committee cautions against the use of the IDC mechanism in implementing the Report on Telecommunications Services in Australia. The broad thrust of the Committee's recommendations is that there should be far less public regulation over telecommunications services and far fewer bureaucratic controls over Telecom. To invite the Government's own bureaucracy to endorse those recommendations and to supervise their implementation would create a conflict of interest.
- 13.10 If necessary, the National Telecommunications Advisory Council could be appointed by executive action pending passage of the new Telecommunications Act.

TRANSITIONAL PROCEDURES

Terminal equipment

- 13.11 In Chapter 3 of its Report, the Committee recommends open competition in the supply, installation (including wiring) and maintenance of terminal equipment. The Committee also recommends that responsibility for the setting of equipment and interconnection standards be transferred from Telecom to an independent Standards Authority and that the Standards Association of Australia (SAA) be so designated. Installation of the more complex terminal equipment should be undertaken by appropriately qualified persons. The establishment of a Technician Licensing Board to supervise that aspect of skills development is also recommended.
- 13.12 Specific transitional arrangements are necessary to permit these new institutional structures to be effective before the terminals market can be effectively liberalised.

- 13.13 The Committee's proposals for a new Telecommunications Act impose special obligations on the new Standards Authority immediately to publish in a readily accessible form suitable for public usage the 'standards' or other technical documentation presently used by Telecom in its current regulation of terminal equipment. The statute provides that this documentation be adopted as interim standards and to continue in force until such time as the Standards Authority develops replacement standards under its own public access procedures.
- 13.14 Development of Telecom's own standards documentation into a form suitable for readily accessible public usage will take some time to complete. The Committee considers that Government should allow a period of 12 months before the full SAA procedures and related changes in the terminal equipment market are implemented.
- 13.15 Similar development timetables are also necessary for the commencement of operations of the proposed Technician Licensing Board.

Network interface

- 13.16 The Committee recommends that Telecom adopt as its network interface a standard terminating junction box (TJB) located external to the subscriber's premises. This would permit internal household wiring and terminal equipment installation to be carried out by qualified persons other than Telecom. The use of a standard plug and socket configuration at the installation point within the subscriber's premises is also recommended by the Committee: this should be incorporated in initial technical standards which will need to be available before liberalisation of the terminals market can occur. TJB's should be phased in by making their installation mandatory for new connections and for rewiring within premises of existing subscribers.
- 13.17 The Committee also recommends that Telecom write off the capitalised cost of existing wiring within subscribers' premises and should extend to subscribers the options of purchase at net book value or rental of existing telephones and other terminal equipment.
- 13.18 These initiatives must be implemented within the overall timetable suggested for terminal market liberalisation. The initiatives should not be left for Telecom's own implementation. Government should oversee implementation.

Telecom Australia Limited and an independent telecommunications equipment company

- 13.19 The incorporation of Telecom and the separation of staff, assets and liabilities associated with the terminal equipment markets will require extensive reorganisation and consultation with staff, manufacturers and user groups. Telecom's contractual arrangements with manufacturers for supply of terminal equipment must also be honoured.

- 13.20 The Committee considers that implementation arrangements should permit completion of these changes within two years.

Recommendations

- 13.21 The Committee recommends that:

- . ENACTMENT OF THE NEW TELECOMMUNICATIONS LEGISLATION SHOULD HAVE FIRST PRIORITY.
(R100)

Role of Advisory Council

- . THE PROPOSED NATIONAL TELECOMMUNICATIONS ADVISORY COUNCIL SHOULD ASSIST GOVERNMENT BY SUPERVISING IMPLEMENTATION.
(R101)

Telecom's existing standards

- . TELECOM'S EXISTING STANDARDS FOR TELECOMMUNICATIONS EQUIPMENT SHOULD BE ADOPTED BY THE STANDARDS AUTHORITY AS 'INTERIM' STANDARDS TO BE PUBLISHED WITHIN ONE YEAR.
(R102)

Timing of liberalisation

- . LIBERALISATION OF THE TERMINAL EQUIPMENT MARKET NOT OCCUR UNTIL:
 - (a) 'INTERIM' STANDARDS ARE PUBLISHED BY THE STANDARDS AUTHORITY;
 - (b) THE TECHNICIAN LICENSING BOARD HAS COMMENCED OPERATIONS;
 - (c) TELECOM STAFF, ASSETS AND LIABILITIES HAVE BEEN TRANSFERRED TO TELECOM AUSTRALIA LIMITED OR THE PROPOSED INDEPENDENT TELECOMMUNICATIONS EQUIPMENT COMPANY;
 - (d) TELECOM WRITES OFF INTERNAL HOUSEHOLD WIRING AND OFFERS SUBSCRIBERS THE OPTION OF PURCHASE OR RENTAL OF EXISTING TELEPHONE HANDSETS;
 - (e) STANDARDS ARE AVAILABLE FOR STANDARD TERMINATING PLUG AND SOCKET CONFIGURATIONS AT TERMINAL INSTALLATION POINT AND FOR A STANDARD TERMINATING JUNCTION BOX FOR A NETWORK INTERFACE EXTERNAL TO SUBSCRIBER PREMISES.
(R103)

APPENDIX A

STATISTICAL INFORMATION

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Telecom's Organisational Structure

Figure 1A: Headquarters Structure

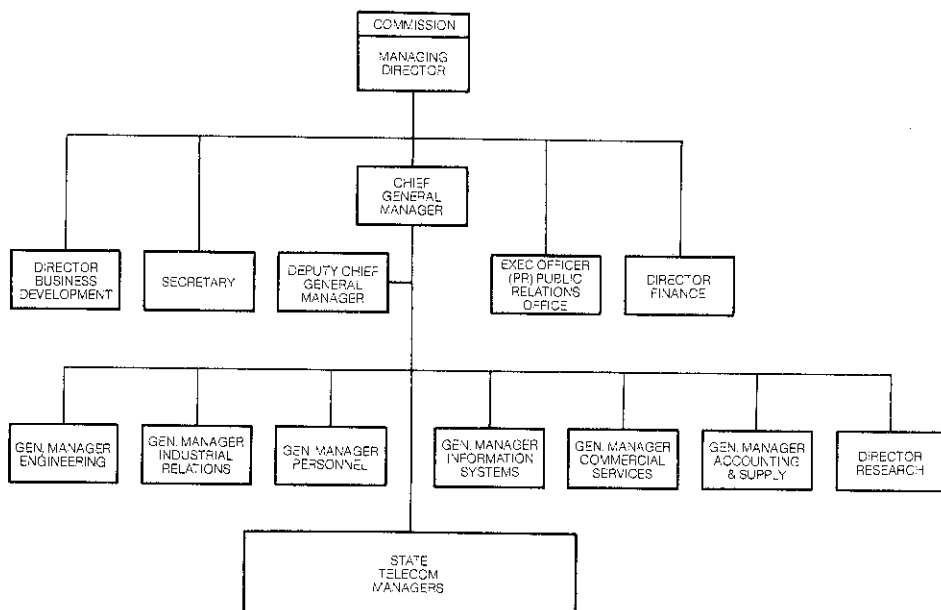


Figure 1B: Typical State Structure

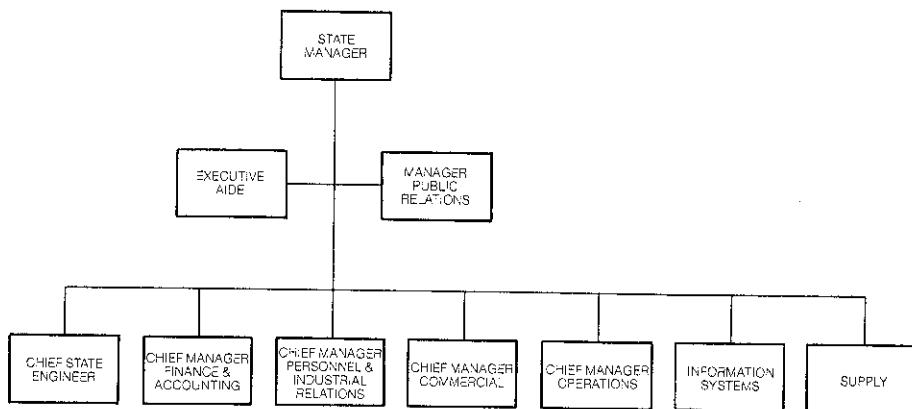


Table 2: Telecom's Balance Sheet as at 30 June 1981

	1981	1980
	\$ 000's	\$ 000's
	\$ 000's	\$ 000's
NET ASSETS		
Fixed Assets		
Communications Plant	10 301 619	9 651 180
Land and Buildings	966 263	895 621
Motor Vehicles	153 329	136 984
Other Plant and Equipment	278 650	242 638
	<u>11 699 861</u>	<u>10 926 423</u>
(Less) Provision for Depreciation	3 501 703	3 334 448
	8 198 158	7 591 975
Stores	253 952	217 757
Current Assets		
Cash	19 596	14 919
Investments	60 200	65 182
Debtors	256 530	205 095
Accrued Earnings	350 198	328 035
Prepayments	9 792	6 551
	<u>696 316</u>	<u>619 782</u>
(Less) Current Liabilities		
Creditors	211 477	161 752
Advance Receipts	162 974	152 286
Telecom Notes	70 000	20 000
Bank	14 387	-
	<u>458 838</u>	<u>334 038</u>
Net Current Assets	237 478	285 744
(Less) Long Term Liabilities		
Long Service Leave Provision	315 836	284 210
Superannuation Provision	339 177	213 569
	655 013	497 779
	<u>8 034 575</u>	<u>7 597 697</u>
FINANCED BY:		
Long Term Borrowings		
Advances from the Commonwealth	4 566 197	4 566 197
Telecom Loan Stock	1 044 586	840 195
	5 610 783	5 406 392
Reserves		
General Reserve	1 136 264	903 777
Asset Revaluation Reserve	1 287 528	1 287 528
	2 423 792	2 191 305
	<u>8 034 575</u>	<u>7 597 697</u>

Source: Telecom Annual Report 1980--81

Table 3: Telecom's Profit and Loss Statement year ended 30 June 1981

	1981		1980
	\$ 000's	\$ 000's	\$ 000's
<hr/>			
EARNINGS			
Telephone Rents	674 102		602 655
Telephone Calls	1 533 172		1 355 373
Telephone Connection			
Fees and Rearrangement			
Charges	119 556		102 091
Telgrams	33 005		32 497
Telex Rents	29 830		25 644
Telex Calls	29 345		28 936
Other Earnings	<u>190 430</u>		<u>133 613</u>
		2 609 440	2 280 809
EXPENSES			
Maintenance of Plant	644 515		576 760
Operating	482 387		399 873
General and Administrative	191 762		178 739
Accommodation	116 484		99 382
Depreciation	533 680		447 383
Interest	<u>408 125</u>		<u>367 127</u>
		<u>2 376 953</u>	<u>2 069 264</u>
RETAINED PROFIT (Transferred to		232 487	211 545
General Reserve)			
<hr/>			

Source: Telecom Annual Report 1980--81

Table 4: Summary of financial performance by product type 1980--81

PRODUCT TYPE(1)	EARNINGS \$000	EXPENSES \$000	SURPLUS (DEFICIT) \$000	INVESTMENT		RETURN ON INVESTMENT %
				FIXED ASSETS	IN DEP. \$000	
1. Basic Telephone Facility -- Metropolitan	339 969	372 154	(32 185)	1470 436		(2.2)
A. Business services	104 065	91 320	12 745	389 471		3.3
B. Non business services	235 904	280 834	(44 930)	1080 965		(4.2)
2. Basic Telephone Facility -- Country	193 301	382 049	(188 748)	1557 935		(12.1)
A. Business services	66 852	116 963	(50 111)	491 366		(10.2)
B. Non business services	126 449	265 086	(138 637)	1066 569		(13.0)
4. Local Call Service -- Metropolitan	346 411	345 891	520	1436 471		0.04
5. Local Call Service -- Country	167 522	230 777	(63 255)	763 030		(8.3)
6. Trunk Call Service	1039 548	439 423	600 125	1194 967		50.2
7. Vertical Services	262 356	362 678	(100 322)	654 656		(15.3)
A. Public Telephones	5 900	49 232	(43 332)	67 103		(64.6)
B. Leased Coin Telephones(2)	1 427	11 968	(10 541)	18 191		(57.9)
C. PBX's(2)	49 861	53 974	(4 113)	88 311		(4.7)
D. Other(2)	205 168	247 504	(42 336)	481 051		(8.8)
8. Private Line and Network Services(3)	68 118	51 680	16 438	227 084		7.2
TELEPHONE SERVICES (1--8)						
9. Public Telegraph Service	2417 225	2184 652	232 573	7304 579		3.2
10. Telex Service	34 143	55 354	(21 211)	30 471		(69.6)
A. Telex subscriber services	63 649	54 237	9 412	177 367		5.3
B. Telex call service	33 900	35 393	(1 493)	125 898		(1.2)
11. Telegraph Private Wire Services	29 749	18 844	10 905	51 469		21.2
	7 920	11 525	(3 605)	39 825		(9.1)
TELEGRAPH SERVICES (9--11)						
13. Other Data Services	105 712	121 116	(15 404)	247 663		(6.2)
DATA SERVICES						
14. Directory Publications	11 677	16 100	(4 423)	38 997		(11.3)
	74 826	55 084	19 742	736		2682.3
TOTAL TELECOM SERVICES	2609 440	2376 952	232 488	7591 975		3.1

(1) Product type numbers 3 and 12 are reserved

(2) Other subs equipment in addition to the basic telephone facility

(3) Excluding telegraph

Source: Telecom data

Table 5: Total annual capital expenditure expressed as percentage of Telecom annual revenue

YEAR ENDED 30 JUNE	CAPITAL EXPENDITURE (ADDITIONS TO FIXED ASSETS)	PROPORTION OF CAPITAL EXPENDITURE TO REVENUE
	\$M	%
1977	898	54
1978	937	50
1979	923	45
1980	1 003	44
1981	1 164	45

Source: Telecom Annual Report 1980--1981 and Committee analysis

Table 6: Sources of funds 1976--77 to 1980--81

SOURCE OF FUNDS	1976--77 \$M	1977--78 \$M	1978--79 \$M	1979--80 \$M	1980--81 \$M
<u>External</u>					
From the Commonwealth	215.0	65.0	--	--	--
From the public	193.7	200.3	177.6	268.6	204.6
<u>Internal</u>					
Net trading result	164.4	184.9	190.5	211.5	232.5
Plus non-cash charges:					
Depreciation	340.8	372.3	416.4	454.5	542.0
Excess of liability over cash payments for:					
-- long service leave	7.1	10.3	15.4	16.4	19.4
-- superannuation	--	--	66.5	44.4	70.1
TOTAL	921.0	832.8	866.4	955.4	1068.4

Source: Telecom Annual Report 1980--81

Table 7: Telecom's earnings and expenses: 1976--77 to 1980--81

YEAR ENDED 30 JUNE	EARNINGS \$M	EXPENSES \$M
1977	1675.0	1510.6
1978	1856.5	1671.6
1979	2044.4	1853.9
1980	2280.8	2069.3
1981	2609.4	2376.9

Source: Telecom Annual Report 1980--1981

Table 8: Telecom fixed assets as at 1 July 1980

CATEGORY	ASSET CODE	GBV \$M	ACCUMULATED DEPRECIATION \$M	PROPORTION OF TOTAL			MATERIAL CONTENT %	DEPRECIATION RATE ON GBV %
				GBV	NEBV	NEBV		
Customer Instrument	XI	1135	362	773			41	10
Customer PABX	XX	133	51	82			60	10
Customer Carrier Equipment	XZ	5	2	3			46	9
Customer Cables Dist.	XD	1892	604	1288			17	4
Customer Cables M.	XU	887	351	536			36	3.3
Customer Radio Equipment	XR	19	3	16			52	6.7
Customer Ducts & Conduits	XC	904	104	800			16	1.7
Customer Aerial W.	XW	87	45	42			14	6.7
SUB TOTAL		5062	1522	3540		46.6		
Customer Exchange Equipment	XE	2425	807	1618		21.3	43	4
Junction Carrier Equipment	QZ	166	66	100			51	5
Junction Cables	QU	479	140	339			35	2.8
Junction Radio	QR	7	1	6			37	4.5
Junction Aerial	QW	26	18	8			18	6.7
SUB TOTAL		678	225	453		6.0		
Trunk Switchboard	TX	344	105	239			52	4
Trunk Carrier	TZ1	423	195	228			52	5
Trunk Radio	TR	204	69	135			54	4.5
Trunk Cables	TU	186	45	141			30	2.5
Trunk Aerials	TW	52	31	21			16	6.7
SUB TOTAL		1209	445	764		10.1		
Trunk Carrier Telegraph	TZ2	26	11	15			64	5
Trunk Equipment	GE	191	61	130			70	14
Data Transmission	DE	60	18	42			63	14
SUB TOTAL		277	90	187		2.4		
TOTAL COMMUNICATIONS PLANT		9651	3089	6562			48	
Land and Buildings		896	115	781				
Other Assets		379	130	249				
SUB TOTAL		1275	245	1030		13.6		
GRAND TOTAL		10926	3334	7592		100		

Depreciation figure in brackets is average for that group of assets.

Source: Committee analysis of Telecom data

Table 9: Telecom asset additions: 1980--81

ASSET CODE	MATERIAL \$M	LABOUR INCIDENTALS AND O/H \$M	TOTAL \$M	PROPORTION OF TOTAL ASSET ADDITIONS %
XI	91.3	132.9	224.2	
XX	5.2	3.4	8.6	
XZ	1.6	1.9	3.5	
XD	37.6	178.2	215.8	
XU	18.9	33.2	52.1	
XR	6.6	6.1	12.7	
XC	13.5	67.9	81.4	
XW	0.4	2.2	2.6	
	175.1	425.8	600.9	59.4
XE	103.0	138.3	241.3	23.8
QZ	4.9	4.7	9.6	
QU	4.3	7.9	12.2	
QR	0.6	0.9	1.5	
QW	--	0.2	0.2	
	9.8	13.7	23.5	2.3
TX	16.6	16.0	32.6	
TZ1	8.9	8.3	17.2	
TR	9.6	8.2	17.8	
TU	1.4	3.2	4.6	
TW	0.2	1.3	1.5	
	36.7	37.0	73.7	7.3
TZ2	1.4	0.8	2.2	
GE	35.2	14.9	50.1	
DE	12.8	7.6	20.4	
	49.4	23.3	72.7	7.2
TOTAL	374.0	638.1	1012.1	100.0

Source: Telecom data

Table 10: Numerical breakdown of leased lines in use by category at
30 June 1982(1)

TYPE OF LINE	NO. LINES	NO. CUSTOMERS
Telephone tie lines	17 000	4 310
Sound broadcast lines	7 800	800
Data private lines	27 060	n/a
Television relays	275	100
Telegraph private lines	n/a	n/a
Wideband services (non television; non sound broadcast; full time)	58	27
Outdoor extensions (ODX's)	120 000	36 000
Other private lines	126 000	25 000
Total	298 193(2)	66 237(3)

(1) Figures represent estimates only

(2) excludes telegraph

(3) excludes data and telegraph

Source: Telecom data

Table 11: Distribution of revenue from leased lines on trunk/local route by category at 30 June 1982(1)

TYPE OF LINE	LOCAL %	TRUNK %	TOTAL %
Telephone tie lines	38.7	61.3	100.0
Sound broadcast lines	39.8	60.2	100.0
Data private lines	30.0	70.0	100.0
Television relays	8.9	91.1	100.0
Telegraph private lines	23.8	76.2	100.0
Wideband services (non television, non sound broadcast; full time)	75.0	25.0	100.0
Outdoor extension (ODX's)	100.0	--	100.0
Other private lines	86.5	13.5	100.0

(1) Figures represent broad estimates only

Source: Committee analysis of Telecom data

Table 12: Breakdown of leased line revenue at 30 June 1982(1)

TYPE OF LINE	PROPORTION OF	PROPORTION OF	PROPORTION OF
	TOTAL LOCAL REVENUE %	TOTAL TRUNK REVENUE %	TOTAL REVENUE %
Telephone tie lines	7.8	14.1	10.7
Sound broadcast lines	4.1	7.1	5.5
Data private lines	14.0	37.2	24.8
Television relays	1.9	22.5	11.5
Telegraph private lines	3.5	12.8	7.8
Wideband services (non television; non sound broadcast; full time)	0.7	0.2	0.5
Outdoor extensions (ODX's)	34.0	--	18.2
Other private lines	34.0	6.1	21.0
Total	100.0	100.0	100.0

(1) Figures represent broad estimates only

Source: Committee analysis of Telecom data

Table 13: Equipment authorised to be attached to the network

1. ALL EQUIPMENT OTHER THAN PABX SYSTEMS AND DATA

CATEGORY NO.	CATEGORY TITLE
<hr/>	
1	Office Equipment Non-Electrical Devices
2	Alarm Systems for Private Lines
3	Automatic Dialling Alarm Apparatus
4	Repertory Dialling Apparatus
5	Automatic Call Transfer Dialling Apparatus
6	Acoustically Coupled Apparatus (Analog)
7	Data Transmission
8	Digital Transmission (Acoustically Coupled)
9	Central Dictating Systems PABX's or PMBX's
10	Spare
11	Private Line Amplifiers and PA Systems
12	Miscellaneous Devices
13	Pre-Recorded Information Equipment
14	Audible Indicators (Automatic Answering)
15	Telephone Answering Only Machines (Subscribers)
16	Telephone Answering and Message Recording Machines
17	Conversation Recorders
18	Handicapped Persons' Apparatus
19	Radiotelephone Apparatus Attached to Landlines
20	PAX and Intercommunication Equipment (Private Lines Only)
21	Music Distribution Systems
22	Broadcasting and TV Apparatus
23	Telegraph Apparatus
24	Transcribing Transmitters and Receivers
25	Facsimile and Picturegram Apparatus
26	Telemetry and Remote Control and Indicating Apparatus
27	Security Apparatus
28	Dial Attachments
29	Decorative Telephone Covers and Cords
30	Decorative Telephone
31	Flameproof Telephones and Telephones for Dangerous and Unsuitable Areas
32	Loudspeaking Telephones
33	Component Approval (Engineering Departments Use Only)
34	Repertory Dialler/Loudspeaking Telephones
35	Cordless Telephone
36	Radio Pagers
37	Privately Supplied Modems
38	Slow Scan TV Services
70	Telephone Information and Management Systems (TIMS)
71	Multi Line Telephone Answering Systems
72	Hotel Telephones
73	Country Fire Authority Alarms
74	Private Line Relay Sets
75	Telephone Answering Services

2. PABX SYSTEMS

Electromechanical PABX Systems
SPC PABX Systems
Electromechanical SPC ACD Systems
System Independent TMS
Transit Switching Systems

3. DATA EQUIPMENT

CATEGORY NO.	CATEGORY TITLE
-----------------	-------------------

8	Acoustic Couplers (Allow Acoustic Coupling of Data Transmissions to Telephone Instruments)
23	Telegraph Apparatus
25	Facsimile and Picturegram Apparatus
26	Telemetry Apparatus
27	Secure Equipment (for Defence Dept)
38	Slow Scan TV
37	Privately Supplied Modems
7	Data Terminal Equipment (These include configurations as well as individual equipment permits)

Source: Telecom submission, Annex 4

Table 14: Telecommunications investment as a share of GFCF(1)

COUNTRY	1976 %	1977 %	1978 %	1979 %	1980 %
Australia (2)	43.88	47.27	45.39	40.35	39.75
Canada (3)	--	--	--	--	--
France (3)	--	--	--	--	--
Japan (4)	29.09	26.09	28.56	25.89	23.70
Sweden (3)	13.07	13.78	15.43	16.87	18.76
United Kingdom (4)	42.77	34.97	31.34	33.08	34.25
United States (3)	46.52	42.00	45.03	45.84	49.17
West Germany (3)	24.03	23.08	25.17	26.01	28.46

Notes: (1) Gross fixed capital funds

(2) year ended 30 June

(3) year ended 31 December

(4) year ended 31 March

Source: Yearbook of Common Carrier Telecommunications Statistics,
9th Edition, ITU, Geneva 1981

Table 15: Financial performance of telecommunications manufacturing companies: 30 June 1981(1)

	1981 \$000's
<hr/>	
WAGES(2)	189 859
TOTAL ASSETS EMPLOYED	438 806
TOTAL SALES	641 059
 RATIO OF WAGES TO SALES	 0.30

(1) Aggregates six (6) major companies

(1) Includes wages, salaries and supplements, superannuation liability

Source: Australian Electronics Industry Association and telecommunications manufacturing companies.

Table 16: Summary of average balance sheet profile(1): 1980--1981

INDUSTRY	LIABILITIES										ASSETS			
	SHARE- HOLDERS FUNDS	TRADE CREDI- TORS	SHORT TERM DEBT	TOTAL CURRENT LIABIL- ITIES		LONG TERM DEBT	TRADE DEBTORS		STOCK	TOTAL CURRENT ASSETS	INVEST- MENTS	DEFERRED ASSETS	FIXED ASSETS	
				%	%		%	%						%
TELECOM	26.5(2)	2.3	7.2	5.0	61.3		2.8		2.8	10.4	0.7	--	89.6	
Alcohol and Tobacco	66.7	7.7	6.4	23.5	7.5		9.7		17.0	33.4	6.5	2.5	54.1	
Automotive	50.5	12.7	9.6	34.9	9.7		20.2		37.6	63.1	4.5	4.1	28.1	
Building Materials	46.7	9.4	7.7	27.5	16.5		15.0		19.5	41.3	6.1	2.7	44.2	
Chemicals	48.9	9.2	9.4	28.5	14.8		17.7		24.1	47.0	5.3	2.0	45.3	
Developers and Contractors	42.3	21.2	10.3	38.5	16.9		16.9		16.2	40.1	10.0	39.7	9.7	
Diversified(3)	48.5	10.9	12.4	32.3	10.8		13.5		20.0	44.0	18.2	6.3	29.6	
Electrical	39.7	18.7	10.7	41.5	12.7		24.4		37.8	67.7	2.1	5.3	22.6	
Finance	12.8	1.4	43.5	47.4	37.1		23.8		0.0	28.6	1.1	69.1	1.2	
Food	49.9	13.1	10.3	34.2	11.5		18.5		25.1	48.6	4.2	3.2	42.2	
Fuel	58.9	6.2	5.1	19.2	13.2		7.6		14.7	33.2	11.3	3.1	51.0	
Light Engineering	47.2	14.7	9.8	35.7	12.4		27.3		32.8	64.0	3.5	3.3	27.5	
Media	44.2	13.4	7.9	32.5	13.3		17.5		8.7	33.2	18.6	9.2	34.4	
Metals	59.0	5.2	4.5	17.9	9.3		6.6		10.7	24.1	20.5	2.0	52.6	
Paper and Packaging	51.6	8.7	8.0	32.3	11.1		15.2		23.0	46.6	5.4	1.8	45.8	
Pastoral(3)	44.1	14.7	12.4	37.1	13.8		18.5		17.1	47.9	3.9	1.1	43.8	
Retail	52.6	14.3	8.5	34.3	9.8		6.7		30.4	44.5	3.2	3.8	47.4	
Steel & Heavy Eng.	57.0	14.8	6.8	33.2	6.9		22.4		31.3	58.9	9.8	3.4	27.1	
Textiles	54.7	12.8	8.7	34.6	4.8		21.1		39.4	67.5	2.0	2.6	27.1	
Transport	47.9	9.5	5.0	29.8	19.0		19.7		2.4	33.3	17.1	3.4	43.4	
AVERAGE ALL COMPANY														
SAMPLE(3)(4)	53.2	9.8	7.4	27.0	12.0		12.8		19.1	39.6	11.2	4.1	43.1	

(1) Each item is a ratio of Total Assets.

(2) Reserves

(3) Finance Companies, Consolidated Press, Capel Court & Elder Smith GM have been excluded as their money market and financing operations would have distorted the results.

(4) Excludes Telecom

Source: Financial & Profitability Study: 1982, Sydney Stock Exchange Ltd, Research Dept, Sydney, 1982.

Table 17: Summary of average profit & loss account profile(1): 1980--1981

INDUSTRY	OPERATING EXPENSES	DEPRE- CIATION	TRADING PROFIT	INVESTMENT				EBIT	INTEREST	TAX	NET PROFIT	ORDINARY DIVIDEND	RETAINED EARNINGS
				%	%	%	%						
Telecom	62.3	20.5	37.7	7.3	24.5	15.6	0	8.9	n/a	8.9	8.9		
Alcohol and Tobacco	90.7	1.5	7.9	0.2	8.0	0.9	3.2	3.9	2.2	1.7	1.7		
Automotive	92.0	1.7	6.4	0.2	6.5	1.4	2.5	2.6	1.3	1.1	1.1		
Building Materials	84.9	3.3	12.2	1.0	12.8	2.7	4.1	6.0	2.4	2.9	2.9		
Chemicals	86.1	3.9	10.1	1.1	11.1	2.4	4.0	4.7	2.4	1.9	1.9		
Developers and Contractors	92.5	0.6	8.1	2.0	8.9	3.2	2.2	3.5	1.7	1.7	1.7		
Diversified(2)	91.0	1.7	8.2	2.2	9.5	2.7	2.4	4.4	2.0	2.0	2.0		
Electrical	92.5	1.5	6.0	0.3	6.3	1.9	2.0	2.4	1.1	1.2	1.2		
Finance(3)	--	--	100.0	11.4	11.4	84.1	10.8	16.5	5.2	9.9	9.9		
Food	92.1	1.6	6.3	0.3	6.6	1.4	2.3	2.9	1.5	1.4	1.4		
Fuel	78.1	4.6	17.3	2.4	19.7	2.9	6.8	10.0	2.9	6.9	6.9		
Light Engineering	90.5	1.2	8.5	0.4	8.7	2.1	2.7	3.9	1.7	2.0	2.0		
Media	86.8	2.1	12.2	2.4	13.5	2.8	4.4	6.3	2.1	3.7	3.7		
Metals	74.6	7.5	19.7	5.5	23.4	2.8	8.6	12.0	6.9	3.5	3.5		
Paper and Packaging	87.2	3.2	10.0	1.3	10.9	1.8	3.9	5.2	2.7	2.2	2.2		
Pastoral(2)	93.3	1.0	5.9	0.5	6.2	1.5	2.3	2.4	1.4	1.0	1.0		
Retail	94.8	1.0	4.3	0.3	4.5	0.9	1.6	2.0	1.0	0.9	0.9		
Steel & Heavy Eng.	90.8	1.1	8.6	1.1	9.2	1.6	3.2	4.4	1.6	2.7	2.7		
Textiles	89.4	1.6	9.4	0.5	9.5	1.2	3.4	4.9	2.2	2.4	2.4		
Transport	88.1	3.7	10.3	2.9	11.1	2.2	3.4	5.5	2.0	3.3	3.3		
AVERAGE ALL COMPANY SAMPLE(2)(4)	87.9	2.6	10.0	1.5	11.0	2.0	3.7	5.3	2.3	2.6	2.6		

(1) Each item is a ratio of sales.

(2) Finance Companies, Consolidated Press, Capel Court & Elder Smith GM have been excluded as their money market and financing operations would have distorted the results.

(3) The Finance Industry profile of an average Profit & Loss Account is based on % of Trading Profit, not % of Sales as in all other industries and the average all company sample.

(4) Excludes Telecom

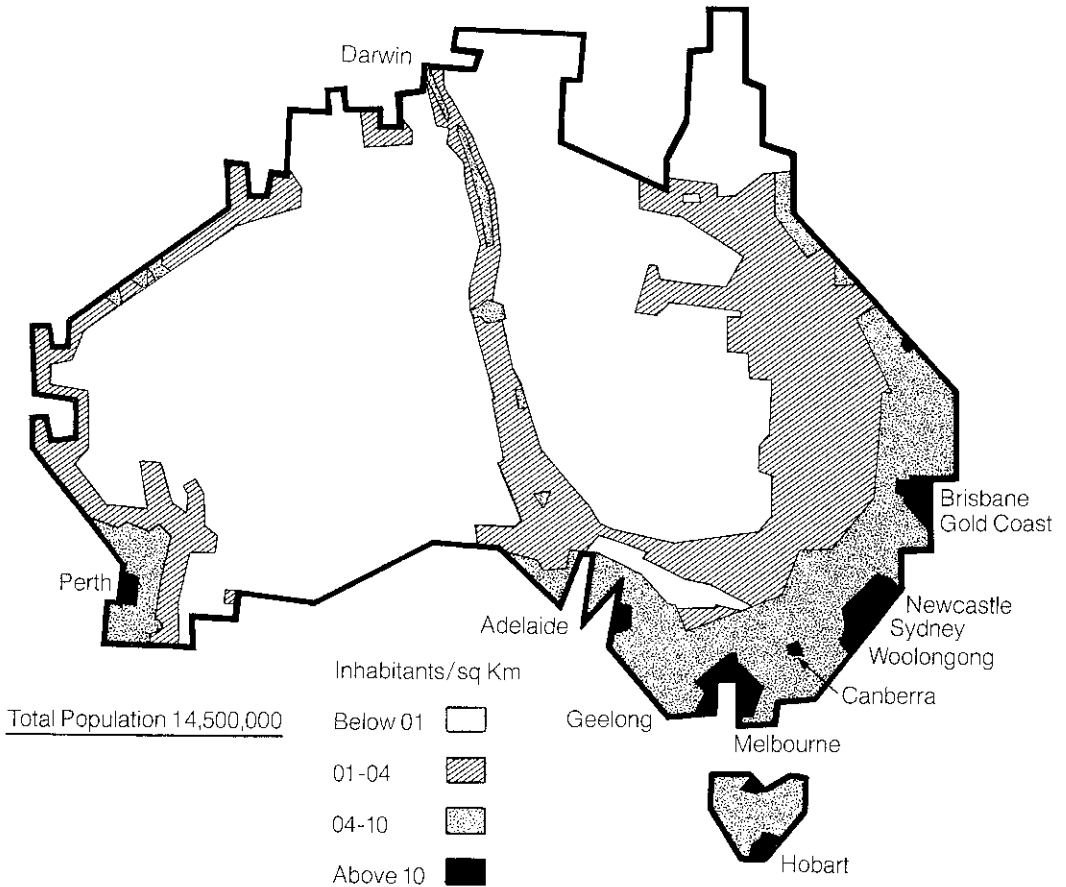
Source: Financial and Profitability Study: 1982, The Sydney Stock Exchange Ltd, Research Dept, Sydney, 1982.

Table 18: Profile of an average Stock Exchange listed company and Telecom

1. Tables 16 and 17 provide an analysis, in percentage form, of the profit and loss accounts and balance sheets of the companies used in the Stock Exchange profitability study. Relevant data has been extracted from the Telecom financial accounts and included.
2. Profiles of an average company are displayed for each of eighteen industry groups (Diversified was excluded). The tables displaying summaries of Balance Sheet and Profit and Loss Account items for each industry in the 1980--81 year appear with an average for the all company sample.
3. An examination of the tables with the sample gave rise to the following observations:
 - . A high ratio of fixed assets to total assets, which was evidenced in the Alcohol & Tobacco, Fuel and Metals Industries, as well as Telecom, is indicative of capital intensive operations.
 - . The Fuel, Metals, Alcohol & Tobacco, Textiles and Steel & Heavy Engineering Industries all exhibited a high ratio of shareholders' funds. A corresponding low ratio of total debt was also recorded by these industries highlighting the low financial gearing policy adopted by management. Telecom has the highest debt ratio compared to all industries.
 - . A high ratio of current assets highlights the trading nature of half the industries under examination with the most notable being Automotive, Electrical, Light Engineering, Steel & Heavy Engineering and the Textiles Industries. In comparison Telecom has the lowest ratio of current assets.
 - . The low ratio of trade debtors combined with the high ratio of stock and low operating margin on sales in the Retail Industry is indicative of high stock turnover mainly on a cash basis.

Source: Financial and Profitability Study: 1982, Sydney Stock Exchange Ltd, Research Dept, Sydney, 1982.

Figure 19: Population distribution in Australia.



POPULATION DISTRIBUTION IN AUSTRALIA

Companies Act 1981

A Company Limited by Shares

MEMORANDUM AND
ARTICLES OF ASSOCIATION
OF
TELECOM AUSTRALIA LIMITED

A Company Limited by Shares

MEMORANDUM OF ASSOCIATION

OF

TELECOM AUSTRALIA LIMITED

1. The name of the company is Telecom Australia Limited.
2. The objects for which the company is established are:
 - (a) to carry on any business enterprise or undertaking in any sphere of activity which is permitted by law and which the directors deem to be in the interests of the company;
 - (b) without limiting the foregoing to carry on any business relating to telecommunication services in Australia;
 - (c) to perform services for the Commonwealth of Australia or the government of a State or Territory;
 - (d) to provide telecommunication systems and services to the Overseas Telecommunications Commission, pursuant to section 76 and 77 of the Overseas Telecommunications Act, 1946;
 - (e) to secure effective provision of telecommunication systems and services in Australia and in connection or in consequence of such provision, to do anything that appears to the company necessary, advantageous or convenient for it to do, including in particular (but without prejudice to the generality of the foregoing) power:-
 - (i) to form or participate with other persons in the formation of, or to acquire, hold or dispose of shares or stocks in the capital of, or debentures or other securities of any company which has an an object the provision of telecommunication services;
 - (ii) to enter into any partnership or arrangement for the sharing of profits with any company, in relation to the provision of telecommunication services;
 - (iii) to enter into any carry out agreements with any person for the carrying on by him, whether as agent or otherwise, of any of the activities which the Company may carry on itself or for the carrying on jointly by him and it of any of those activities;

- (iv) to dispose (whether absolutely or by licence for a term of years) for cash or stock shares or securities of any other company any part of its undertaking or any property which in the sole opinion of the directors of the company is not required by it to maintain the position of the company as the principal national common carrier, as authorised by the Telecommunications Act 1988;
- (v) to promote research into telecommunication systems and terminal equipment and to provide assistance to any institution or person who in its opinion is conducting such research as will inure for the company's benefit;
- (f) to perform or do any or all of the following operations acts or things as an object itself or as a power incidental to an object of the company:
 - (i) to pay all the costs charges and expenses of the promotion and establishment of the company;
 - (ii) to remunerate any person or company by brokerage or otherwise for services rendered or to be rendered in placing any shares securities or obligations of the company;
 - (iii) to acquire by purchase hire lease exchange or otherwise and for cash or shares or debentures or any other consideration

the whole or any part of the business property and liabilities of any person or body of persons whether corporate or unincorporated;

lands buildings easements licences and other rights or interests in or over real or leasehold estates;

plant machinery goods and other personal estate and effects;

patents patent rights or inventions copyrights designs trade marks secret processes technical information licences franchises and other rights privileges and concessions;

shares stock bonds debentures units sub-units loan notes deposit notes and other securities or obligations in or of or constituted or created by any company undertaking authority or corporate body;

- (iv) to sell let dispose of grant rights over or otherwise deal with all or any property or rights of the company for cash or upon terms or for shares debentures or any

other consideration and upon any terms and conditions thought desirable;

- (v) to erect and maintain telecommunication installations buildings factories plant and machinery and other works for the purposes of the company;
- (vi) to subdivide land make and maintain bridges culverts drains and other works make open and dedicate roads and give land or other property or grant easements for any public purpose;
- (vii) to make experiments and conduct research in connection with any business of the company and to protect any inventions by letters patent or otherwise;
- (viii) to grant licences to use patents copyrights designs or secret processes of the company;
- (ix) to manufacture import or export plant machinery tools appliances accessories goods and things for use or sale or for any other purpose of the company;
- (x) to provide and carry on any service including transport and the supply of water steam gas and electricity or any other commodity or substance and to do anything necessary or convenient in relation to any such service;
- (xi) to draw accept and negotiate bills of exchange promissory notes and other negotiable instruments;
- (xii) so far as the law will permit to underwrite the shares stock or securities of any other company and to pay underwriting commissions and brokerage on any shares stock or securities issued by the company;
- (xiii) to invest the funds of the company in and (if thought fit) to sell and deal in shares stock debentures debenture stock mortgages bonds loan or deposit notes unit trust certificates units sub-units or interests or other obligations and securities of any company government governmental corporation or authority or person whatsoever or in such other manner as the directors may from time to time think fit and whether by way of original subscription purchase tender exchange or otherwise;
- (xiv) to exercise and enforce all rights and powers conferred by or incidental to the ownership of any property of the company;
- (xv) to borrow or raise money or receive money on deposit either without security or secured as hereinafter provided;

- (xvi) to secure the payment of money or the fulfilment of obligations by debentures debenture stock (perpetual or terminable) mortgage equitable charge or other security charged on all or any part of the undertaking property assets and rights of the company including its uncalled capital and to issue debentures debenture stock bonds obligations and securities of all kinds and to frame constitute and secure the same as may seem expedient with full power to make the same transferable by delivery or by instrument of transfer or otherwise and either perpetual or terminable and either redeemable or otherwise and to charge or secure the same by trust deed or otherwise on the whole or any part of the undertaking of the company or upon any specific property and rights present and future of the company (including if thought fit uncalled or unpaid capital) or otherwise howsoever;
- (xvii) to lend money with or without security;
- (xviii) to guarantee the contracts or liabilities of any person or body of persons whether corporate or unincorporated and to grant security for any such guarantee in any manner whatsoever;
- (xix) to apply or obtain licences to maintain and operate telecommunication systems in Australia and elsewhere;
- (xx) to promote companies for any purpose whatsoever;
- (xxi) to grant easements licences and other rights and privileges with or without consideration including the leasing of lines for telecommunication services;
- (xxii) to fix vary exact or waive fees or charges in respect of the interconnection of telecommunication systems provided by the company with another telecommunication system licensed under the Telecommunications Act, 1988;
- (xxiii) to obtain support for or oppose any Act or Acts of Parliament or other statutory enactment rule order instrument licence privilege exemption or authority as may seem to the directors to be expedient in the interests of the company;
- (xxiv) to provide housing accommodation and health educational recreational and other amenities and facilities for workmen and others employed by the company or for communities of persons residing in or near any of the company's properties;
- (xxv) to promote and assist by donations subsidies or contributions or otherwise clubs institutes and associations whether industrial social political patriotic or otherwise;

- (xxvi) to enter into any arrangements or contracts with any governmental municipal or other authority or with any person or body of persons whether corporate or unincorporated for any of the purposes of the company and to appoint such person or body of persons the agent of the company for the sale of its products or for any other purpose;
- (xxvii) to hold or promote competitions of any description authorised by law which may be calculated to increase the business of the company or to advertise by any means whatsoever or promote the sale of any of its products or services and to give prizes in connection with such competitions or otherwise consisting of cash life or other annuities scholarships or other terminable payments shares or other choses in action gifts in kind or any other description of bonus or reward or any rights privileges or advantages;
- (xxviii) to appoint attorneys for and on behalf of the company and to execute the necessary powers to the said attorneys to act for and in the name and on behalf of the company and to revoke all or any of such powers and appointments as may be deemed expedient or advisable and to appoint trustees or trustee personal or corporate of the company's property or any part of it;
- (xxix) to give grant and confer pensions allowances gratuities and bonuses to directors employees ex-directors ex-employees or other persons who have served or worked for or directed or assisted in directing or aided the affairs of the company or its predecessors in business or the dependants or connections of any of such persons: and also for the benefit of any of the aforesaid persons to establish or aid in the establishment of or join and to make contributions to retirement superannuation pension or provident funds or trusts in the nature thereof (whether established by the company or not and whether or not established or maintained solely for the benefit of the aforesaid persons); and to make payments for or towards insurance of any of the aforesaid persons or to procure the issue of or keep on foot any policies of insurance in connection with any of the aforesaid funds or trusts;
- (xxx) to effect insurances or assurances against risk or loss to the company howsoever arising and without limiting the foregoing against risk or loss arising out of accident to or illness or death of any director or employee of the company and to pay premiums on any such insurances or assurances;
- (xxxi) to subscribe to or otherwise aid benevolent charitable national or other funds institutions or objects which

are of a public character or which in the opinion of the directors have any moral or other claims to support by the company by reason of the nature or locality of their operations or otherwise;

- (xxxii) to make such arrangements or agreements as the directors may think fit with any of the officers or employees of the company for or in respect of the acquisition of any of the shares of the company;
- (xxxiii) to distribute in specie assets of the company properly distributable amongst its members whether by way of dividends bonus return of capital or otherwise subject to such sanction or confirmation as may be required by law;
- (xxxiv) to act as trustee and to undertake and execute trusts of all kinds and without limiting the generality of the foregoing to constitute any trust with a view to the issue of preferred or deferred or any other special stocks or securities based on or representing any shares stocks or other assets specifically appropriated for the purpose of any trust and to execute any trust and to issue dispose of or hold any such preferred deferred or other special stocks or securities;
- (xxxv) to take part in the formation management supervision or control of the business or operations of any company or undertaking in which this company may be interested or concerned and for that purpose to appoint and remunerate any directors accountants or other experts or agents;
- (xxxvi) to procure the company to be registered or recognised in or under the laws of any place outside the Territory of incorporation of the company;
- (g) to do all or any of the above things in any part of the world and as principals agents contractors trustees or otherwise and by or through trustees agents or otherwise and either alone or in conjunction with others;
- (h) to do all such other acts matters and things as in the opinion of the company may be incidental or conducive to the attainment of any of the foregoing objects or the exercise of any of the foregoing powers.

AND IT IS HEREBY DECLARED that in the interpretation of this clause the meaning of any of the company's objects shall not be restricted by reference to any other object or by the juxtaposition of two or more objects and that in the event of any ambiguity this clause shall be construed in such a way as to widen and not restrict the powers of the company. The powers set out in the Second Schedule to the Companies Act, 1981 shall apply so as to amplify and not in any way to restrict or limit the powers conferred by this clause.

3. The capital of the company is £
4. The liability of the members is limited.
5. The full names addresses and occupations of the subscribers hereto and the number of shares in the capital of the company which each of them respectively agrees to take are as follows:

<u>Names, addresses and occupations of subscribers</u>	<u>No. and class if application of shares</u>
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THE COMMONWEALTH OF AUSTRALIA
AND FOUR OTHERS

6. The subscribers are desirous of being formed into a company in pursuance of this Memorandum and respectively agree to take the number of shares in the capital of the company set out opposite their respective names in the last preceding paragraph.

Signatures of subscribers	No. and class if applicable of shares agreed to be taken	Witness
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DATED

COMPANIES ACT 1981

A COMPANY LIMITED BY SHARES

ARTICLES OF ASSOCIATION

of

TELECOM AUSTRALIA LIMITED

PRELIMINARY

1. In these Articles, unless such meaning or interpretation is excluded by or is inconsistent with the subject or context:

"the Code" means the Companies Act 1981 or any statutory re-enactment or modification thereof for the time being in force and any reference to any section or provision of the Code shall be deemed to include a reference to any statutory re-enactment or modification thereof for the time being in force;

"the Act" means the Telecommunications Act 1983;

"these Articles" means these Articles of Association as from time to time altered by special resolution;

"Board" means the directors of the Company for the time being or any of them acting as the board of directors of the Company.

"the Company" means the abovenamed company.

"dividend" means any sum arising from the division of the profits of the Company and includes bonus shares.

"the Minister" means the Minister of State for Communications for the Commonwealth or such other Minister of State for the time being administering the Act or acting for or on behalf of that Minister.

"month" means calendar month.

"Office" means the registered office for the time being of the Company.

"paid" means paid or credited as paid.

"Register" means the register of members of the Company.

"Seal" means the common seal of the Company, and includes any official Seal of the Company.

"Secretary" means any person appointed to perform the duties of a secretary of the Company and includes any person appointed to perform those duties temporarily.

"Territory" means the Australian Capital Territory.

References to writing include references to printing, lithography, photography and other modes of representing or reproducing words in a visible form;

words importing the singular number include the plural number and vice versa; words denoting any gender include the other genders; words denoting persons include corporations.

Except as aforesaid words or expressions defined in the Code bear the same meaning in these Articles as in the Code unless such meaning is excluded by or is inconsistent with the subject or context.

2. The regulations contained in Table A of Schedule 3 to the Code shall not apply to the Company.

SHARE CAPITAL

3. The capital of the Company is

VARIATION OF RIGHTS

4. If at any time the share capital is divided into different classes of shares, the rights attached to any class (unless otherwise provided by the terms of issue of the shares of that class) may, whether or not the Company is being wound up, be varied with the consent in writing of the holders of three-fourths of the issued shares of that class, or with the sanction of a special resolution passed at a separate general meeting of the holders of the shares of the class. To every such separate general meeting the provisions of these regulations relating to general meetings shall mutatis mutandis apply, but so that the necessary quorum shall be two persons at least holding or representing by proxy one-third of the issued shares of the class and that any holder of shares of the class present in person or by proxy may demand a poll.
5. The special rights conferred upon the holders of any shares or class of shares issued with preferred or other special rights shall not, unless otherwise expressly provided by these Articles or the conditions of issue of such shares, be deemed to be varied by the creation or issue of further shares ranking pari passu therewith.

SHARES

6. Subject to the provisions of the Act, the Code and these Articles, the shares shall be under the control of the Board which may allot or otherwise dispose of the same to such persons on such terms and

conditions and either at a premium or at par or (subject to the provisions of the Code) at a discount and at such times as the Board thinks fit and with full power to give to any person the call of any shares either at par or at a premium during such time and for such consideration as the Board thinks fit and without prejudice to any special rights previously conferred on the holders of any existing shares or class of shares, any share may, subject to these Articles, be issued with such preferred, deferred or other special rights or such restrictions, whether in regard to dividend, voting, return of capital or otherwise as the Company may from time to time by resolution determine, provided however that all ordinary shares issued by the Company shall be of the same nominal value.

7. The Company may exercise the powers of paying commissions conferred by the Code, provided that the rate per centum or the amount of the commission paid or agreed to be paid shall be disclosed in the manner required by the Code and the commission shall not exceed the rate of 10 per centum of the price at which the shares in respect whereof the same is paid are issued or an amount equal to 10 per centum of that price (as the case may be). Such commission may be satisfied by the payment of cash or the allotment of fully or partly paid shares or partly in one way and partly in the other. The Company may also on any issue of shares pay such brokerage as may be lawful.
8. Except as required by law, no person shall be recognised by the Company as holding any share upon any trust, and the Company shall not be bound by or be compelled in any way to recognise (even when having notice thereof) any equitable, contingent, future or partial interest in any share, or any interest in any fractional part of a share, or (except only as by these Articles or by law otherwise provided) any other right in respect of any share, except an absolute right to the entirety thereof in the registered holder.

CERTIFICATES

9. Every member shall be entitled without payment to one certificate for the shares registered in his name or to several certificates (in reasonable denominations) for different portions of his holding provided that in respect of a share or shares held jointly by several persons such persons shall be deemed to be one member and the certificate shall be delivered to the person whose name stands first in the Register. Every certificate shall specify the number and class of the shares in respect of which it is issued and the extent to which the shares are paid up or are agreed to be considered to be paid up.
10. If a share certificate is worn out, defaced, lost or destroyed it may be renewed on payment of such fee (if any) not exceeding fifty cents and on such terms (if any) as to evidence and indemnity with or without security as the Board requires. In the case of loss or destruction the person to whom the new certificate is issued shall also pay to the Company all expenses incidental to the investigation of evidence of loss or destruction and the preparation of the requisite form of indemnity.

CALLS ON SHARES

11. (1) Subject to any special terms upon which any shares may have been issued, the Board may from time to time make calls upon the members in respect of any moneys unpaid on their shares (whether on account of the nominal value of the shares or by way of premium). At least fourteen days' notice shall be given of every call specifying the time or times and place of payment. A call may be revoked or the time fixed for its payment postponed by the Board.
- (2) A call shall be deemed to have been made at the time when the resolution of the Board authorising the call was passed and may be made payable by instalments.
- (3) The Board may differentiate between the holders as to the amount of calls to be paid and the times of payment.
- (4) The non-receipt of a notice of any call by or the accidental omission to give notice of a call to any of the members shall not invalidate the call.
12. (1) Each member shall pay to the Company, at the time and place of payment specified in the notice of the call, the amount called on his shares. The joint holders of a share shall be jointly and severally liable to pay all calls in respect thereof.
- (2) If a sum called in respect of a share is not paid before or on the day appointed for payment, the person from whom the sum is due shall pay interest thereon from the day fixed for payment to the time of actual payment at such rate, not exceeding ten per centum per annum, as the Board determines, but the Board shall be at liberty to waive payment of such interest wholly or in part.
13. Any sum which by the terms of issue of a share becomes payable on allotment or at any fixed date, whether on account of the nominal value of the share or by way of premium, shall for the purposes of these Articles be deemed to be a call duly made and payable on the date on which, by the terms of issue, the same becomes payable. In case of non-payment all the provisions of these Articles relating to payment of interest and expenses, forfeiture and otherwise shall apply as if such sum had become payable by virtue of a call duly made and notified.
14. On the trial or hearing of any action for the recovery of any money due for any call it shall be sufficient to prove that the name of the member sued is entered in the Register as the holder or one of the holders of the shares in respect of which such debt accrued, that the resolution making the call is duly recorded in the minute book and that notice of such call was duly given to the member sued in pursuance of these presents and it shall not be necessary to prove the appointment of the directors who made such call or any

other matters whatsoever but the proof of the matters aforesaid shall be conclusive evidence of the debt.

15. The Board may, if it thinks fit, receive from any member willing to advance the same, all or any part of the moneys uncalled and unpaid upon any shares held by him, and may pay upon all or any of the moneys so advanced (until the same would but for such advance become presently payable) interest at such rate (if any) as may be agreed upon between the Board and such member. The Board may at any time repay the amount so advanced upon giving to such member one month's notice in writing.

LIEN ON SHARES

16. (1) The Company shall have a first and paramount lien upon the shares registered in the name of each member (whether solely or jointly with others) and upon the proceeds of sale thereof for all moneys due and unpaid to the Company for calls and instalments provided that such lien shall only extend to the particular shares in respect of which such moneys are due and unpaid and such lien shall extend to all dividends from time to time declared in respect of such particular shares.
- (2) The Company shall also have a first and paramount lien on all the shares registered in the name of any member or of any deceased member (whether such shares are held solely or jointly with others) and on the dividends or other moneys payable on account thereof for any moneys paid or payable or for any liabilities whatsoever incurred by the Company under the laws of any country, possession or place in respect of the said shares or in respect of any interest dividends bonuses or other moneys due or payable or accruing due or which may become due or payable to such member of the Company on or in respect of such shares and whether in respect of:
- (a) the death of the member,
 - (b) the non-payment of any income tax or other tax by such member,
 - (c) the non-payment of any estate probate succession death stamp or other duty by the executor or administrator of such member or by or out of his estate,
 - (d) any assessment of income tax against the Company in respect of interest or dividends paid or payable to such member, or
 - (e) any other act matter or thing.

In respect of any such moneys and liabilities the Company shall be fully indemnified by such member and his executor or administrator and by the person who becomes the holder of such shares on the distribution of the deceased member's estate and each of them. Until such moneys or liabilities

have been paid or satisfied the Company may refuse to register a transfer or transmission of the said shares. Any moneys paid by the Company under the said laws may also be recovered by action from such member or in the case of a deceased member from his executors or administrators or the person who becomes the holder of such shares on the distribution of the deceased member's estate as a debt due by the member or his estate or that person to the Company. The Company shall also be entitled to charge and recover interest at the rate of ten per centum per annum on any moneys so paid by the Company from the date when such moneys were so paid until repayment. The Company shall also be entitled to deduct from any dividend payable to any member any tax or other moneys which are properly payable by the Company under the laws of any country possession or place in respect of the said dividend. Nothing herein contained shall prejudice or affect any right or remedy which any such law may confer or purport to confer on the Company and as between the Company and every such member as aforesaid his executors administrators and estate wheresoever constituted or situate any right or remedy which such law confers or purports to confer on the Company shall be enforceable by the Company.

- (3) A certificate signed by the Secretary that by virtue of this Article a lien exists on any share or shares specified in such certificate for the sum mentioned in such certificate shall be conclusive evidence of the facts therein stated as against all persons claiming to be interested in such share or shares.

- 17. (1) The Company may sell, in such manner as the Board thinks fit, any shares on which the Company has a lien, but no sale shall be made unless some sum in respect of which the lien exists is presently payable, or, in the case of Article 16(2) has been paid or is presently payable by the Company, nor until the expiration of fourteen days after a notice in writing, stating and demanding payment of the sum paid or presently payable, and stating the intention to sell in default, shall have been given to the registered holder for the time being of the share, or the person entitled to the share by reason of death or bankruptcy.
- (2) To give effect to any such sale the Board may authorise some person to execute a transfer of the shares sold to the purchaser thereof. The purchaser shall be entered in the Register as the holder of the shares comprised in any such transfer, and he shall not be bound to see to the application of the purchase money, nor shall his title to the shares be affected by any irregularity or invalidity in the proceedings in reference to the sale.
- (3) The proceeds of sale shall be received by the Company and after payment of the costs of such sale shall be applied in or towards payment or satisfaction of the debt or liability in respect of which the lien exists, so far as the same is

presently payable, and any residue shall be paid to the member whose shares have been sold, or his executors, administrators or assigns, or as he directs.

FORFEITURE AND SURRENDER OF SHARES

18. (1) If a member fails to pay the whole or any part of any call or instalment of a call on the day fixed for payment, the Board may, at any time thereafter during such time as any part of such call or instalment remains unpaid, serve a notice on him requiring payment of so much of the call or instalment as is unpaid, together with any accrued interest and any costs, charges and expenses incurred by the Company by reason of such non-payment.
- (2) The notice shall fix a further day (not being less than fourteen days from the date of the notice) on or before which and the place where the payment required by the notice is to be made, and shall state that, in the event of non-payment at or before the time and at the place specified, the shares on which the call was made will be liable to be forfeited.
19. If the requirements of any such notice are not complied with, any share in respect of which such notice has been given may, at any time thereafter, before the payments required by the notice have been made, be forfeited by a resolution of the Board to that effect. Every forfeiture shall include all dividends declared in respect of the forfeited shares and not actually paid before the forfeiture.
20. Subject to the Act, a forfeited share may be sold, re-allotted or otherwise disposed of upon such terms and in such manner as the Board thinks fit and at any time before sale, re-allotment or disposal, the forfeiture may be annulled on such terms as the Board thinks fit. The Board may authorise some person to execute the transfer of a forfeited share.
21. A person whose shares have been forfeited shall cease to be a member in respect of the forfeited shares, but shall, notwithstanding the forfeiture, remain liable to pay to the Company all moneys which at the date of forfeiture were then payable by him to the Company in respect of the shares, with interest thereon at such rate not exceeding ten per centum per annum as the Board shall think fit from the date of forfeiture until payment, but his liability shall cease if and when the Company shall have received payment in full of all such moneys in respect of the shares.
22. The Board may accept the surrender of any shares which it is in a position to forfeit upon such terms and conditions as may be agreed and, subject to any such terms and conditions, a surrendered share shall be treated as if it had been forfeited.
23. A statutory declaration in writing that the declarant is one of the directors or the Secretary, and that a share has been duly forfeited or surrendered on a date stated in the declaration, shall be

conclusive evidence of such facts as against all persons claiming to be entitled to the share. Subject to the Act after the person to whom the share is sold, re-allotted or disposed of shall have been registered as the holder thereof, his title to the share shall not be affected by any irregularity or invalidity in the proceedings in reference to the forfeiture, surrender, sale, re-allotment or disposal of the share.

24. The net proceeds of any sale pursuant to Article 20 shall be applied in or towards payment of the amount demanded in the notice referred to in Article 18 and the residue (if any) paid to the member whose shares have been forfeited and sold, or his executors, administrators or assigns, or as he directs.

TRANSFER OF SHARES

25. All transfers of shares shall be effected by instrument in writing in any usual or common form or in any other form which the Board may approve and shall be left at the Office or at the office of any share registry of the Company. No fee shall be charged on the transfer of any shares.
26. The instrument of transfer of a share shall be executed by or on behalf of the transferor and (in the case of a partly paid share) by or on behalf of the transferee. The transferor shall be deemed to remain the holder of the share until the name of the transferee is entered in the Register in respect thereof.
27. The Board may, subject to the Act, in its absolute discretion, refuse to register any instrument of transfer of, or which includes, shares which are not fully paid and in respect of which a call has been made and is unpaid or on which the Company has a lien but shall not be bound to specify the grounds upon which such registration is refused. The registration of transfers may be suspended at such times and for such periods as the Board may from time to time determine not exceeding in the whole thirty days in any year.
28. Subject to the Act, the Board may also refuse to register any instrument of transfer of shares, if:
- (a) it is not accompanied by the certificate for the shares to which it relates and such other evidence as the Board may reasonably require to show the right of the transferor to make the transfer; or
 - (b) in the case of a transfer to joint holders they exceed four in number, except in the case of executors and trustees of a deceased shareholder.
29. All instruments of transfer which shall be registered shall be retained by the Company but any instrument of transfer which the Board may decline to register except on the grounds of fraud shall upon demand be returned to the party presenting it.

TRANSMISSION OF SHARES

30. In the case of the death of a member, the survivor, where the deceased was a joint holder, and the legal personal representatives of the deceased, where he was a sole holder, shall be the only persons recognised by the Company as having any title to his share, but nothing herein contained shall release the estate of a deceased joint holder from any liability in respect of any share which has been jointly held by him with other persons.
31. (1) Any person becoming entitled to a share in consequence of the death or bankruptcy of a member may, upon such evidence as to his title being produced as may be properly required by the Board, and subject as hereinafter provided, elect either to be registered himself as the holder of the share or to have some person nominated by him registered as the transferee thereof.
- (2) If the person so becoming entitled shall elect to be registered himself, he shall deliver or send to the Company a notice in writing signed by him stating that he so elects. If he shall elect to have another person registered, he shall testify his election by executing a transfer of the share to that person. All the provisions of these Articles relating to the right to transfer and the registration of transfers of shares shall apply to any such notice or transfer as if the death or bankruptcy of the member had not occurred and the notice or transfer were a transfer executed by that member.
32. Where the registered holder of any share dies or becomes bankrupt his personal representative or the assignee of his estate, as the case may be, shall, upon the production of such evidence as may from time to time be properly required by the Board in that behalf, be entitled to the same dividends and other advantages, and to the same rights (whether in relation to meetings of the Company, or to voting, or otherwise), as the registered holder would have been entitled to if he had not died or become bankrupt; and where two or more persons are jointly entitled to any share in consequence of the death of the registered holder they shall, for the purposes of these Articles, be deemed to be joint holders of the share.

STOCK

33. The Company may by ordinary resolution convert any fully paid shares into stock, and re-convert any stock into fully paid shares of any denomination.
34. The holders of stock may transfer the same or any part thereof in the same manner and subject to the same regulations as and subject to which the shares from which the stock arose might previously to conversion have been transferred, or as near thereto as circumstances admit. The Board may from time to time fix the minimum amount of stock transferable but so that the minimum shall

not exceed the nominal amount of the shares from which the stock arose.

35. The holders of stock shall, according to the amount of the stock held by them, have the same rights, privileges and advantages as regards dividends, participation in assets on a winding up, voting at meetings, and other matters, as if they held the shares from which the stock arose, but no such rights, privileges or advantages (except participation in dividends and profits and in the assets on a winding up) shall be conferred by an amount of stock which would not, if existing in shares, have conferred such rights, privileges or advantages.
36. All the provisions of these Articles applicable to fully paid shares shall apply to stock, and the words "share" and "shareholder" shall be construed accordingly.

CONSOLIDATION, SUB-DIVISION AND CANCELLATION OF SHARES

37. The Company may by ordinary resolution:
 - (a) consolidate and divide all or any of its share capital into shares of larger amount than its existing shares and authorise the Board to make such provisions as the Board thinks fit for the case of any fractions arising in the course of such consolidation and division, but so that the Board shall not be permitted to provide for the sale of shares representing fractions except on terms that the net proceeds are distributed among the members in respect of whose shares the fractions arise;
 - (b) subdivide its shares or any of them into shares of smaller amount than is fixed by the Memorandum of Association subject nevertheless to the provisions of the Code and so that the resolution whereby any share is subdivided may determine that as between the holders of the shares resulting from such subdivision, one or more of the shares may have any such preferred or other special rights over, or may have such deferred rights, or be subject to any such restrictions as compared with the others as the Company has power to attach to unissued or new shares; and
 - (c) cancel any shares which, at the date of the passing of the resolution, have not been taken, or agreed to be taken by any person or which have been forfeited and diminish the amount of its share capital by the amount of the shares so cancelled.
38. (1) The Company in general meeting may from time to time whether all the shares for the time being authorised shall have been fully called up or not increase its capital by the creation of new shares such aggregate increase to be of such amount and to be divided into shares of such respective amounts as may be deemed expedient. Subject and without prejudice to

any rights for the time being attached to the shares of any special class any shares in such increased capital may have attached thereto such special rights or privileges as the Company in general meeting resolving upon the creation shall direct or failing such direction as the Board shall determine and in particular any shares may be issued with a preferential or qualified right to dividends or in the distribution of assets and with a special or without any right of voting.

- (2) Except so far as otherwise provided by the conditions of issue or by these presents any capital raised by the creation of new shares shall be considered part of the original capital and shall be subject to the provisions herein contained with reference to issue payment of calls and instalments transfer and transmission forfeiture lien surrender and otherwise.

REDUCTION OF CAPITAL

39. Subject to the provisions of the Code, the Company may by special resolution reduce its share capital, any capital redemption reserve fund and any share premium account in any way.

MEETINGS OF MEMBERS CONVENING OF GENERAL MEETINGS

40. An Annual General Meeting of the Company shall be held in accordance with the provisions of the Code. All general meetings other than Annual General Meetings shall be called Extraordinary General Meetings.
41. A director may call an Extraordinary General Meeting whenever he thinks fit.

NOTICE OF GENERAL MEETING

42. Subject to the provisions of the Code relating to special resolutions and agreements for shorter notice, at least fourteen days' notice of a general meeting specifying the place the day and the hour of meeting and in case of special business the general nature of that business shall be given to such persons as are entitled to receive such notices from the Company.
43. Every notice convening an Annual General Meeting shall specify the meeting as such and every notice convening a meeting to pass a special resolution shall also specify the intention to propose the resolution as a special resolution.
44. The accidental omission to give notice of any meeting, to any person entitled to receive the same, or the non-receipt of a notice of meeting by such a person, shall not invalidate the proceedings at the meeting.

PROCEEDINGS AT GENERAL MEETINGS

45. All business shall be deemed special that is transacted at an Extraordinary General Meeting, and also all business that is transacted at an Annual General Meeting with the exception of sanctioning or declaring dividends, the consideration of the accounts and balance sheet, the reports of the directors and auditors and any other documents required to be annexed to the balance sheet, and the appointment of and the fixing of the remuneration of the auditors and the voting of remuneration or additional remuneration to the directors.
46. Where the Minister, or a person for the time being authorised in writing by the Minister, attends a general meeting, that attendance shall be deemed to be attendance by the Commonwealth in person.
47. No business shall be transacted at any general meeting unless a quorum is present when the meeting proceeds to business. Three members present in person or by proxy and entitled to vote shall be a quorum for all purposes. A corporation being a member shall be deemed to be personally present for the purpose of this Article if represented by its representative duly authorised in accordance with Article 60.
48. If within fifteen minutes from the time fixed for the meeting a quorum is not present, the meeting, if convened on the requisition of members, shall be dissolved. In any other case it shall stand adjourned to the same day in the next week at the same time and place or to such other day time and place as the Board may by notice to the members appoint and if at such adjourned meeting a quorum is not present within fifteen minutes from the time fixed for holding the meeting, the members entitled to vote who are present shall be a quorum.
49. The chairman of the Board, or in his absence the deputy chairman (if any) shall preside as chairman at every general meeting of the Company. If there is no such chairman or deputy chairman, or if at any meeting neither the chairman nor the deputy chairman is present within fifteen minutes after the time fixed for holding the meeting or is willing to act as chairman of the meeting, the members present shall choose another director as chairman and if no director is present, or if all the directors present decline to take the chair, the members present shall choose one of themselves to be chairman of the meeting.
50. The chairman of a meeting at which a quorum is present may with the consent of the meeting (and shall if so directed by the meeting) adjourn the meeting from time to time and from place to place. No business shall be transacted at any adjourned meeting except business left unfinished at the meeting from which the adjournment took place. When a meeting is adjourned for thirty days or more or for an indefinite period, notice of the adjourned meeting shall be given in like manner as in the case of the original meeting, but it shall not otherwise be necessary to give any notice of an

adjournment or of the business to be transacted at an adjourned meeting.

51. At any general meeting a resolution put to the vote of the meeting shall be decided on a show of hands, unless (before or on the declaration of the result of the show of hands) a poll is demanded:
- (a) by the chairman of the meeting; or
 - (b) by at least five members entitled to vote; or
 - (c) by any member or members representing not less than one-tenth of the total voting rights of all the members having the right to vote at the meeting; or
 - (d) by a member or members holding shares in the Company conferring a right to vote at the meeting, being shares on which an aggregate sum has been paid up equal to not less than one-tenth of the total sum paid up on all the shares conferring that right.

For the purposes of this Article "member" means a member present in person or by proxy or attorney or representative.

Unless a poll is so demanded, a declaration by the chairman of the meeting that a resolution has been carried, or carried unanimously, or by a particular majority, or lost, and an entry to that effect in the minute book shall be conclusive evidence of the fact, without proof of the number or proportion of the votes recorded in favour of or against such resolution.

52. If a poll is duly demanded, it shall be taken in such manner as the chairman of the meeting may direct. The result of a poll shall be deemed to be the resolution of the meeting at which the poll was demanded.
53. A poll demanded on the election of the chairman of a meeting or on a question of adjournment shall be taken forthwith. A poll demanded on any other question shall be taken at such time and place as the chairman of the meeting directs, but in any case not more than twenty-eight days after the meeting at which the poll was demanded. Any business other than that upon which a poll has been demanded may be proceeded with pending the completion of the poll. The demand for a poll may be withdrawn at any time before the conclusion of the meeting, but if a demand is withdrawn, the chairman of the meeting or other members entitled may himself or themselves demand a poll.
54. In the case of an equality of votes, whether on a show of hands or on a poll, the chairman of the meeting at which the show of hands takes place or at which the poll is demanded shall be entitled to a further or casting vote in addition to the votes to which he may be entitled as a member or as an attorney representative or proxy of a member.

VOTES OF MEMBERS

55. Subject to any rights or restrictions for the time being attached to any class or classes of shares, at meetings of members or classes of members each member entitled to vote may vote in person (including by a representative) or by proxy or by attorney.
56. Subject to any terms as to voting upon which any shares may be issued, or may for the time being be held, every member present in person (including a representative) or by proxy or by attorney shall have one vote on a show of hands (but if a member appoints two proxies, neither proxy shall be entitled to vote on a show of hands) and on a poll every such member shall have:
- (i) in respect of fully paid shares - one vote for each share held by him;
 - (ii) in respect of partly paid shares issued consequent upon offers of such shares to the members or any class of members in proportion to their holdings - one vote for each share held by him; and
 - (iii) in respect of partly paid shares issued otherwise than as stated in paragraph (ii) - for any holding of such shares, that number of votes which bears to the number of shares in such holding the proportion which the aggregate sum actually paid up on all shares in that holding bears to the total sum of capital and premium payable in respect of those shares.

Where any partly paid shares or preference shares are issued by the Company, they shall be expressed to be issued subject to the foregoing provisions with respect to voting rights.

57. On a poll votes may be given in person (including by a representative) or by proxy or by attorney. A proxy holder need not be a member of the Company.
58. Any person entitled under Article 31 to transfer any shares may vote at any general meeting in respect thereof in the same manner as if he were the registered holder of such shares provided that forty eight hours at least before the time of holding the meeting or adjourned meeting as the case may be at which he proposes to vote he shall satisfy the directors of his right to transfer such shares or the directors shall have previously admitted his right to vote at such meeting in respect thereof.
59. Where there are joint registered holders of any shares any one of such persons may vote at any general meeting either personally or by proxy or attorney or representative in respect of such shares as if he were solely entitled thereto and if more than one of such joint holders be present at any meeting personally or by proxy or attorney or by representative, that one of such joint holders so present whose name stands first in the register in respect of such shares shall alone be entitled to vote in respect thereof. Executors or administrators of a deceased member in whose sole name any shares stand shall for the purpose of this Article be deemed

joint holders thereof. Subject as aforesaid persons registered as joint holders of any shares shall be entitled to vote in respect of such shares as a separate holding notwithstanding that any one or more of such joint holders may be at the same time registered as sole holder or as holder or holders jointly with any person or persons of any other shares.

60. Any corporation which is a member may, by resolution of its directors or other governing body, authorise such person as it thinks fit to act as its representative either at a particular meeting of the Company or at all meetings of the Company and the person so authorised shall be entitled to exercise the same powers on behalf of the corporation which he represents as that corporation could exercise if it were an individual member.
61. A member who is of unsound mind or whose person or estate is liable to be dealt with in any way under the law relating to mental health may vote, whether on a show of hands or on a poll, by his committee or by his trustee or by such other person as properly has the management of his estate, and any such committee trustee or other person may vote by proxy or attorney.
62. No member shall be entitled to be present or to vote on a show of hands or on a poll at any general meeting either personally or by proxy or by attorney or representative or to be reckoned in a quorum in respect of any shares in the Company upon which any call or other sum is due and unpaid.
63. No objection shall be raised to the qualification of any voter except at the meeting or adjourned meeting or poll at which the vote objected to is given or tendered, and every vote not disallowed at such meeting shall be valid for all purposes. Any such objection made in due time shall be referred to the chairman of the meeting, whose decision shall be final and conclusive.
64. The instrument appointing a proxy shall be in writing (in the usual or common form) under the hand of the appointor or his attorney, or, if such appointor be a corporation, under its common seal, or the hand of a duly authorised attorney. An instrument appointing a proxy may provide that the proxy is to be used in favour of or against a particular resolution to be proposed at the meeting at which the proxy is to be used.
65. The instrument appointing a proxy and the power of attorney or other authority (if any) under which it is signed, or a notarially certified copy of such power or authority, shall be deposited at the Office (or at such other place as shall be specified in the notice of meeting or any proxy form or other document accompanying the same) not less than twenty-four hours before the time appointed for holding the meeting or adjourned meeting at which the person named in the instrument proposes to vote, or in the case of a poll, not less than twenty-four hours before the time appointed for taking the poll. Unless so deposited the instrument of proxy shall not be treated as valid. The instrument appointing a proxy shall be deemed to confer authority to demand or join in demanding a poll.

66. A person if so authorised by a power of attorney given by a member may act on behalf of such member at any general meeting of the Company provided that before any such attorney shall be entitled so to act under his power of attorney, he shall not less than forty-eight hours before the holding of the meeting or adjourned meeting have produced the same at the Office (or at such other place as shall be specified in the notice of meeting or any proxy form or other document accompanying the same) together with evidence satisfactory to the directors of its non-revocation.
67. A vote given in accordance with the terms of an instrument of proxy or power of attorney or appointment of representative shall be valid, notwithstanding the previous death or incapacity of the principal, or revocation of the instrument of proxy or of the authority under which the instrument of proxy was executed, or of the power of attorney or appointment of representative or transfer of the share in respect of which the vote is given, provided that no intimation in writing of such death, incapacity or revocation shall have been received by the Company at the Office (or other place referred to in the preceding Article) before the commencement of the meeting or adjourned meeting and no such transfer has been registered before the meeting or adjourned meeting.

DIRECTORS NUMBER AND APPOINTMENT OF DIRECTORS

68. The number of Directors shall be not less than 8 and not more than 12 and the names of the first directors shall be determined by the Minister.
69. The continuing directors may act notwithstanding any vacancies in their number, and may appoint any person as a director to fill a casual vacancy or as an addition to the Board (but so that the total number of directors shall not at any time exceed the maximum number fixed) and such person shall retire at the next general meeting convened to appoint directors pursuant to Article 71.
70. No person shall be eligible to be a director who is the auditor of the Company or is a partner employer or employee of the auditor of the Company, or if he is bankrupt or insolvent, or if he is in a state of having suspended payment, or if he has current any arrangement or composition with creditors generally, or if he is or would be incapable by reason of mental disorder of discharging the duties of a director or if pursuant to any provision of the Code he is prohibited from being a director.
71. The Company in general meeting shall have power by ordinary resolution to appoint the directors of the Company, and may by ordinary resolution from time to time increase or reduce the number of directors and appoint new directors.
72. (a) (i) At the first meeting of the Board, the Board shall by lot divide the directors, other than the Chief Executive, into 3 classes, as nearly equal in number as practicable, and the offices of the directors of

the first class shall become vacant at the expiration of the period of one year, the offices of the directors of the second class shall become vacant at the expiration of the period of two years, and the offices of the directors of the third class shall become vacant at the expiration of three years, and

- (ii) thereafter each director, other than the Chief Executive, shall hold office for a period of three years from the date of his appointment.
- (b) At the expiration of his term of office each director shall be eligible for re-election.

REMUNERATION OF DIRECTORS

- 73. (a) The directors, other than the Chief Executive, shall be paid out of the funds of the Company by way of remuneration for their services a sum determined by a general meeting of the Company by ordinary resolution and such sum shall not be increased except at a general meeting and only when notice of the suggested increase and the maximum sum that may be paid shall have been given in the notice convening the meeting. Such remuneration shall be divided among them in such proportion and manner as the directors may determine, and, in default of such determination within a reasonable period, equally. Subject as aforesaid, a director holding office for part only of a year shall be entitled to a proportionate part of a full year's remuneration. The remuneration (in the case of directors other than an executive director) shall not at any time be by a commission on or percentage of profits or turn-over and in the case of an executive director shall not include a commission on or percentage of turn-over.
- (b) The directors, including the Chief Executive, shall also be entitled to be repaid by the Company all such reasonable travelling (including hotel and incidental) expenses as they may incur in attending meetings of the Board, or of committees of the Board, or general meetings or which they may otherwise properly incur in or about the business of the Company.
- 74. If any director being willing shall be called upon to perform extra services or to make any special exertions in going or residing abroad or otherwise for any of the purposes of the Company, the Company may remunerate such director by the payment of a fixed sum to be determined by the directors and such remuneration may be either in addition to or in substitution for his share in the remuneration above provided.
- 75. A director may hold any other office (except that of auditor) under the Company in conjunction with the office of director and on such terms as to remuneration and otherwise as the directors may arrange not being a commission on or percentage of turn-over.

POWERS OF DIRECTORS

76. Subject to the Act, the management of the business of the Company shall be vested in the Board and the Board may exercise all such powers and do all such acts matters and things as the Company is by its Memorandum of Association or otherwise authorised to exercise and do and are not hereby or by statute directed or required to be exercised or done by the Company in general meeting but subject nevertheless to the Code and these Articles and to any regulations not being inconsistent with these Articles from time to time made by the Company in general meeting provided that no such regulation shall invalidate any prior act of the Board which would have been valid if such regulation had not been made.
77. The directors may delegate any of their powers to committees consisting of such member or members of their body as they think fit and may from time to time revoke such delegation. Any committee so formed shall in the exercise of the powers so delegated conform to any regulations that may from time to time be imposed upon it by the directors. The meetings and proceedings of any such committee consisting of two or more members shall be governed by the provisions herein contained for regulating the meetings and proceedings of the directors so far as the same are applicable thereto and are not superseded by any regulations made by the directors under this clause.
78. The Board may make such arrangements as the Board thinks fit for the management and transaction of the Company's affairs outside the State and may for that purpose appoint local boards, managers and agents and delegate to them any of the powers of the Board (other than the power to borrow and make calls) with power to sub-delegate.
79. Without in any way limiting or restricting the general power of the Board to grant pensions allowances gratuities and bonuses to officers or ex-officers, employees or ex-employees of the Company or the dependants of such persons, the Board may from time to time without any further sanction or consent of the Company in general meeting give or procure the giving of donations gratuities pensions emoluments or other allowances to any person or the wives widows families and dependants of any persons in respect of services rendered by such persons to the Company as chairman of the Board managing director executive director or manager or in any other office or employment under the Company (and notwithstanding that any such person may have been or may at the time of such gift be and may continue thereafter to be or may thereafter be or be elected a director) of such amounts for such period or periods either for life or for a definite period or for a period terminating or terminable on the happening of any contingency or event or at discretion and generally upon such terms and conditions as the Board in its discretion may from time to time think fit.
80. The Board may from time to time by power of attorney under the Seal appoint any company, firm or person, or any fluctuating body of persons, whether nominated directly or indirectly by the Board, to be the attorney or attorneys of the Company for such purposes and

with such powers, authorities and discretions (not exceeding those vested in or exercisable by the Board under these Articles) and for such period and subject to such conditions as it may think fit. Any such power of attorney may contain such provisions for the protection or convenience of persons dealing with any such attorney as the Board may think fit and may also authorise any such attorney to sub-delegate all or any of the powers, authorities and discretions vested in him.

81. The Board may from time to time make and vary such regulations as it thinks fit respecting the keeping of branch registers of members pursuant to the Code.

BORROWING

82. (1) The directors may from time to time at their discretion raise or borrow or secure the payment of any sum or sums of money for the purposes of the Company.
- (2) The directors may raise borrow or secure the payment or repayment of such moneys or any debts or liabilities arising out of contracts or obligations undertaken or incurred by the Company and interest payable in respect of any of them in such manner by such means and upon such terms and conditions in all respects as they think fit and in particular and without prejudice to the generality of the foregoing by the issue or re-issue of bonds perpetual or redeemable debentures or debenture stock of the Company or any mortgage charge or other security charged upon all or any part of the property of the Company (both present and future) including its uncalled and unpaid capital for the time being and by the issue of unsecured notes and may give or accept guarantees or indemnities.
- (3) The directors may for the purpose of securing the payment or repayment of any bonds debentures or other securities or any money borrowed or payable under any contract guarantee or indemnity or otherwise and interest payable in respect of any of them make and carry into effect any arrangement which they may deem expedient by assigning or conveying any property of the Company (including uncalled capital) to trustees.
- (4) Any bond debenture or other security or unsecured note created by the Company may be so framed that the same shall be assignable free from all equities between the Company and the original or any intermediate holders.
- (5) Any bonds debentures or other securities or unsecured notes may be issued at a discount premium or otherwise (with or without the right to the holders thereof to exchange the same in whole or part for shares) and with any special privileges as to redemption surrender drawing allotment of shares attending and voting at general meetings appointment of directors and otherwise generally with such rights and upon

such conditions and with such options in all respects as the directors shall think fit.

- (6) If any uncalled capital of the Company is included in or charged by any debenture mortgage or other security the directors may by instrument under the Seal authorise the person in whose favour such debenture mortgage or security is executed or any other person in trust for him to make calls on the members in respect of such uncalled capital and to sue in the name of the Company or otherwise for the recovery of moneys becoming due in respect of calls so made and to give valid receipts for such moneys and such authority shall subsist during the continuance of the debenture mortgage or security notwithstanding any change in the directors and shall be assignable if expressed so to be. The provisions hereinbefore contained in regard to calls shall mutatis mutandis apply to calls made under such authority and such authority may be made exercisable either conditionally or unconditionally and either presently or contingently and either to the exclusion of the directors' powers or otherwise.
- (7) Where any uncalled capital of the Company is charged all persons taking a subsequent charge thereon shall take the same subject to such prior charge and shall not be entitled by notice to the shareholders or otherwise to obtain priority over such prior charge.
- (8) If the directors or any of them or any other persons shall become personally liable for the payment of any sum primarily due from the Company the directors may execute or cause to be executed any mortgage charge or security over or affecting the whole or any part of the assets of the Company by way of indemnity to secure the directors or persons so becoming liable as aforesaid from any loss in respect of such liability.

CHIEF EXECUTIVE

83. The Board may from time to time:

- (a) appoint one or more of its body to the office of Chief Executive, or to any other office (except that of auditor) or employment in the Company, for such period (not being for life) and on such terms as it thinks fit;
- (b) continue any person appointed to be a director in any other office or employment held by him before he was so appointed.

84. A director appointed to the office of Chief Executive shall (subject to the provisions of any contract between himself and the Company) be subject to the same provisions as to resignation and removal as the other directors, and if he ceases from any cause to be a director he shall ipso facto cease to be a Chief Executive (but

without prejudice to any rights or claims which he may have against the Company by reason of such cesser).

85. The emoluments of a Chief Executive for his services as such shall be paid out of the funds of the Company and shall be determined by the Board, and may be of any description, and (without limiting the generality of the foregoing) may include admission to or continuance of membership of any scheme or fund instituted or established or financed or contributed to by the Company for the provision of pensions, life assurance or other benefits for employees or their dependants, or the payment of a pension or other benefits to him or his dependants on or after retirement or death, apart from membership of any such scheme or fund.
86. The Board may entrust to and confer upon a Chief Executive any of the powers exercisable by it upon such terms and conditions and with such restrictions as it thinks fit, and either collaterally with or to the exclusion of its own powers, and may from time to time revoke, withdraw, or vary all or any of such powers. Notwithstanding anything contained herein every Chief Executive shall at all times and in all respects be subject to the control of the Board.

ALTERNATE DIRECTORS

87. (1) Each director shall have the power at any time to appoint to the office of an alternate director either another director or any other person approved for that purpose by a resolution of the Board, and, at any time, to terminate such appointment. Any such alternate is referred to in these Articles as an alternate director.
- (2) The appointment of an alternate director shall automatically determine in any of the following events:
- (a) if his appointor shall terminate the appointment;
 - (b) on the happening of any event which, if he were a director, would cause him to vacate the office of director;
 - (c) if by writing under his hand left at the Office he shall resign such appointment;
 - (d) if his appointor shall cease for any reason to be a director otherwise than by retiring and being re-appointed at the same meeting.
- (3) An alternate director shall be entitled to receive notices of meetings of the Board and of any committee of the Board of which his appointor is a member and to attend and, in place of his appointor, to vote and be counted for the purpose of a quorum at any such meeting at which his appointor is not personally present and to sign resolutions and generally to perform all functions as a director of his appointor in his absence and to exercise such powers

authorities and discretions as are vested in or would otherwise be exercisable by his appointor, unless the same are limited or curtailed by the writing or notice under which he is appointed.

- (4) An alternate director may be repaid by the Company such expenses as might properly have been repaid to him if he had been a director but shall not in respect of his office of alternate director be entitled to receive any remuneration from the Company. An alternate director shall be entitled to be indemnified by the Company to the same extent as if he were a director.
- (5) An alternate director shall, during his appointment be an officer of the Company and shall not be deemed to be an agent of his appointor.
- (6) Every appointment and removal of an alternate director shall be in writing signed by the appointor and shall take effect (subject to any approval required by paragraph (1) of this Article) upon receipt of such written appointment or removal at the Office or by the Secretary.
- (7) A director or any other person may act as alternate director to represent more than one director and an alternate director shall be entitled at meetings of the Board or any committee of the Board to one vote for every director whom he represents in addition to his own vote (if any) as a director.

PROCEEDINGS OF THE BOARD

88. The Board may meet together for the dispatch of business, adjourn and otherwise regulate its meetings as it thinks fit. Each director at any meeting of the Board shall have one vote and questions arising at any meeting shall be determined by a majority of votes. In case of an equality of votes the chairman of the meeting shall have a second or casting vote provided however that where three directors form a quorum, the chairman of a meeting at which only such a quorum is present, or at which only two directors are competent to vote on the question at issue, shall not have a casting vote. A director may, and the Secretary on the requisition of a director shall, call a meeting of the Board. All acts done and resolutions passed at any meeting of the Board at which a quorum is present but of which notice has not been duly given to each director shall, provided each director who has not received proper notice of such meeting and has not been present subsequently consents to waive such notice, be as valid as if proper notice of such meeting had been duly given to and received by all the directors.

89. The quorum necessary for the transaction of the business of the Board may be fixed by the Board, and unless so fixed at any other number shall be three. A director or any other person who is present at a meeting of the Board as an alternate director shall only be counted as two or more for quorum purposes if at least one

other director or duly appointed alternate director is also present thereat. A director interested is to be counted in a quorum notwithstanding his interest.

90. (a) The Company in general meeting may appoint a Chairman from among the members of the Board and determine the period for which he is to hold office, (but no longer than the period for which he is director).
 - (b) The Board may appoint one of its members a Deputy Chairman of its meetings and determine the period for which he is to hold office (but no longer than the period for which he is director).
 - (c) If no such Chairman or Deputy Chairman is appointed, or neither is present within five minutes after the time fixed for holding any meeting, the directors present may choose one of their number to act as Chairman of such meeting.
91. A meeting of the Board at which a quorum is present shall be competent to exercise all or any of the authorities powers and discretions by or under these Articles for the time being vested in or exercisable by the Board generally.
92. A resolution in writing, signed by each director or his alternate shall be as valid and effective as a resolution passed at a meeting of the Board duly convened and held. Such resolution in writing may consist of several documents in like form each signed by one or more of such directors.
93. All acts done by any meeting of the Board, or of a committee or sub-committee of the Board, or by any person acting as a director or by an alternate director, shall, notwithstanding it be afterwards discovered that there was some defect in the appointment or continuance in office of any director, alternate director, or person acting as aforesaid, or that they or any of them were disqualified, or had vacated office or were not entitled to vote, be as valid as if every such person had been duly appointed or had duly continued in office and was qualified and had continued to be a director or, as the case may be, an alternate director and had been entitled to vote.

DISQUALIFICATION OF DIRECTORS

94. The office of a director shall be vacated in any of the following events, namely:
- (a) if (not being a Chief Executive holding office as such for a fixed term) he resigns his office by notice in writing to the Company;
 - (b) if he becomes bankrupt or insolvent or suspends payment or makes any arrangement or composition with his creditors generally;
 - (c) if he becomes incapable by reason of mental disorder of discharging his duties as a director;

- (d) if he is absent from meetings of the Board for six months without leave, expressed by a resolution of the Board, (and his alternate director (if any) shall not during such period have attended in his stead);
- (e) if pursuant to any provision of the Code he is prohibited from being a director;
- (f) if he or any partner employer or employee of his accepts or holds the office of auditor of the Company;
- (g) if his office is declared vacant by an ordinary resolution of the Company.

95. No share qualification shall be required of a director.

96. (1) Notwithstanding any rule of law or equity to the contrary no director shall be disqualified by his office from holding any other office or place of profit under the Company (other than as auditor) nor from contracting with the Company either as vendor purchaser or otherwise nor shall any such contract or any contract or arrangement entered into by or on behalf of the Company in which any director shall be in any way interested be avoided nor shall any director be liable to account to the Company for any profit arising from any such office or place of profit or realised by any such contract or arrangement by reason only of such director holding that office or of the fiduciary relationship thereby established but it is declared that the nature of his interest must be disclosed by him at the meeting of the directors at which the contract or arrangement is determined on if his interest then exists or in any other case at the first meeting of the directors after the acquisition of the interest. A director may as a director vote in respect of any contract or arrangement in which he is so interested as aforesaid. A general notice that a director is a member of or otherwise interested in any specified firm or company and is to be regarded as interested in all transactions with that firm or company shall be sufficient disclosure under this regulation as regards such director and the said transactions and after such general notice it shall not be necessary for such director to give special notice in relation to any particular transaction with that firm or company. The fact that one or more interested directors attests the affixation of the Seal, the duplicate Seal or the official seal of the Company to the document evidencing a contract or arrangement in which he is interested shall not in any way affect the validity of that document.

(2) The provisions of this Article and the following two articles shall apply to alternate directors.

97. (1) Notwithstanding anything in these Articles contained, a director shall, at any meeting of the Board at which he or any other director is to be appointed to hold any office or place of profit under the Company or at which the terms of

any such appointment are to be arranged, be entitled to be counted in the quorum present at the meeting and to vote on any such appointment or arrangement other than his own appointment or the arrangement of the terms thereof. A director may be or become a director or other officer of any company promoted by the Company or in which the Company may be interested as vendor, member or otherwise, and no such director shall (unless otherwise agreed) be accountable for any benefits received as director or other officer of such company.

- (2) The Board may exercise the voting power conferred by the shares in any company held or owned by the Company in such manner in all respects as it thinks fit (including the exercise thereof in favour of any resolution appointing its members or any of them directors of such company, or voting or providing for the payment of remuneration to the directors of such company); and any director of the Company may vote in favour of the exercise of such voting rights in manner aforesaid, notwithstanding that he may be, or be about to be, appointed a director of such other company, and as such is or may become interested in the exercise of such voting rights in manner aforesaid.

98. Any director may act by himself or his firm in a professional capacity for the Company (otherwise than as auditor) and he or his firm shall be entitled to remuneration for professional services as if he were not a director.

REMOVAL OF DIRECTORS

99. The Company may by an ordinary resolution remove any director before the expiration of his period of office (if any) and may by an ordinary resolution appoint another director in his stead but any person so appointed shall retain his office so long only as the director in whose place he is appointed would have held the same if he had not been removed.

SECRETARY

100. The Secretary shall in accordance with the Code be appointed by the Board for such term, at such remuneration and upon such conditions as it may think fit and any Secretary so appointed may be removed by the Board.

MINUTES

101. The Board shall cause minutes to be made in books provided for the purpose:

(a) of all appointments of officers made by the Board;

- (b) of the names of the directors present at each meeting of the Board and of any committee of the Board;
- (c) of all declarations made or notices given by any director of any contract or proposed contract or of his holding of any office or property whereby any conflict of duty or interest may arise;
- (d) of all orders made by the Board and committees;
- (e) of all resolutions and proceedings at all meetings of the Company and of the Board and of committees of the Board.

Any such minutes, if purporting to be signed by the chairman of the meeting to which they relate or of the meeting at which they are read, shall be sufficient evidence without any further proof of the facts therein stated.

THE SEAL

102. (1) The Board shall provide for the safe custody of the Seal which shall not be affixed to any instrument except by the authority of a resolution of the Board or of a committee of the Board authorised by the Board in that behalf and, subject to the provisions of this Article, every instrument to which the Seal shall be affixed shall be signed by one director and shall be countersigned by one other director or the Secretary or some other person appointed by the Board.
- (2) The Company may have a duplicate common seal which shall be a facsimile of the Seal with the addition on its face of the words "Share Seal" and all forms of certificates for shares, or debentures or representing any other form of security issued under such seal if affixed in the manner prescribed in the previous paragraph of this Article shall be deemed for all purposes to be sealed with the Seal.
- (3) The directors may by resolution determine either generally or in any particular case where the Seal or duplicate Seal is to be affixed to any instrument that the signature of any director or the Secretary or any other person may be a facsimile signature or may be affixed by some mechanical or other means (other than autographic) specified in such resolution but in the event of any such signatures being affixed to any share certificate or debenture stock certificate, that certificate shall bear evidence of having been examined by the Company's auditors.
103. (1) The Company may exercise the powers conferred by the Code with regard to having an official seal for use outside the Territory, and such powers shall be vested in the Board.
- (2) The Company may by writing under the Seal authorise any person appointed for the purpose to affix the official seal

to any deed or other instrument to which the Company is a party in the place where the official seal is to be used and the authority of any such person shall as between the Company and any person dealing with him continue during the period (if any) mentioned in the instrument conferring the authority or if no period is therein mentioned then until notice of the revocation or determination of the authority has been given to any person dealing with him.

CHEQUES, BILLS, ETC

104. (1) All cheques, bills of exchange, promissory notes or other negotiable instruments shall be signed drawn made accepted or endorsed (as the case may be) for and on behalf of the Company in such manner and by such person or persons as the Board may from time to time determine.
- (2) The Board shall have power to determine whether or not printed or facsimile signatures may be used on instruments referred to in paragraph (1) of this Article.

ACCOUNTS

105. The Board shall cause to be kept such books of account and other books and registers as are necessary to comply with the provisions of the Code.
106. The books of account shall be kept at the Office or (subject to the provisions of the Code) at such other place as the Board thinks fit, and shall at all times be open to inspection by the directors. No member (other than a director) shall have any right of inspecting any account or book or document of the Company, except as conferred by the Code or authorised by the Board or by an ordinary resolution of the Company.
107. The Board shall from time to time and in any event not later than six months after the close of each financial year of the Company cause to be prepared and to be laid before the Company in general meeting such profit and loss accounts, balance sheets, group accounts (if any) and reports as are referred to in the Code.
108. A printed copy of every balance sheet (including every document required by law to be annexed thereto) which is to be laid before the Company in general meeting and of the directors' and auditors' reports shall, at least fourteen days previously to the meeting, be delivered or sent by post to every member and to every debenture holder of the Company of whose address the Company is aware, or, in the case of joint holders of any share or debenture, to one of the joint holders.

AUDIT

109. An auditor or auditors of the Company shall be appointed and his or their duties regulated in accordance with the Code.

110. In accordance with the Code every member shall be entitled to be furnished with a copy of the balance sheet (including every document required by law to be annexed thereto) and the report of the auditor or auditors.

DIVIDENDS AND RESERVES

111. The Board may, before recommending any dividend, set aside out of the profits of the Company such sums as it thinks proper as reserves which shall, at the discretion of the Board, be applicable for any purpose to which the profits of the Company may be properly applied, and pending any such application may, at the like discretion, either be employed in the business of the Company or be invested in such investments (other than shares in the Company) as the Board may from time to time think fit. The Board may also without placing the same to reserve carry forward any profits which it may think prudent not to divide.
112. The profits of the Company available for dividend and resolved to be distributed shall be applied in the payment of dividends to the members in accordance with their respective rights and priorities. The Company in general meeting may declare dividends accordingly.
113. No dividend shall be payable except out of the profits of the Company, nor in excess of the amount recommended by the Board. Any declaration by the Board as to the amount of the profits of the Company shall be conclusive.
114. All dividends shall be declared and paid according to the amounts paid on the shares in respect whereof the dividend is paid, but no amount paid on a share in advance of the date upon which a call is payable shall be treated for the purposes of this Article or the next following Articles as paid on the share.
115. All dividends shall be apportioned and paid pro rata according to the amounts paid or credited as paid on the shares during any portion or portions of the period in respect of which the dividend is paid, but, if any share is issued on terms providing that it shall rank for dividend as from a particular date or be entitled to dividends declared after a particular date, such share shall rank for or be entitled to dividend accordingly.
116. Any general meeting declaring a dividend may, upon the recommendation of the Board, direct payment or satisfaction of such dividend wholly or partly by the distribution of specific assets and in particular of fully paid shares or debentures of any other company, and the Board shall give effect to such direction.
117. The Board may from time to time pay to the members such interim dividends as appear to the Board to be justified by the profits of the Company, and the Board may also pay the fixed dividend payable on any share of the Company with preferential rights half-yearly or otherwise on fixed dates whenever such profits in the opinion of the Board justify that course.

118. The Board shall transfer to share premium account as required by the Code sums equal to the amount or value of any premiums at which any shares of the Company shall be issued.
119. The Board may deduct from any dividend payable to any member on or in respect of a share all sums of money (if any) presently payable by him to the Company on account of calls or otherwise in relation to shares in the Company and the Board may retain any dividend on which the Company has a lien and may apply the same in or towards the satisfaction of the debts or liabilities in respect of which the lien exists.
120. Any general meeting declaring a dividend may make a call on the members of such amount as the meeting fixes but so that the call on each member shall not exceed the dividend payable to him and so that the call be made payable at the same time as the dividend and that the dividend may be set off against the call. The making of a call under this Article shall be deemed ordinary business of an Annual General Meeting which declares a dividend.
121. All dividends and interest shall belong and be paid (subject to any lien of the Company) to those members whose names shall be on the Register at the date at which such dividend shall be declared or at the date on which such interest shall be payable respectively, or at such other date as the Company by ordinary resolution or the Board may determine, notwithstanding any subsequent transfer or transmission of shares.
122. The Board may pay the dividends or interest payable on shares in respect of which any person is by transmission entitled to be registered as holder to such person upon production of such certificate and evidence as would be required if such person desired to be registered as a member in respect of such shares or may retain those dividends and that interest until such person becomes a member in respect thereof.
123. No dividend or other moneys payable in respect of a share shall bear interest against the Company.
124. Any dividend may be paid by cheque or warrant sent through the post to the address in the Register of the member or person entitled thereto, and in case of joint holders to any one of such joint holders, or to such person and to such other address as the holder or joint holders may in writing direct. Every such cheque or warrant shall be made payable to the order of the person to whom it is sent or to bearer and shall be sent at the member's risk, and payment of the cheque or warrant shall be a good discharge to the Company.
125. If several persons are entered in the Register as joint holders of any share, any one of them may give effectual receipts for any moneys payable in respect of the share but the Board if it thinks fit may require the receipt of all of them.
126. All dividends unclaimed for one year after having been declared may be invested or otherwise made use of by the Board for the benefit

of the Company until duly claimed or until the said moneys become payable to some official under any law relating to unclaimed moneys.

CAPITALISATION OF PROFITS

127. (1) The Company may, upon the recommendation of the Board, resolve that it is desirable to capitalise all or any part of the profits of the Company to which this Article applies and accordingly that the Board be authorised and directed to appropriate the profits so resolved to be capitalised to the members who would have been entitled thereto if distributed by way of dividend and in the same proportions.
- (2) Subject to any direction given by the Company, the Board shall make all appropriations and applications of the profits resolved to be capitalised by any such resolution, and such profits shall be applied by the Board on behalf of the members entitled thereto either:
- (a) in or towards paying up the amounts, if any, for the time being unpaid on any shares held by such members respectively, or
 - (b) in paying up in full unissued shares, debentures or obligations of the Company, of a nominal amount equal to such profits, for allotment and distribution credited as fully paid up, to and amongst such members in the proportion aforesaid,
- or partly in one way and partly in the other, provided that the only purpose to which sums standing to capital redemption reserve fund or share premium account shall be applied pursuant to this Article shall be the payment up in full of unissued shares to be allotted and distributed as aforesaid.
- (3) The profits of the Company to which this Article applies shall be any undivided profits of the Company not required for paying the fixed dividends on any preference shares or other shares issued on special conditions and shall include:
- (a) any profits arising from appreciation in capital assets (whether realised by sale or ascertained by valuation), and
 - (b) any profits carried and standing to any reserve or reserves or to the capital redemption reserve fund or to share premium or other special account.
128. If the Company has redeemed any redeemable preference shares any general meeting may on the recommendation of the Board resolve that all or any part of any capital redemption reserve fund arising from the redemption of such shares may be applied in paying up in full any unissued shares to be issued to such members as would be

entitled to receive the same if distributed by way of dividend equal to the nominal amount of the shares so issued.

129. For the purpose of giving effect to any resolution under Article 117 or the last two preceding Articles the Board may settle any difficulty which may arise in regard to any distribution as it thinks expedient and in particular may sell shares not divisible by reason of fractions and may fix the value for distribution of any specific assets and may determine that cash payments shall be made to any members upon the footing of the value so fixed or that fractions may be disregarded in order to adjust the rights of all parties and may vest any such cash or specific assets in trustees upon such trusts for the person entitled to the dividend or capitalised sum as may seem expedient to the Board.

NOTICES

130. Any notice or document may be served by the Company on any member either personally or by sending it through the post in a prepaid letter addressed to such member at his registered address.
131. Each member whose registered place of address is not in the Commonwealth of Australia may from time to time notify in writing to the Company an address within the Commonwealth of Australia which shall be deemed his registered place of address within the meaning of the last preceding Article.
132. As regards those members who have no registered place of address within the Commonwealth of Australia notices shall be sent by air mail in envelopes bearing the requisite postage to their last known places of address.
133. All notices shall with respect to any registered shares to which persons are jointly entitled be given to whichever of such persons is named first in the Register and notice so given shall be sufficient notice to all the holders of such shares.
134. Any notice sent by post shall be deemed to have been served on the day following that on which the letter envelope or wrapper containing the same was posted and in proving such service it shall be sufficient to prove that the letter envelope or wrapper containing the notice was properly addressed and put in the post. A certificate in writing signed by any manager the Secretary or other officer of the Company that the letter envelope or wrapper containing the notice was so addressed and posted shall be conclusive evidence thereof.
135. Every person who by operation of law transfer or other means whatsoever shall become entitled to any share shall be bound by every notice in respect of such share which previously to his name and address being entered on the Register shall have been duly given to the person from whom he derives his title to such share.
136. Any notice or document delivered or sent by post to or left at the registered address of any member in pursuance of these presents

shall notwithstanding that such member be then deceased, and whether or not the Company has notice of his decease, be deemed to have been duly served in respect of any shares whether held solely or jointly with other persons by such member until some other person be registered in his stead as the holder or joint holder thereof and such service shall for all purposes of these presents be deemed a sufficient service of such notice or document on his executors or administrators and all persons (if any) jointly interested with him in any such share.

137. The signature to any notice to be given by the Company may be written or printed.
138. Except as may be otherwise provided by these Articles, where a given number of days notice or notice extending over any other period is required to be given the day on which the notice is deemed to be served and in addition in the case of a notice convening a meeting the day on which the meeting is to be held shall be excluded from the number of days or other period.
139. (1) Notice of every general meeting shall be given in any manner hereinbefore authorised to:
- (a) every member;
 - (b) every person entitled to a share in consequence of the death or bankruptcy of a member who, but for his death or bankruptcy, would be entitled to receive notice of the meeting; and
 - (c) the auditor for the time being of the company.
- (2) No other person shall be entitled to receive notices of general meetings.

WINDING UP

140. If the Company is wound up and the assets available for distribution among the members be insufficient to repay the whole of the paid up capital such assets shall be distributed so that as nearly as may be the losses shall be borne by the members in proportion to the capital paid up or which ought to have been paid up at the commencement of the winding up on the shares held by them respectively and if in a winding up the assets available for distribution among the members are more than sufficient to repay the whole of the capital paid up at the commencement of the winding up the excess shall be distributed amongst the members in proportion to the capital at the commencement of the winding up paid up or which ought to have been paid up on the shares held by them respectively but this Article shall not add to or detract from the rights of the holders of shares issued upon special terms and conditions.
141. On the sale of the Company's main undertaking or on the voluntary liquidation of the Company no fee or commission shall be paid to

any director or liquidator unless it shall have been ratified by the members in general meeting. Written notification of the amount of any such proposed payment shall be given to all members at least fourteen days prior to the meeting at which any such proposed payment is to be considered.

142. The power of sale of a liquidator shall include a power to sell wholly or partially for shares or debentures, or other obligations of another company, either then already constituted, or about to be constituted, for the purpose of carrying out the sale.
143. (1) If the Company shall be wound up whether voluntarily or otherwise the liquidators may with the sanction of a special resolution divide among the contributories in specie or kind any part of the assets of the Company and may with the like sanction vest any part of the assets of the Company in trustees upon such trusts for the benefit of the contributories or any of them as the liquidators with the like sanction shall think fit.
- (2) If thought expedient any such division may subject to the provisions of Article 4 hereof be otherwise than in accordance with the legal rights of the contributories (except where unalterably fixed by the Memorandum of Association) and in particular any class may be given preferential or special rights or may be excluded altogether or in part but in case any division otherwise than in accordance with the legal rights of the contributories shall be determined on any contributory who would be prejudiced thereby shall have a right to dissent and ancillary rights as if such determination were a special resolution passed pursuant to Section 409 of the Code.
- (3) In case any shares to be divided as aforesaid involve a liability to calls or otherwise any person entitled under such division to any of the said shares may within ten days after the passing of the extraordinary resolution by notice in writing direct the liquidators to sell his proportion and pay him the net proceeds and the liquidators shall if practicable act accordingly.

DISCOVERY

144. Subject to the provisions of the Code no member (other than a director) shall be entitled to require discovery of or any information concerning the Company's trading or otherwise relating to the business transactions accounts records or documents of the Company or to inspect or take any copies of or extracts from the same except as authorised by the Code or by a resolution of the Board or of the Company in general meeting and no member (other than a director) shall be entitled to require or receive any information concerning any trade secret or secret process of or used by the Company.

INDEMNITY

145. Every director, managing director, agent, auditor, Secretary, and other officer for the time being of the Company shall be indemnified out of the assets of the Company against any liability incurred by him in defending any proceedings, whether civil or criminal, in which judgment is given in his favour or in which he is acquitted or in connection with any application under the Code in which relief is granted to him by the Court in respect of any negligence default breach of duty or breach of trust.

WE, the several persons whose signatures are subscribed hereto being the subscribers to the Memorandum of Association hereby agree to the foregoing Articles of Association.

Signature of Subscribers

Witness

THE COMMONWEALTH OF AUSTRALIA
c/- Department of Communications,

AND FOUR OTHERS

DATED this

day of

1982.

THE TELECOMMUNICATIONS BILL 1983

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TELECOMMUNICATIONS BILL 1983

PART I - PRELIMINARY

1. Short Title

This Act may be cited as the "Telecommunications Act 198".

2. Commencement

This Act shall come into operation in the following manner:-

- (a) Sections 1, 2, 3, 4, 5 and 68 and Part VII on the day of Royal Assent to this Act.
- (b) Sections 6, 7, 8, 9, 12, Part III (with the exception of section 18), Part V and Part VI on a date notified by the Minister in the Gazette.
- (c) Sections 10, 11, 13, 14, 15, 16, 62, 63, 64, 65 and 66 on a date notified by the Minister in the Gazette, being a date at least six months subsequent to the date notified pursuant to paragraph (b).
- (d) Section 18 on a date notified by the Minister in the Gazette being a date subsequent to the date on which technical standards are to be published in accordance with section 6(2)(c).

3. Repeals and Amendments

- (1) The Acts or parts of Acts specified in the First Schedule are repealed in the manner provided therein.
- (2) The Telecommunications (Interception) Act 1979 is amended in the manner specified in the Second Schedule.

4. Interpretation

In this Act, unless the contrary intention appears:-

"assets" includes any right or property;

"Australian fishing zone" has the same meaning as in the Fisheries Act 1952;

"Australian satellite" means a space satellite that is in Australian control;

"Australian vessel" means a boat that is, or is deemed to be, an Australian boat pursuant to the Fisheries Act 1952 and, for the purposes of this Act, an air-cushioned vehicle that operates on or near the surface of water shall be deemed to be a boat within the meaning of the Fisheries Act 1952.

"bearer" means any line or other specific medium, whether or not involving a continuous physical medium, for electromagnetic transmission;

"certificate of proficiency" means a certificate issued pursuant to section 23;

"commencing day" means the day fixed by the Minister pursuant to section 30(7);

"Commission" means the Australian Telecommunications Commission established by the Telecommunications Act 1975;

"Company" means "Telecom Australia Limited", a company to be formed pursuant to section 29;

"deal" means assemble, manufacture or supply, and shall include entering, offering or inviting to enter, or procuring the entry into, an agreement or understanding in relation to any such thing;

"earth station" means any terminal equipment located upon the surface of the earth or within the major portion of the atmosphere of the earth that has the purpose of communicating with any satellite or any other earth station by means of a satellite;

"foreign aircraft" means an aircraft other than an aircraft which is in Australian control or registered in accordance with the Air Navigation Regulations as an Australian aircraft;

"foreign country" means a country other than Australia;

"foreign satellite" means a space satellite that is not an Australian satellite;

"foreign vessel" means a vessel other than an Australian vessel;

"leased line" means a dedicated bearer or part thereof for use by the lessee and at his direction by any other person which line is leased or hired from a person authorised or licensed pursuant to Part II of this Act;

"liability" includes any debt or obligation;

"line" means any wire, cable, tube, conduit, fibre, waveguide or other physical medium for electromagnetic transmission;

"qualified operator" means a person who holds, or is deemed to hold, a certificate of proficiency in relation to the operation of a radiocommunication transmitter or class of radiocommunication transmitter;

"radiocommunication transmitter" means any terminal equipment intended for or capable of transmitting by radiation of an electromagnetic signal, other than a transmitter within a prescribed class of transmitter;

"satellite" means an object in geo-stationary orbit in relation to Australia having a capacity to transmit signals to any earth station in Australia;

"satellite transponder" means a device in a satellite capable of transmitting signals for reception by any earth station, immediately upon the reception of corresponding signals from an earth station;

"Standards Authority" means the Standards Association of Australia or any other prescribed organisation;

"supply" when used as a verb, includes:-

- (a) in relation to goods - supply (including resupply) by way of sale, exchange, lease, hire or hire purchase; and
- (b) in relation to services - provide, grant or confer;

"telecommunication installation" means:-

- (a) a line; or
- (b) any equipment, apparatus, terminal equipment, structure, tower, antenna, tunnel, manhole, pit or pole, used or intended for use in connection with a telecommunication system;

"telecommunication system" means any system or service established or maintained as a means for, or for the organisation of, transmitting, whether by radiation or by line, of an electromagnetic signal, any communication of sound, visual image, information, signal, impulse or otherwise, whether or not such communication is intelligible to any person in such form as it may be communicated and any reference in this Act to a telecommunication system includes a reference to a part of that system;

"terminal equipment" means any apparatus used or intended for use to establish a point within or in relation to a telecommunication system to send or receive electromagnetic signals in connection with that system and includes, in relation to the installation repair or servicing of such apparatus, any line to facilitate such connection with that system.

5. Crown

- (1) This Act, except for Part II, shall bind the crown in right of the Commonwealth and of the States but nothing in this Act renders the Crown liable to be prosecuted for an offence.
- (2) Nothing in this Act shall constitute the Company as having any right or privilege of the Crown.

6. Transitional Provisions

- (1) (a) For the purposes of this sub-section the relevant day is any day to be fixed by the Minister by notice in the Gazette, being a day not less than three months from the date on which section 10 comes into operation and the Minister may fix different days for different classes of activity.

- (b) A person who is licensed or authorised pursuant to section 5 of the Wireless Telegraphy Act 1905 or section 13 of the Telecommunications Act 1975 or section 81 of the Broadcasting and Television Act 1942 is deemed to be licensed so far as is necessary pursuant to this Act on the same terms and conditions as applied under the firstmentioned Acts, until the relevant day, in respect of the telecommunication system to which the first mentioned licence or authority related.
 - (c) Where a person to whom paragraph (b) applies makes an application for a licence under this Act prior to the relevant day, the licence arising under paragraph (b) shall continue in force until such time as the application under this Act is granted or refused by the Minister.
- (2) (a) Any technical standard applicable to the establishment maintenance or operation of any telecommunication installation apparatus station or appliance by virtue of section 111 of the Telecommunications Act 1975 or section 5 of the Wireless Telegraphy Act 1905 or Division 4 of Part IV of the Broadcasting and Television Act 1942 (in this sub-section referred to as "relevant technical standards") shall apply for the purposes of this Act until section 18 comes into operation.
 - (b) The Commission in respect of relevant technical standards pursuant to the Telecommunication Act 1975 and the Minister in respect of relevant technical standards pursuant to the Wireless Telegraphy Act 1905 and the Broadcasting and Television Act 1942 shall, within six calendar months of the date on which this section comes into operation, supply to the Standards Authority a copy of all relevant technical standards in a form suitable for publication.
 - (c) Within twelve months of the date on which this section comes into operation the Standards Authority shall, at the expense of the Commonwealth, cause to be published in a form suitable for public usage all relevant technical standards.
- (3) Any arrangement made by the Commission pursuant to section 14 of the Telecommunications Act 1975, shall be deemed to be an enforceable contract between the Company and the State or authority with which or on whose behalf the arrangement was made.
 - (4) Any notice given by the Commission pursuant to Part III of the Telecommunications Act 1975 shall be deemed to be a notice given by the Company pursuant to Part VI of this Act.

- (5) Where a person resigned prior to commencing day pursuant to section 41 of the Telecommunications Act 1975, and that person wishes to commence employment with the Company, he may do so in accordance with the procedures set out in section 41 of that Act as if the Company was the Commission, the contract of employment deemed to arise pursuant to section 31 of this Act being on such terms and conditions as if the person had remained at all times an employee of the Commission.
- (6) Where an appeal is, on commencing day, in progress pursuant to section 51, or proceedings have been commenced pursuant to Division 6 of Part V, of the Telecommunications Act 1975, the Company will do all things necessary to see that the provisions of that Act are complied with, as if the Company were the Commission, including the nomination of a person in accordance with sections 53(2)(b) and 63(2)(b) of that Act.
- (7) Where, prior to commencing day, the Commission has sent a notice pursuant to section 65(1) of the Telecommunications Act 1975 the Company will observe the provisions of section 65 of that Act as if it were the Commission.
- (8) (a) An employee of the Commission who, immediately prior to commencing day has applied for, been granted, or is absent on, leave pursuant to the Maternity Leave (Commonwealth Employees) Act 1973, shall be granted by the Company all rights to which that person was entitled pursuant to that Act as if that person were an employee of a prescribed authority within the meaning of that Act.
- (b) For the purposes of paragraph (a), the Public Service Board shall be deemed to have delegated to the Company its powers under the Maternity Leave (Commonwealth Employees) Act 1973.

7. Additional Operation of Act

8. Application

- (1) Subject to sub-section (2), this Act extends to every External Territory and, except so far as the contrary intention appears, to acts, omissions, matters and things outside Australia, whether or not in a foreign country, having an effect in or in relation to Australia or an External Territory or any waters or place within the outer limits of the Australian fishing zone, including any such act, omission, matter or thing in relation to any person, aircraft, vessel or thing, including any foreign satellite,

foreign person, foreign aircraft and foreign vessel.

- (2) This Act has effect subject to the obligations of Australia under international law, including obligations under any agreement between Australia and another country or countries.

PART II - TELECOMMUNICATION SYSTEMS

9. Basic Prohibition Concerning Telecommunication Systems

- (1) Otherwise than in accordance with this Act, a person shall not maintain or operate any telecommunication system, any part of which is provided in Australia or an external Territory, or which is maintained or operated for the purpose of transmitting into or in relation to Australia.

Penalty:-

- (2) Sub-section (1) shall not apply to:-

- (a) any act of transmitting an electromagnetic signal by means of terminal equipment
 - (i) connected by line to a telecommunication system licensed or authorised pursuant to this Act; or
 - (ii) which, in accordance with the terms of a licence granted pursuant to this Part, is terminal equipment of a kind which may be maintained and operated by a person other than the holder of the licence for the purposes of that telecommunication system; or
 - (iii) of a kind which the Minister has, by notice in the Gazette, specified as suitable for use in relation to a telecommunication system and the transmission is in relation to such a telecommunication system;
- (b) any act of receiving an electromagnetic signal;
- (c) the maintenance or operation of terminal equipment in relation to any act or conduct contemplated by paragraphs (a) and (b) above; or
- (d) the maintenance or operation of a telecommunication system by:-
 - (i) the Company pursuant to its authority under this Act;

- (ii) AUSSAT Pty. Limited, or any other person, in respect of the telecommunication system authorised by section 13(1);
- (iii) any person licensed under this Part, or who is a member of a class identified in such a licence, to the extent that the person is authorised by the terms of the licence;
- (iv) any person who maintains and operates a telecommunication system constituted by a leased line;
- (v) the Australian National Railways Commission or the railway authority of a State by any line located wholly within the boundaries of lands vested in the Australian National Railways Commission or in that authority, for communications the transmission of which is necessary for the working of the railways for which the Australian National Railways Commission or that authority is responsible;
- (vi) an authority of a State or Territory responsible for operating any tramway or omnibus system in the State or Territory maintaining or operating lines for communications, the transmission of which is necessary for the operation of the tramway or omnibus system for which the authority is responsible;
- (vii) any person maintaining or operating a telecommunication system used or capable of use only for the purpose of the transmission of communications within or upon land or within premises erected upon land, being land or premises occupied in whole or in part by that person, whether or not such land or premises are also occupied by any other person;
- (viii) the Overseas Telecommunications Commission in relation to Division 3 of Part II of the Overseas Telecommunications Act 1946 insofar as this applies to any telecommunication system owned and operated by the Overseas Telecommunications Commission for communications between Australia and overseas and otherwise not inconsistent with the Overseas Telecommunications Act 1946;
- (ix) any act of transmission by such classes of persons as are prescribed, during times of war or when a civil emergency exists, or in respect of any frequency band identified for the exclusive use of such persons in the national

spectrum plan prepared by the Minister pursuant to this Act; or

- (x) any act of transmission in connection with research into or the testing of a telecommunication system or any item of terminal equipment by persons authorised by the Minister or by the Standards Authority.

- (3) (a) Any conduct engaged in on behalf of a body corporate by a director agent or servant of the body corporate or by another person at the direction or with the consent of a director agent or servant of a body corporate shall, for the purposes of this Part, be deemed to have been engaged in also by the body corporate.
- (b) Where sub-section (2) applies in respect of the conduct of a body corporate, the conduct of any director agent or servant of that body corporate acting in the course of service with the body corporate shall be deemed to be conduct of the body corporate for the purposes of this Part.

10. Licensing of Telecommunication Systems

- (1) Subject to this Act, the Minister may license any person or any person together with a class of persons to maintain and operate a telecommunication system upon the application by any person in the form prescribed.
- (2) Such licence may be granted subject to any condition and non-compliance with any condition shall revoke the licence for the period of the non-compliance.
- (3) Notwithstanding sub-section (2), the Minister may, by written notice, waive any non-compliance with any condition of a licence, whether actual or in contemplation, and any such waiver may itself be subject to any condition which condition shall be deemed to be a condition of the licence.
- (4) The Minister may revoke or suspend any licence granted pursuant to this Part or vary or impose any condition of such licence during its terms for any reason associated with the proper functioning of this Act or related to the conduct, behaviour or reputation of persons holding a licence, or, where the licence is held by a body corporate, of the persons controlling the body corporate.
- (5) The Minister shall cause to be maintained a public register on which are entered particulars of licences granted pursuant to this section, the conditions of such licences and any waiver of non-compliance with any such condition pursuant to sub-section (3).

- (6) Without derogating by implication from the power of the Minister to impose conditions pursuant to sub-section (2), the Minister:-
- (a) may require as a condition of the licence that the licensee maintain and operate the telecommunication system thereby licensed as a common carrier and in such event the licensee shall be deemed to be a person designated as a common carrier for that telecommunication system;
 - (b) may describe the subject telecommunication system:
 - (i) where, or to the extent that, the system is to be constituted by a bearer - by reference to any geographic location or area in which terminal equipment may be connected to such bearer; and
 - (ii) where, or to the extent that, the system is to be constituted by any other means - by reference to any geographic location or area in relation to which the system is intended to operate and, if appropriate, any technical requirement or limitation applicable to the operation of that system;
 - (c) may identify terminal equipment, including a radio-communication transmitter or a class of radiocommunication transmitter, which a person other than the licensee may maintain and operate; and
 - (d) shall grant each licence on condition that the telecommunication system maintained and operated pursuant thereto shall conform to every technical and operating standards as applies pursuant to this Act.
- (7) Notwithstanding sub-section (1), the grant of a licence pursuant to this Act shall not authorise the transmission of programmes intended for reception by the general public or for which a licence may be granted under Part IIIB of the Broadcasting and Television Act 1942.
- (8) For the purposes of this section:-
- (a) one or more persons may constitute a class of persons;
 - (b) a condition of a licence may include the period for which such licence is granted.
- (9) This Part shall not permit the Minister to impose any condition in respect of matters relating to which the Minister could not give a direction pursuant to sub-section 37(1) by virtue of sub-section 37(3).

11. Rights of Licensees

- (1) No licence pursuant to this Part shall vest in any person any right other than to maintain and operate a telecommunication system on the terms and conditions of such licence.
- (2) A person is not entitled to compensation from the Commonwealth by reason of the suspension or revocation of a licence.
- (3) No person licensed under this Part may transfer or assign the benefit of such licence.

12. National Terrestrial Common Carrier

- (1) The Company is, by virtue of this section, authorised to maintain and operate a telecommunication system for the purpose of being the national terrestrial common carrier for telecommunications in Australia, having the duties provided in sub-sections (2) and (3) of this section.
- (2) The Company shall provide throughout Australia (or so much thereof as is reasonably practicable to do), as a common carrier, lines for telecommunication services, such as shall be reasonably practicable to make telecommunication services available throughout Australia.
- (3) The Company shall provide (so far as is reasonably practicable to do), as a common carrier, such telecommunication systems to facilitate telephone, telex, data transmission and like services as shall provide for the reasonable social, industrial and commercial needs of the Australian population.
- (4) Nothing in this section:-
 - (a) shall prevent the Company obtaining a licence pursuant to this Act in relation to any other telecommunication system;
 - (b) shall prevent the Company leasing any line established or maintained pursuant to its authority under sub-section (1);
 - (c) shall authorise the transmission by radiation of any signal other than in accordance with a licence pursuant to this Act;
 - (d) shall authorise the maintenance or operation of any telecommunication installation which does not conform to every technical and operating standard as applies to such installation pursuant to this Act.
- (5) In the performance of its duties pursuant to this section the Company shall have regard to the advice of the Minister as to relevant policies of the Government of the Commonwealth

which relate to planning the development of telecommunications in Australia.

13. National Satellite Common Carrier

- (1) Satellites maintained and operated by AUSSAT Pty. Limited, together with such earth stations, whether operated by AUSSAT Pty. Limited or otherwise, as are nominated by the Minister, shall constitute a telecommunication system authorised by virtue of this section.
- (2) AUSSAT Pty. Limited shall provide satellite transponder capacity as a common carrier to meet the reasonable requirements of any telecommunication system licensed or authorised pursuant to this Act, provided that such obligation is subject to the provision of capacity to such persons or for such purposes as are prescribed.
- (3) Nothing in this section shall prevent AUSSAT Pty. Limited:
 - (a) obtaining a licence pursuant to this Act in relation to the maintenance and operation of any earth station or any other telecommunication system; or
 - (b) providing any leased line.
- (4) The authority conferred pursuant to this section is subject to any condition which the Minister may impose by written notice to any person authorised pursuant to this section and any non-compliance with any such condition by any person maintaining or operating a telecommunication installation in reliance on the authority pursuant to this section shall revoke such authority in relation to that person for the period of such non-compliance.
- (5) Notwithstanding sub-section (4), the Minister may, by written notice, waive any non-compliance with any condition imposed pursuant to sub-section (4), and any such waiver may itself be subject to any condition which condition shall be deemed to be a condition imposed pursuant to sub-section (4).
- (6) Sub-section (4) shall not permit the Minister to impose any condition in respect of matters which the Minister could not give a direction pursuant to sub-section 37(1) by virtue of sub-section 37(3).
- (7) Nothing in this section shall authorise the maintenance or operation of any telecommunication system by means of any telecommunication installation which does not conform to every technical and operating standard as applies to such installation pursuant to this Act.

14. Obligations of Common Carriers

- (1) A person designated as a common carrier pursuant to this Act shall not in connection with the telecommunication system in relation to which such person is a common carrier:-

- (a) refuse or withdraw reasonable access to or from that telecommunication system for any person (including a person seeking a leased line or access in connection with the operation of any leased line obtained from the first mentioned person) other than for the reason that the other person has not met, or demonstrably cannot meet, any financial obligation in connection with such access or any person would contravene or has contravened a provision of this Act in connection with such access; or
 - (b) make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with such telecommunication system, directly or indirectly, by any means or device, or make or give any undue or unreasonable preference or advantage to any particular person (including itself) or class of persons or subject any particular person or class of persons to any undue or unreasonable prejudice or disadvantage.
- (2) No proceedings in tort shall lie against any common carrier licensed or authorised under this Act in respect of any loss or damage suffered by any person by reason of:-
- (a) a failure, interruption or suspension of a telecommunication system;
 - (b) a fault or delay in communication by means of a telecommunication system;
 - (c) a connection or communication with any person other than that intended by the user of the telecommunication system, or
 - (d) the interception by a person other than the first mentioned person of information passed over a telecommunication system.

15. Interconnection of Telecommunication Systems

- (1) A telecommunication system licensed or authorised pursuant to this Act may not be interconnected with another such telecommunication system, where either system is maintained or operated by a person designated a common carrier pursuant to this Act in relation thereto, without the consent of the Minister in accordance with sub-section (2).

Penalty:-

- (2) The Minister may consent to an interconnection of the type referred to in sub-section (1), subject to any condition as is determined by the Minister (not being a condition in respect of matters relating to which the Minister could not give a direction pursuant to sub-section 37(1) by virtue of sub-section 37(3)), such condition being deemed to be a

condition to which a licence or authority pursuant to this Part is subject, but such consent shall not have effect for the purposes of this section unless the provisions of sub-sections (3) and (4) are complied with, except that, in relation to a breach of sub-section (4), sub-sections (1) and (7) shall not apply to or to the detriment of a person designated as a common carrier, unless that person had knowledge of the interconnection, the subject of sub-section (4).

- (3) Where consent is granted pursuant to sub-section (2), the person designated as a common carrier (or if more than one such person, each of them) shall give notice to the Minister of the whole of the terms and conditions from time to time of any agreement, arrangement or understanding between that person and any other person in relation to such interconnection, but if any other person has given a notice to the Minister to the same effect this obligation upon a common carrier shall lapse.
- (4) Where the holder of a licence for a telecommunication system (not being a person designated as a common carrier) is, pursuant to this section, able to interconnect that system with another telecommunication system operated and maintained by a person designated as a common carrier, the first mentioned person shall give notice to the Minister of the whole of the terms and conditions from time to time of any agreement, arrangement or understanding between that person and any other person as to the interconnection of the first mentioned telecommunication system maintained or operated by that other person.
- (5) The Minister shall cause to be maintained a public register upon which are entered details of any such agreement, arrangement or understanding in relation to any interconnection for which notice has been given pursuant to this section.
- (6) The Minister may, upon giving such notice as shall be reasonable in the circumstances, withdraw any consent under this section or vary or impose any condition to any such consent at any time.
- (7) Any term or condition of any agreement, arrangement or understanding, in respect of which notice has not been given as required pursuant to this section, shall not, except in criminal proceedings, be pleaded or given in evidence, or admitted to be good, useful, or available in law or equity for any purpose whatsoever.

16. Common Carrier Obligations of Confidentiality

- (1) A person designated pursuant to this Act as a common carrier, or any employee or agent of such a person, shall not divulge or communicate to any person or make use of or record the contents or substance of a communication of which he was

aware or to which he had access by reason of that communication being transmitted by the telecommunication system maintained and operated by that common carrier.

Penalty:-

- (2) Sub-section (1) does not prohibit any conduct by a person:-
- (a) in the performance of his duties as an employee or in connection with the provision of the telecommunication system;
 - (b) as a witness summoned to give evidence or to produce any document in a court of law;
 - (c) in pursuance of the requirements of a law of Australia or of a State or of a Territory; or
 - (d) in other prescribed circumstances.

PART III - MAKING AND COMPLIANCE WITH STANDARDS

17. Compliance with Technical Standards

- (1) No person shall deal in any item of terminal equipment unless it conforms to every technical standard as applies to it pursuant to this Act.

Penalty:-

- (2) No person shall use any telecommunication installation in connection with the maintenance and operation of any telecommunication system unless that installation complies with every technical standard as applies to it pursuant to this Act.

Penalty:-

- (3) No person shall affix a prescribed mark to any item of terminal equipment if that item of terminal equipment does not conform to every technical standard as applies to it pursuant to this Act.

Penalty:-

- (4) It is a defence to any prosecution pursuant to sub-section (2) that the telecommunication installation was used in the reasonable belief that such use was necessary for the purpose of:-
- (a) securing the safety of a vessel or aircraft in danger;
 - (b) dealing with an emergency involving a serious threat to the environment; or

- (c) dealing with an emergency involving risk of death of, or of injury to, any person or risk of loss of, or damage to, property.
- (5) It is a defence to any prosecution pursuant to sub-sections (1) or (2), in respect of any item of terminal equipment, for a person to establish:-
- (a) that a prescribed mark was affixed to the item of terminal equipment; or
 - (b) that he had reasonable cause to believe that the item of terminal equipment conformed to every technical standard as applied to it pursuant to this Act
- but the defence provided by paragraph (a) shall not apply if it is shown that the person had reasonable cause to believe that the item did not conform to every technical standard as applied to it pursuant to the Act or that the prescribed mark had been affixed to the item recklessly without establishing the conformity of the item with such technical standards.
- (6) This section shall not apply in respect of any telecommunication installation intended solely for export and to which a statement that the installation is for export only is affixed.
- (7) For the purposes of this section, a mark or statement shall be deemed to be affixed to goods if:-
- (a) it is impressed on, marked into or printed on the goods; or
 - (b) it is applied to a covering, label, or thing in or with which the goods are supplied.
- (8) In this section a "prescribed mark" is a mark prescribed for the purposes of this section as indicating that the terminal equipment to which the mark is affixed complies with every technical standard as apply to it pursuant to this Act at the date of affixing the mark.
- (9) Any telecommunication installation which is dealt in or used in contravention of this section shall be forfeited to the Commonwealth.

18. Technical Standards

- (1) A standard relating to any telecommunication installation adopted pursuant to this section shall be deemed to be a technical standard applied pursuant to this Act.
- (2) The Minister may, subject to sub-section (4), declare by notice in the Gazette that a standard prepared and approved

by the Standards Authority is a standard adopted for the purposes of this section.

- (3) The Minister may specify in any notice published for the purposes of this section a condition in relation to a standard and in such event that condition shall be deemed to be part of the standard.
- (4) The Minister shall not declare a standard pursuant to sub-section (2) unless he is satisfied that:-
 - (a) the standard has been prepared under the direction of a committee or committees appointed by the Standards Authority which comprised representatives of users, manufacturers, operators of telecommunication systems and such others as the Standards Authority considers appropriate;
 - (b) a draft of the standard has been publicly available for comment for a period of not less than two months before approval by the Standards Authority.
- (5) Any telecommunication installation which is an item of a class notified by the Minister in the Gazette shall be deemed to conform to every technical standard as applies to it pursuant to this Act.
- (6) For the purposes of this section:-

"standard" includes the whole or any specified part of a standard prepared and approved by the Standards Authority.

19. Operation of Radiocommunication Transmitters

- (1) No person shall:-
 - (a) operate a radiocommunication transmitter unless that person is a qualified operator holding a certificate of proficiency in relation to a radiocommunication transmitter of that class; or
 - (b) authorise or permit the operation of a radiocommunication transmitter other than by a qualified operator holding a certificate of proficiency in relation to a radiocommunication transmitter of that class.

Penalty:-

- (2) No person shall operate or authorise or permit the operation of a radiocommunication transmitter in contravention of an operating standard applicable pursuant to sub-section (3).

Penalty:-

- (3) The following operating standards apply to the operation of a radiocommunication transmitter:-

- (a) that the operation of the radiocommunication transmitter is not such as would be likely to cause a reasonable person, justifiably in all the circumstances, to be seriously alarmed or seriously affronted, or for the purposes of harassing a person;
- (b) that the person operating the radiocommunication transmitter shall comply with any reasonable direction given to him, orally or in writing, by:-
 - (i) a member of the Australian Federal Police;
 - (ii) a member of the police force of a State or Territory; or
 - (iii) a member of the naval or military forces of the Commonwealth,

that is necessary for the purpose of:-

- (iv) securing the safety of a vessel or aircraft in danger;
 - (v) dealing with an emergency involving a serious threat to the environment; or
 - (vi) dealing with an emergency involving risk of death of, or injury to, any person or risk of loss of, or damage to, property;
 - (c) such operating standards (if any) as are notified by the Minister in the Gazette;
 - (d) such other operating standards (if any) as are specified in the licence or any condition to an authority pursuant to which the transmitter is operated.
- (4) It is a defence to any prosecution pursuant to sub-sections (1) or (2) that the radiocommunication transmitter was operated in the reasonable belief that such operation was necessary for the purposes in respect of which a direction may be given pursuant to sub-section (3)(b).

PART IV - TELECOMMUNICATIONS TECHNICIANS AND OPERATORS LICENSING BOARD

20. Telecommunications Technicians and Operators Licensing Board

- (1) There shall be constituted a Telecommunications Technicians and Operators Licensing Board, which shall consist of such members as are prescribed.
- (2) In this part, "Board" means the Telecommunications Technicians and Operators Licensing Board.

21. Functions of the Board

It shall be the function of the Board to:-

- (a) license any person to instal, repair or service any class of terminal equipment;
- (b) issue to any person a certificate of proficiency, certifying that the holder of the certificate is proficient in the operation of a class of radiocommunication transmitter; and
- (c) conduct or authorise any other person to conduct any examination for the purposes of this Part.

22. Licences to Instal, Repair or Service Terminal Equipment

- (1) The Board may, pursuant to this section, license a person subject to any condition which the Board may determine.
- (2) The Board shall, subject to sub-section (3), license any person who satisfies the Board that he is capable of installing, repairing or servicing the class of terminal equipment in respect of which he has applied to the Board for a licence.
- (3) The Board shall license any person who, on the date of Royal Assent to this Act, was engaged in or employed in the business of installing, repairing or servicing the class of terminal equipment in respect of which he has applied to the Board for a licence.
- (4) A certificate under the seal of the Board or signed by any authorised officer thereof that any person is licensed under this section shall be evidence of such licence and the particulars contained therein.
- (5) This section shall apply to any class of terminal equipment notified by the Minister in the Gazette.

23. Certificates of Proficiency

The Board may issue a certificate of proficiency to a person, provided that the Board is satisfied:-

- (a) that the person is proficient in the operation of the class of radiocommunication transmitter in respect of which he has applied for a certificate of proficiency; and
- (b) whether by reason of the results of a medical examination or otherwise, that the person has the physical and mental capacity to operate the class of radiocommunication trasmitter, in respect of which he has applied for a certificate of proficiency.

24. Suspension or Revocation of Licences and Certificates of Proficiency

- (1) If at any time the Board has reason to suspect that:-
- (a) a person holding a licence or certificate of proficiency pursuant to this Part does not have the degree of knowledge that the Board requires of that person, the Board may, by notice in writing, require that person to submit himself to a medical examination.
 - (b) a person holding a certificate of proficiency pursuant to this Part does not have the degree of mental or physical capacity that the Board requires of that person, the Board may, by notice in writing, require that person to submit himself to a medical examination.
- (2) If any person refuses to comply with a requirement of the Board pursuant to sub-section (1), or fails to achieve satisfactory results in such examination or medical examination as is required, the Board may suspend or revoke the licence or certificate of proficiency granted to that person by notice in writing.
- (3) If the Board is satisfied that an application for a licence or certificate of proficiency pursuant to this Part contained a material statement that was false or misleading or omitted any matter without which the application was false or misleading, the Board may suspend or revoke any licence or certificate of proficiency issued to any person upon such application, if that person does not show reasonable cause why the Board should permit him to retain such licence or certificate of proficiency.

25. Certain Persons deemed to hold Certificates of Proficiency

The Minister may, by notice published in the Gazette, declare that a person, or a class of persons, shall be deemed, for the purposes of this Act, to hold a certificate of proficiency in relation to a specified class of radiocommunication transmitter.

26. Public Register

The particulars of each licence and certificate of proficiency issued pursuant to this part shall be recorded at the offices of the Board, and such records shall be available for public inspection.

27. Review

Applications may be made to the Administrative Appeals Tribunal for review of:-

- (a) any suspension or revocation of a licence or certificate of proficiency; or
- (b) any refusal by the Board to issue a licence or certificate of proficiency.

28. Installation and Servicing

(1) No person shall:-

- (a) instal any terminal equipment of a prescribed class unless that person is licensed to do so in accordance with this Part;
- (b) repair or service any terminal equipment of a prescribed class unless that person is licensed to do so in accordance with this Part; or
- (c) in knowledge that a person does not hold a licence in accordance with this Part:-
 - (i) authorise such a person to act in contravention of paragraph (a) or (b);
 - (ii) falsely represent (expressly or impliedly) that any installation, repair or servicing or proposed installation, repair or servicing is, or will be, in compliance with this Act; or
- (d) instal repair or service any terminal equipment other than in conformity with every technical standard as applies pursuant to this Act in relation to that terminal equipment or the connection between that terminal equipment and any telecommunication installation.

Penalty:-

- (2) Any person acting in contravention of sub-section (1) shall be liable for any damage arising thereby and such person shall be subject to such relief by way of damages injunction or otherwise as a court of competent jurisdiction may order, upon any person satisfying the Court, upon the balance of probabilities, of such contravention.

PART V - THE COMPANY

29. The Company

- (1) The Commission shall form (in compliance with other laws of the Commonwealth and the States and the Territories), together with such other persons as the Minister shall nominate, a public company in the Australian Capital Territory under the name "Telecom Australia Limited" and having power to carry on the duties conferred and imposed on it by or by virtue of this Act.

- (2) The Company shall be authorised by this section to carry on business in each Australian State or Territory (including any external Territory) and to trade and be known under the name and style of "Telecom Australia Limited" or Telecom Australia" or "Telecom".
- (3) The Company shall not issue any share to any person other than the Commonwealth or the subscribers upon incorporation or register any transfer of any share issued by it, without the written consent of the Minister.
- (4) The Company shall allot to the Commonwealth such numbers of fully paid shares in the capital of the Company as the Minister by notice in writing directs.

30. Transfer of Assets and Liabilities to the Company

- (1) Subject to this section, on the commencing day:-
 - (a) the assets that, immediately before that date, were vested in the Commission are, by force of this section, vested in the Company; and
 - (b) the Company becomes by force of this section liable to pay or discharge the liabilities of the Commission that existed immediately before that day, and liabilities which attach to property transferred to the Company pursuant to sub-section (3).
- (2) Sub-section (1) extends, so far as the powers of the Parliament permit, to:-
 - (a) any asset situated outside Australia or any right existing under the law of a country other than Australia; and
 - (b) any liability that arose under the law of a country other than Australia.
- (3) Where the Minister is of the opinion that he would have transferred property to the Commission pursuant to section 29 of the Postal and Telecommunications Commission (Transitional Provisions) Act 1975, he shall transfer such property to the Company.
- (4) The Company shall be liable to pay to the Commonwealth any amount that the Commission would have become liable to pay under section 159 of the Superannuation Act 1976, in relation to a former employee of the Commission, as if it had continued in existence as an approved authority for the purposes of that Act, but in an amount not greater, in relation to that employee, than the Company would contribute to a superannuation fund to which it would make contributions in respect of any person in employment with the Company (under a scheme established by the Company), as if that employee were a beneficiary of that fund.

- (5) A contract between the Company and each subscriber to the services of the Commission pursuant to the Telecommunications (General) By-laws shall be deemed to exist on the commencing day on the same terms and conditions as such services were supplied by the Commission to that subscriber.
- (6) The Commonwealth is responsible for the payment of all moneys borrowed by the Commission, in respect of which the Commonwealth has guaranteed repayment, but nothing in this section authorises a creditor claiming against the Company to sue the Commonwealth in respect of his claim.
- (7) The commencing day shall be a date fixed by the Minister by notice published in the Gazette.

31. Employees

- (1) On the commencing day, each employee of the Commission becomes, by force of this section, an employee of the Company.
- (2) Subject to sub-sections (3) and (4), the terms and conditions of employment on the commencing day of a person who becomes an employee of the Company by virtue of sub-section (1) are the same as the terms and conditions on which that person was employed immediately before that date and include rights arising prior to commencing day pursuant to sections 40, 50 and 62 of the Telecommunications Act 1975, such terms and conditions being deemed by virtue of this section to be embodied in a contract of employment.
- (3) If in the case of a person who becomes an employee of the Company by virtue of sub-section (1):-
 - (a) a term or condition that would, but for sub-section (2), be a term or condition of employment of the person on the commencing day under or by virtue of the operation of a law of a State or Territory; and
 - (b) that term or condition is more favourable than a corresponding term or condition that, apart from this sub-section, would be a term or condition of employment of that person on that day by virtue of sub-section (2),

that more favourable term or condition is substituted, so far as it is capable of application, for the less favourable term or condition as a term or condition of employment of that person on that day.
- (4) For the purposes of sub-section (2), to establish that terms and conditions of employment with the Commission relating to superannuation are the same as terms and conditions of employment with the Company relating to superannuation, it is sufficient to establish that the superannuation scheme established by the Company provides for:-

- (a) payment of benefits on the same basis;
 - (b) payment of contributions of the same kind and amount; and
 - (c) payment of benefits in the same circumstances or on the happening of the same events;
- as was provided for by the superannuation scheme applicable to employees of the Commission.
- (5) If a person who becomes an employee of the Company by virtue of sub-section (1) was, immediately before the commencing day, an eligible employee for the purposes of the Superannuation Act 1976 and that person ceases to be such an eligible employee by reason of this Act:-
- (a) that person is not entitled to any benefit under that Act other than:-
 - (i) a benefit of the kind referred to in sub-section 80(1) of that Act; and
 - (ii) an amount of the kind referred to in paragraph 128(2)(b) of that Act;
 - (b) that person is not entitled to any benefit under the Superannuation Act 1922, other than an amount of the kind referred to in sub-section 119J(8) of that Act.
- (6) For the purposes of determining any entitlement of an employee of the Company under any law of any State or Territory, employment of that employee with the Commission shall be deemed to be employment with the Company, in respect of such periods that the employee has not prior to the commencing day been granted any leave or payment in lieu of leave or in satisfaction of an entitlement otherwise arising pursuant to the Long Service Leave (Commonwealth Employees) Act 1976, which would otherwise entitle that employee to a period of leave or sum in lieu thereof under any law of a State or Territory.

32. Superannuation Fund

- (1) The Company shall not be an approved authority for the purposes of the Superannuation Act 1976.
- (2) The Company shall establish a superannuation fund applicable to employees of the Company.
- (3) The amount of any benefit to which the employee is entitled pursuant to paragraphs (a) or (b) of sub-section 31(5) shall be paid by the Commissioner for Superannuation to the trustees of the superannuation fund established by the Company, such amount being deemed by this section to be a

benefit for the purposes of section 112(2) of the Superannuation Act 1976.

- (4) Subject to agreement between the Company and the Commonwealth, upon a payment being made by the Commissioner for Superannuation pursuant to sub-section (3), the Commonwealth shall, on the prescribed date, pay to the trustees of the superannuation fund established by the Company such amount as will entitle an employee of the company eligible to any benefit under that fund to a benefit equal as at that date to any benefit under the Superannuation Act 1976, as if that employee had continued to be employed by the Commission.

33. Registration and Changes in Title to Land

Where, by reason of the operation of this Act, any interest in land situated in a State or Territory becomes vested in, or is transferred to, the Company, the Company may lodge with the Registrar General, Registrar of Titles or other appropriate officer of a State or Territory, a notice, signed by an officer of the Attorney General's Department stating that that interest in land is vested in or transferred to the Company by virtue of the operation of this Act, and the office or officer with whom the notice is so lodged may make such entries in the registers and do such other things as are necessary to reflect the operation of this part in relation to that interest in land.

34. Proceedings

Without prejudice to sub-section 30(1), any judicial or administrative proceedings commenced by the Commission before the commencing day may be continued on or after that date by the Company and any order made by any court or administrative tribunal with respect to such proceedings shall be made in respect of the Company. If on the commencing day, the Commission was a party to proceedings in, or subject to an order of, any court or administrative tribunal, the company is on that day, by force of this section, substituted for the Commission as a party to the said proceedings and has the same rights in and obligations in respect of the said proceedings or order as the Commission.

35. Stamp Duties

Any instrument or document, made executed or given by reason of or for a purpose connected with or arising out of the operation of this Part or in relation to the vesting in the Company of any assets of the Commission or in relation to the incorporation of the Company or the issue or transfer of any shares in the Company is not liable for stamp duty or other tax or impost under a law of the Commonwealth or of a State or Territory.

36. Financial Structure of the Company

- (1) Subject to this section, for the purposes of any accounts of the Company required to be prepared by the Companies Act 1981

(or any corresponding Act of a State or Territory), the value of any asset or the amount of any liability of the Commission vesting in the Company on the commencing day shall be taken to be the value or amount assigned to that asset or liability for the purposes of the corresponding statement of accounts prepared by the Commission in accordance with sub-section 39(1) in respect of the last accounting period of the Commission ending immediately before commencing day.

- (2) Any liability for loans to the Commission by the Commonwealth included in the statement of account prepared by the Commission in accordance with sub-section 39(1) shall be extinguished and shall be deemed to have been extinguished from the commencing day in such manner and to such extent as the Minister shall by notice in the Gazette determine, so as to provide that the amount of shareholders' funds of the Company shall equal the sum of the amount of outstanding liability for such loans to the Commonwealth and the amount of any other outstanding liabilities for loans.
- (3) If in the accounts of the Company as at commencing day there is any surplus in the aggregate amount of assets over the aggregate amount of any liability (other than shareholders' funds), such surplus shall be carried by the Company to a share premium account, to be applied in accordance with section 119 of the Companies Act 1981.
- (4) The amount to be included from time to time in any reserve of the Company as representing its accumulated profit available for distribution shall be determined as if any profit realised or retained by the Commission had been realised or retained by the Company.
- (5) The directors of the Company shall, in determining, fixing or varying any charge in relation to any service provided by it, have regard to the following objectives:-
 - (a) to provide a sufficient annual operating surplus after the payment of or making provisions for tax, interest and dividends which, together with any loan or other form of debt financing, will enable the acquisition of such assets and services as may be required in order to meet reasonably anticipated future demands for its telecommunication systems; and
 - (b) that the annual interest liability of the Company and its subsidiaries shall not exceed one half of its operating surplus determined in accordance with paragraph (a).
- (6) The obligation on the directors of the Company provided in the last preceding sub-section shall be in addition to all other obligations and responsibilities of the directors at law.

37. Control and Supervision by the Minister

- (1) The Minister may give a direction to the Company as to any matter prescribed as a reserved matter for the purposes of this section.
- (2) Where the Minister has given a direction pursuant to sub-section (1), the Company shall act in accordance with the direction and shall not adopt or pursue any policy which is contrary to the direction without first seeking the approval of the Minister.
- (3) The matters reserved for the purposes of sub-section (1) shall not include any policy or the exercise of any power related directly or indirectly to -
 - (a) the terms and conditions of employment of staff and officers of the Company;
 - (b) the determination, fixing or variation of rentals payable in respect of terminal equipment or charges for the use of any telecommunication system;
 - (c) the terms and conditions of the purchase or supply of goods or services by the Company.
- (4) Nothing in this section requires:-
 - (a) the approval of the Minister to the entering by the Company into a particular contract or empowers the Minister to determine that the Company shall or shall not enter into a particular contract; or
 - (b) any director of the Company to act in any manner inconsistent with any duty or obligation arising under the Companies Act 1981.
- (5) The Minister may only direct the Company in accordance with this section as to any matter requiring the establishment or maintenance of a telecommunication service not provided by the Company if the Commonwealth and the Company have reached an agreement as to such proportions of capital expenditure as shall be borne by the Commonwealth in relation to the provision of such telecommunication service.
- (6) Except as provided by this section, or as expressly provided by a provision of another Act, the Company is not subject to direction by or on behalf of the Government of the Commonwealth.

38. Taxation

- (1) The Company shall pay all rates, taxes and charges under any law of the Commonwealth, a State or a Territory.

- (2) The Company is not a public authority for the purposes of paragraph (d) of section 23 of the Income Tax Assessment Act 1936, but shall be deemed to be a public company for the purposes of section 103A of that Act.
- (3) Securities issued by the Company are not public securities or Commonwealth securities for the purposes of the Income Tax Assessment Act 1936.
- (4) The provisions of the Income Tax Assessment Act 1936 that relate to depreciation or any debts written off as bad debts and section 80 of that Act apply in relation to the Company as if:-
 - (a) the Company had, at all times, been liable to pay taxes on income under the laws of the Commonwealth and depreciation had been allowed in assessments accordingly;
 - (b) the Commission had at all times prior to the commencing day a share capital beneficially owned by the Commonwealth; and
 - (c) the Company is the Commission.

39. Final Report by the Commission

- (1) The Commission shall prepare a statement of accounts for the period that commenced on the expiration of the last period in respect of which a report was laid before each House of the Parliament and ended immediately before the commencing day and shall furnish such accounts, together with a report in respect of that period and the cessation of operations by the Commission and shall deliver such statement of accounts and report, to the Minister.
- (2) The Minister shall cause the statement of accounts and report referred to in sub-section (1) to be laid before each House of the Parliament.

40. Annual Report

- (1) The Company shall, as soon as practicable after each 30 June, prepare and furnish to the Minister a report or its operations during the year ended on that date, together with accounts in respect of that year in such form as are lodged pursuant to the Companies Act 1981.
- (2) The report shall set out all directions given by the Minister to the Company pursuant to section 37 and such actions as the Company has taken in respect of any such direction during the year to which the report relates.
- (3) The Minister shall cause a copy of the report of the Company to be laid before each House of the Parliament within fifteen sitting days of that House after receipt by the Minister.

- (4) The Company shall give full access and assistance to officers of the Commission appointed by the Minister to prepare a final report of the Commission which the Minister shall cause to be laid before each House of Parliament as soon as practicable after commencing day.

41. Information to be Supplied by the Company

- (1) The Company shall, upon written request by the Minister, furnish to the Minister such reports, documents and information concerning its operations as the Minister may reasonably specify.
- (2) A request under sub-section (1) shall not require any report, document or information to be furnished to the Minister with respect to the affairs of an individual person.
- (3) The Company is not subject to the Freedom of Information Act 1982.

PART VI - POWERS OF THE COMPANY IN RELATION TO LAND

42. Definitions

In this Part:-

"telecommunication installation" means:-

- (a) a line; or
- (b) any equipment, apparatus, tunnel, manhole, pit or pole used, or intended for use, in connection with a telecommunication system;

used only in relation to a telecommunication system that the Company is authorised by this Act to maintain and operate; and

"land" includes land owned or occupied by the Commonwealth or a State or Territory.

43. Power to Enter Lands

- (1) The Company may, for the purpose of ascertaining the suitability of any land for carrying out the functions of the Company in relation to a telecommunication system that it is authorised by this Act to maintain and operate:-
- (a) enter upon and inspect the land; and
- (b) on land so entered, make surveys, take levels, sink bores, dig pits and examine the soil and do other acts necessary for that purpose.

- (2) Before entering upon the land in pursuance of sub-section (1), the Company shall give notice in writing of its intention to do so to the owner and occupier of the land.

44. Power to Construct Telecommunication Installations

- (1) Subject to sub-sections (4) and (6), the Company may, for the purposes of this Act:-
- (a) construct a telecommunication installation above, upon or beneath the surface of any land or above or beneath the surface of any water; or
 - (b) affix to any building or other structure erected on any land or in any waters, any line for use in connection with the operation of a telecommunication system authorised by this Act to be maintained and operated by the Company.
- (2) Without limiting the generality of sub-section (1), or of section 12, the Company may, for any purpose connected with the construction, replacement, repair, maintenance or renewal of a telecommunication installation:-
- (a) enter upon, and occupy, any land; and
 - (b) on land so occupied, do any act specified in sub-section (3).
- (3) The acts referred to in sub-section (2) are:-
- (a) to construct, build or place any plant, machinery, equipment or goods;
 - (b) to fell or lop any tree and to clear and remove other vegetation or undergrowth;
 - (c) to make cuttings or excavations;
 - (d) to re-instate the surface of the land and, for purposes connected therewith, to remove and dispose of earth, soil or other material or trees felled on, or parts of trees, vegetation or undergrowth cleared from, the land;
 - (e) to erect temporary workshops, sheds or other buildings; and
 - (f) to level the surface of land and make roads.
- (4) The Company shall not, in the exercise of its powers under sub-section (1):-
- (a) construct a telecommunication installation above, upon or beneath the surface of any road, bridge; or

- (b) affix to any structure erected on a road or bridge any line or other equipment for use in connection with the operation of a telecommunication system,

unless the Company has given notice, in writing, of its intention to do so to the authority having the care and management of that road or bridge.

- (5) Where the Company has, in order to exercise its powers under sub-section (1) on a road or bridge, given notice to the authority having the care and management of that road, or bridge, the Company may, in connection with the exercise of those powers:-

- (a) construct, build or place any plant, machinery, equipment or goods on that road or bridge;
- (b) make cuttings or excavations on that road or bridge; and
- (c) carry away surplus sand, clay, stone, earth, gravel, timber or other materials or things from that road or bridge.

- (6) The Company shall not, in the exercise of its powers under this section:-

- (a) alter the position of a pipe being a main, sewer or drain; or
- (b) alter the position of any other pipe for the supply of water or gas or a cable for the supply of electricity,

unless the Company has given notice, in writing, of its intention to do so to the authority having the care and management of the pipe or cable.

- (7) The Company shall, in the exercise of its powers under sub-section (1), ensure that a line erected above the surface of a road, bridge, vehicular path or water is erected in such a manner as to allow for the reasonable passage of persons and vehicles on the road, bridge or path or of vessels over the water.
- (8) The Company may demolish or destroy on, or remove from, any land occupied by it, any plant, machinery, equipment, goods, workshop, shed, building or road constructed, built, placed or erected by it on the land.
- (9) Subject to sub-sections (4) and (6), before the Company exercises any of its powers under this section in relation to land, the Company shall give notice in writing to the owner and occupier of the land of its intention to enter upon the land and of the purpose for which it intends to enter upon the land.

- (10) Sub-section (9) does not apply to the exercise, by the Company, of any of its powers under this section on a road or bridge.
- (11) This section applies only to acts of the Company done in pursuance of the authority granted by section 12.

45. Trees Cut or Lopped

- (1) The Company may, when any tree, undergrowth or vegetation growing on land owned or occupied by the Commonwealth or by a State or Territory or on any road obstructs, or is likely to obstruct, the operation of any telecommunication installation, after giving notice in writing to the authority having the care and management of the land or road concerned of its intention to do so, cut down or lop the tree or clear the undergrowth or vegetation.
- (2) The Company may, when any tree, undergrowth or vegetation growing on private property obstructs, or is likely to obstruct, the operation of any telecommunication installation, by notice in writing served upon the owner and occupier of that property, request him to cut down or lop the tree, or to clear and remove the undergrowth or vegetation in the manner, and within the period, specified in the notice, and upon default, the Company may enter the property concerned and cut down or lop the tree, or clear and remove the undergrowth or vegetation, in the manner specified in the notice.

46. Maintenance

- (1) The Company may, at any time, remove, replace, repair or maintain:-
 - (a) any telecommunication installation constructed above, upon or beneath the surface of any land or above or beneath the surface of any water; or
 - (b) any line, or other equipment affixed to any building or other structure erected on any land or in any waters, being a line or equipment for use in connection with a telecommunication system,
 and for that purpose may enter upon, and occupy, that land or those waters and may remove, or erect a gate in, any fence hindering the exercise of those powers.
- (2) Before removing, or erecting a gate in, a fence in pursuance of sub-section (1), the Company shall take all reasonable steps to notify, in writing, the owner and occupier of the land on which, or on the boundary of which, the fence is erected.

47. Subdivisions

Where, subsequent to the exercise by the Company of its powers under section 44 to construct a telecommunication installation on any land or to affix any telecommunication installation to any building or other structure on any land, it becomes necessary, in the opinion of the Company by reason of a sub-division of that land, to remove, or alter the position of, any telecommunication installation, the company may enter the land and do work for that purpose and the person who subdivided the land is liable to pay to the Company the reasonable cost of work done by the Company for that purpose, and that amount may be recovered as a debt due to the Company in a court of competent jurisdiction.

48. Damage and Compensation

- (1) In the exercise of a power conferred upon the Company under this Act, the Company, an officer or employee of the Company, a person acting for or on behalf of the Company under a contract or the employee of such a person shall cause as little detriment and inconvenience and do as little damage as possible.
- (2) Where the owner of land is injuriously affected by the exercise, in relation to that land, of any of the powers conferred by this Part, compensation shall be paid by the Company.
- (3) Where land is entered or occupied in pursuance of this Part, the Company is liable to pay compensation to the owner or occupier of the land, or both, as the case requires, and the compensation so payable shall include compensation in respect of damage of a temporary character as well as damage of a permanent character.
- (4) Nothing in this section shall be construed as excluding or limiting any liability of the Company apart from this section in respect of a matter in relation to which compensation is not payable under this section.
- (5) The amount of compensation payable to a person under this section shall be determined by agreement between the person and the Company and in the absence of agreement shall be determined by arbitration in accordance with the law of the State or Territory in which the claim arises relating to the settlement of commercial disputes by arbitration.

PART VII - NATIONAL TELECOMMUNICATIONS ADVISORY COUNCIL49. National Telecommunications Advisory Council

- (1) There is hereby constituted a National Telecommunications Advisory Council which shall consist of not less than five nor more than eleven members.

- (2) The members shall be appointed by the Governor-General.
- (3) The performance of the duties and functions of the Council are not affected by reason only of the number of members appointed by the Governor-General falling below five for a period of not more than three months.
- (4) In this Part, "Council" means the National Telecommunications Advisory Council.

50. Other Employment for Members

A member of the Council may engage in paid employment outside of the duties of his office.

51. Period of Appointment

- (1) The members of the Council shall be appointed for three years but are eligible for re-appointment.
- (2) If a member of the Council ceases to hold office before the expiration of the period of his appointment, another person may, in accordance with section 59, be appointed in his place until the expiration of that period.

52. Chairman

The Minister may appoint a Chairman from among the members of the Council.

53. Remuneration

- (1) A member shall be paid such remuneration as is determined by the Remuneration Tribunal, but, if no determination of that remuneration by the Tribunal is in operation, he shall be paid such remuneration as is prescribed.
- (2) A member shall be paid such allowances as are prescribed.
- (3) This section has effect subject to the Remuneration Tribunals Act 1973.

54. Leave of Absence

The Minister may grant leave of absence to a member on such terms and conditions as to remuneration or otherwise as the Minister determines.

55. Resignations

A member may resign his office by writing signed by him and delivered to the Governor-General, but the resignation does not have effect until it is accepted by the Governor-General.

56. Retirement

- (a) A person who is of or above the age of seventy years is not eligible for appointment as a member of the Council.
- (b) An appointed member shall cease to hold office on the day on which he attains the age of seventy years.

57. Suspension or Removal from Office

- (1) The Governor-General may terminate the appointment of a member by reason of his misbehaviour or physical or mental incapacity.
- (2) If a member-
 - (a) is absent, except on leave granted by the Minister or otherwise with the permission of the Minister, for three consecutive meetings of the Council;
 - (b) becomes bankrupt or applies to take the benefit of any law for the relief of bankrupt or insolvent debtors, compounds with his creditors, or makes an assignment of his remuneration for their benefit; or
 - (c) fails to comply with his obligations under sub-section (3),

the Governor-General shall terminate the appointment of the member.

- (3) (a) A member who has a direct or indirect pecuniary interest in a matter being considered or about to be considered by the Council, shall, as soon as possible after the relevant facts have come to his knowledge, disclose the nature of his interest at a meeting of the Council.
- (b) A disclosure under paragraph (a) of this sub-section shall be recorded in the minutes of the meeting of the Council and the member shall not:-
 - (i) be present during any deliberation of the Council with respect to that matter; or
 - (ii) take part in any decision of the Council with respect to that matter.

58. Meetings of the Council

- (1) The Chairman shall convene such meetings as are necessary for the performance of the functions of the Council, but in any event at least on one occasion in any two calendar months.
- (2) The Chairman shall, on receipt of a request in writing signed by the Minister, convene a meeting of the Council.

- (3) The Chairman shall, on receipt of a request in writing signed by three other members, convene a meeting of the Council.
- (4) At a meeting of the Council, three members shall constitute a quorum.
- (5) The Chairman shall preside at all meetings of the Council at which he is present.
- (6) If the Chairman is not present at a meeting of the Council, the members present shall choose one of themselves to preside at the meeting.
- (7) The Chairman or the member presiding at a meeting of the Council has a deliberative vote, and, in the event of an equality of votes, also has a casting vote.
- (8) At meetings of the Council the procedure shall be as determined by the members.

59. Vacancies

On the occurrence of a vacancy in the office of an appointed member, otherwise than by the expiration of the term for which he was appointed, the Minister may appoint a person to hold that office for the balance of his predecessor's term of office, being a person qualified under section 60 in the same manner as that predecessor.

60. Appointment

In making appointments under sub-section (2) of section 49 the Governor-General shall, as far as reasonably practicable, take steps to ensure that the members possess special fitness, by reason of their work or interests, to undertake the functions of the Council.

61. Functions of the Council

- (1) The functions of the Council are to advise the Minister in accordance with this Act in respect of planning the development of telecommunication services in Australia and in respect of such other matters as may be referred to the Council by the Minister and to advise generally as to desirable public and national interest objectives in respect of telecommunications in Australia.
- (2) The Council may conduct any inquiry into such other matters as it determines, including policies which the Minister could adopt in respect of licences granted pursuant to this Act.
- (3) The Council shall, as soon as practicable after each 30 June, prepare and furnish to the Minister a report concerning its recommendations in respect of planning the development of telecommunications services in Australia.
- (4) The Minister shall cause to be laid before each House of Parliament all reports prepared pursuant to this section as

he may from time to time receive from the Council within 15 sitting days of each House after receipt of the report by the Minister.

PART VIII - MISCELLANEOUS

62. Interpretation

In this Part:-

"frequency band" means a band referred to in the national spectrum plan;

"spectrum" means the range of frequencies on which telecommunication by radiated transmission may occur.

63. Responsibilities of the Minister

(1) It shall be the responsibility of the Minister to:-

(a) plan the development of telecommunication services in Australia;

(b) prepare and publish a national spectrum plan.

(2) In discharging his responsibilities under sub-section (1), the Minister shall consult the National Telecommunications Advisory Council.

(3) The Minister may at any time amend the national spectrum plan and shall publish notice of such proposed amendments for the purpose of receiving public comment.

64. National Spectrum Plan

The national spectrum plan prepared pursuant to section 63 shall:-

(a) divide the spectrum into such number of frequency bands as the Minister thinks appropriate and assign a designation to each band and in so dividing, may differentiate between geographical areas of Australia and the external Territories;

(b) specify the general or exclusive purpose or purposes for which each band may be used, whether presently or in the future.

65. Frequency Band Plans

(1) The Minister may prepare for each frequency band a plan not inconsistent with the national spectrum plan.

(2) A plan prepared pursuant to sub-section (1) shall specify any purpose for which the relevant frequency band may be used, including:-

- (a) the particular purpose or purposes for which any part of the band (including any particular frequency or frequency channel) may be used;
 - (b) the number of licences that may be granted for any band;
 - (c) whether the band is for the exclusive use of any person; and
 - (d) whether any part of the band is reserved for the prevention or control of interference.
- (3) A plan prepared pursuant to sub-section (1) may be made either generally or as otherwise provided in the relevant plan and without limiting the generality of the foregoing, may apply:-
- (a) with respect to a specified area; and
 - (b) with respect to a specified period.

66. Interference

- (1) The Minister may order a person by notice in writing served on that person to cause the cessation of operation of any telecommunication installation, if such operation causes interference with the transmission of signals:-
- (a) by prescribed persons;
 - (b) in circumstances which may result in a serious threat to the environment or risk of death of, or injury to, persons or loss of or damage to property; or
 - (c) in a prescribed frequency band.
- (2) No person shall fail without reasonable excuse to comply with an order pursuant to this section.
- Penalty:-
- (3) An order under this section shall last for a period of fourteen days.
- (4) The Minister may withdraw an order or issue an order to the same effect as any previous order.

67. Delegation

- (1) The Minister may either generally or as otherwise provided by the instrument of delegation, delegate to a person any of his powers under this Act, other than this power of delegation and the matters referred to in paragraph 63(1)(a).

- (2) A power so delegated, when exercised by the delegate, shall be deemed to have been exercised by the Minister.
- (3) A delegation under this section shall not prevent the exercise of a power by the Minister.

68. Regulations

The Governor-General may make regulations, not inconsistent with this Act, prescribing all matters which by this Act are required or permitted to be prescribed, or which are necessary or convenient to be prescribed for carrying out or giving effect to this Act.

COMMENTARY ON THE TELECOMMUNICATIONS BILL

This commentary on the Telecommunications Bill ("the Bill") discusses each Part of the Bill, as well as particular clauses.

The structure of the Bill is as follows:

- (a) Part I deals with preliminary matters;
- (b) Part II establishes a regime for the regulation of telecommunication systems, by way of licence or statutory authority;
- (c) Part III establishes a regime for the making of and compliance with technical and operating standards;
- (d) Part IV establishes the Telecommunications Technicians and Operators Licensing Board to license telecommunication technicians ("teletricians"), and issue certificates of proficiency to radio transmitter operators. These functions have been performed by the Australian Telecommunications Commission and the Department of Communications respectively;
- (e) Part V provides for the establishment of a public company ("the Company") to which the business of the Australian Telecommunications Commission is to be transferred and provides for the commencement of its operations;
- (f) Part VI provides the Company with powers in relation to land in order to establish and/or maintain the national terrestrial network;
- (g) Part VII establishes the National Telecommunications Advisory Council, with functions to advise the Minister as to planning the development of telecommunications in Australia; and
- (h) Part VIII deals with a number of miscellaneous matters, including the provision of a national spectrum plan, and the prevention of interference to telecommunications in identified circumstances.

The Bill is drafted to deal expressly with those matters presently regulated by the Wireless Telegraphy Act 1905 and the Telecommunications Act 1975, together with regulations and by-laws under those statutes. The Bill synthesises the two regimes of regulation which have grown up under those two Acts: the first being the licensing regime pursuant to Section 5 of the Wireless Telegraphy Act, and the second being the regime of "authorities" given by the Australian Telecommunications Commission pursuant to Section 13 of the Telecommunications Act 1975.

The Committee considers that, in the light of converging technologies, it is more appropriate that all telecommunications in Australia be licensed under one regime (with due recognition for the separate regulation of broadcasting (radio and television) media).

The licensing regime of the Bill identifies, as its central concept, the "telecommunication system". This is defined by Clause 4 of the Bill to mean "any system or service established or maintained as a means for, or for the organisation of, transmitting whether by radiation or by line, of

an electromagnetic signal, any communication of sound, visual image, information, signal impulse or otherwise

A "telecommunication system" may therefore be comprised of lines, microwave links, or a satellite and earth stations such as the system that will be operated by AUSSAT Pty. Limited ("AUSSAT").

The Bill regulates the transmission of signals by means of a telecommunication system. The Bill does not prohibit the reception of signals. The Bill therefore differs in effect from the Wireless Telegraphy Act 1905, which regulates both transmission and reception.

PART I - PRELIMINARY MATTERS

This Part provides in Clause 4 the various definitions adopted in the Bill. Clauses 2 and 3 provide for the repeal of those Acts which presently regulate telecommunications and wireless telegraphy in Australia, and the sequential manner in which the provisions of the Bill will come into operation. This sequence is expressed to give wide discretion to the Minister, because, for example, repeal of the present regime of technical and operating standards cannot take place until the standards which are a precondition to the new regime are published.

Clause 6 provides certain transitional provisions relating to the transition from the present system of regulation to the new regime.

CLAUSE 2 - COMMENCEMENT

The provisions of the Bill should commence operation in four stages. Certain preliminary sections, together with Part VII (the establishment of the National Telecommunications Advisory Council) and the regulation power in Clause 68, commence operation upon promulgation. The National Telecommunications Advisory Council may assist the Minister in planning the transition between the old regime and the new.

The second stage involves the incorporation of the Company and the transfer to it of the business of the Australian Telecommunications Commission. By Clause 12 the Company is conferred with authority to maintain and operate the telecommunication system now maintained by the Commission. The second stage also introduces the basic prohibitions in the Bill in respect of the maintenance or operation of a telecommunication system (Clause 9) and technical standards (Clause 17).

Clause 6 will preserve existing licences and authorities under, respectively, the Wireless Telegraphy Act 1905 and Telecommunications Act 1975, as well as relevant technical standards applicable under those Acts. These transitional provisions will operate until the new regulatory regime for licensing of telecommunication systems and technical standards has commenced.

The third stage, by which the Bill commences, establishes this new regime of regulation. The Committee anticipates that such will only come into operation when all relevant technical standards have been published, in accordance with Clause 6(2)(c). The fourth stage of the Bill sees Clause 18 (technical standards) coming into operation.

CLAUSE 3 - REPEALS AND AMENDMENTS

The First Schedule should specify that the Wireless Telegraphy Act 1905 and the Telecommunications Act, 1975 shall be repealed sequentially. Certain provisions of the Broadcasting and Television Act 1942 should also, at an appropriate time, be repealed with consequential amendments to that Act.

The Bill has no effect on the Overseas Telecommunications Commission and its enabling Act is not to be repealed.

The Telecommunications (Interception) Act 1979 deals with the interception of information passed over the system maintained and operated by the Commission. The Act will therefore require amendment if the Bill is enacted so as to prohibit the interception of information passed over all systems maintained and operated by common carriers (see Clause 14).

The Committee does not consider it necessary to draft the contents of these Schedules, which is better left to Government implementation.

CLAUSE 4 - INTERPRETATION

"Telecommunication system" is the central concept of the Bill, and is directly related to the basic prohibition in Clause 9. "Telecommunication system" is defined having regard to the constitutional power of the Commonwealth in Section 51(v) of the Constitution.

The system must be one which is "established or maintained as a means for, or for the organisation of, transmitting ...". Accordingly, any system maintained solely for reception of electromagnetic signals (for example, a radio receiver) is not a system to which the Bill applies. For the sake of clarity an express exemption to this effect is contained in Clause 9(2)(b).

By defining a telecommunication system as a "means for, or for the organisation of" transmitting signals, the scope of the Bill is extended to include matters preparatory to the act of transmission (see the judgment of the High Court in Jones v. Australian Broadcasting Commission (No. 2) (1964-65) 112 CLR 206).

The Bill distinguishes between "terminal equipment" and "telecommunication installation". "Telecommunication installation" is the broader concept which includes terminal equipment and also lines, conduits, transmission towers etc.

"Earth station" is defined as being terminal equipment which has the purpose of communicating with any satellite. The definition does not require that purpose to be the primary or sole purpose, so that an earth station may also be a terminal which communicates with some terrestrial system.

The Bill further provides for the concept of "bearer", which is defined to include "lines" as well as other specific media for electromagnetic transmission.

"Leased line" is defined to include bearers leased from any licensed or authorised person whether for the use of the lessee or by other parties.

This definition relates to the exemption provided by Clause 9(2)(d)(iv), and the obligations of a common carrier in Clause 14(1)(a).

CLAUSE 5 - CROWN

Under the common law, the Crown enjoys certain privileges, such as an immunity from prosecution. These privileges are extended to officers or bodies deemed to be within the "shield of the Crown", including many statutory authorities. A related presumption is that statutes do not bind the Crown or bodies within the "shield of the Crown" unless that intention is expressed in the Statute.

Sub-clause (1) provides that the Crown shall be bound by the provisions of the Bill, other than Part II, but preserves the Crown's immunity from prosecutions pursuant to the Bill.

In consequence, agencies of Government must conform to relevant technical standards etc., but will not require a licence to maintain a telecommunication system.

Certain public instrumentalities (not within the "shield of the Crown") were exempted from the prohibition in Section 94 of the Telecommunications Act 1975. These exemptions, in respect of railways, transport authorities and OTC and others, are preserved by the Bill.

Sub-clause (2) provides that the Company shall not have any rights or privileges of the Crown. Certain commentators believe the Commission is in the same position with the exception of Section 101 of the Telecommunication Act 1975 which provides an immunity from actions for damages. In this Bill, common carriers (including the Company) are given certain statutory protections (see Clause 14), but are not provided with the blanket exemptions which the Commission has enjoyed. This provision is consistent with other aspects of the Bill, which place the Company in an equal position with other persons operating telecommunication systems.

CLAUSE 6 - TRANSITIONAL

Existing licences and standards are maintained until a date to be declared by the Minister ("the relevant day"). The persons licensed pursuant to the Wireless Telegraphy Act 1905 or the Telecommunications Act 1975 will be able to apply for a licence (where necessary) pursuant to the Bill. When such persons make an application before "the relevant day", their licence continues until the time when the application is granted or refused.

Existing technical standards remain valid until such time as the new standards can be compiled and published and adopted pursuant to Section 18 of the Bill.

The transitional provisions also operate to preserve certain rights of employees of the Commission in respect of appeals in progress and other matters.

CLAUSE 7 - ADDITIONAL OPERATION OF THE ACT

The operation of the Bill should be extended to all persons in respect of whom the Commonwealth may make laws, taking into account other heads of

power in Section 51 of the Constitution, in addition to Placitum (v) of that Section.

CLAUSE 8 - APPLICATION

The application of the Bill is extended to any act or omission having an effect in Australia. For example, the Bill will extend to the transmissions of foreign satellites. Such application is subject to Australia's obligations under international law, specific examples of which are discussed below.

PART II - TELECOMMUNICATION SYSTEMS

This Part establishes a regime, pursuant to which telecommunication systems may be maintained and operated.

The central concept is the blanket prohibition on persons maintaining or operating a system, provided by Clause 9(1). This prohibition is subject to a number of exemptions in Clause 9(2).

Clause 9(2)(d)(iii) exempts persons holding licences or people identified in a "class" licence. Licences are granted by the Minister in accordance with Clause 10.

Clause 9(2)(i) and (ii) exempts the Company and AUSSAT, to the extent that they are maintaining or operating a telecommunication system pursuant to their statutory authority. The scope of that authority is defined by Clauses 12 and 13 respectively. Clause 13 extends the authority to nominated earth stations.

Clauses 14, 15 and 16 define the various obligations of "common carriers". The concept of a common carrier has been introduced into the Bill in order to distinguish "independent networks" (that is, telecommunication systems maintained solely for use by the person licensed) and "public networks" for the provision of subscriber services to the public, or a sector of the public. Although the Committee acknowledges that, initially, the only common carriers shall be the Company and AUSSAT, it anticipates that other parties will seek to be licensed. The Minister may determine that such new telecommunication systems should be maintained in a manner complementary to those systems maintained by the Company and AUSSAT as a common carrier.

There are three major obligations upon a common carrier imposed by this Part:

- (a) Clause 14 provides that the services provided by a common carrier are to be provided to all persons without discrimination;
- (b) Clause 15 provides that an interconnection with a system maintained by a common carrier is only to occur with the consent of the Minister and when the relevant agreement effecting such interconnection is notified to the Minister; and
- (c) Clause 16 identifies the obligations of the common carrier to maintain the confidence of information transmitted by the relevant system.

It is now appropriate to discuss particular provisions of Part II.

CLAUSE 9(1)- BASIC PROHIBITION

The Committee considers it appropriate that only the transmission of signals be subject to regulation under the Bill. The Minister is not obliged to approve the establishment of a system, but rather the provision of telecommunication by its maintenance and operation.

The basic prohibition under the Bill is against the maintenance or operation of a telecommunication system. The prohibition therefore replaces the provisions of Section 5 of the Wireless Telegraphy Act 1905 and Section 94(1) of the Telecommunications Act 1975.

The prohibition does not extend to the establishment of a system, particularly because of the unnecessarily broad impact this would have on telecommunication equipment manufacturers.

The prohibition extends to any system or service for transmitting, if such transmission takes place in Australia or an External Territory or is for the purpose of transmitting to Australia or an External Territory. It will extend to international communication between Australia and other countries, subject to Australia's international obligations (for example, it will not extend to the INTELSAT Treaty - see Clause 8(2)).

CLAUSE 9(2) - EXEMPTIONS TO PROHIBITION

The exemptions contained in Clause 9(2) create a new environment for telecommunication. The following comments relate to classes of exemption from the basic prohibition:

- (a) Persons authorised or licensed under the Bill are exempt from the basic prohibition.

Clauses 9(2)(d)(i) to (iii) exempt the Company, AUSSAT and persons acting in accordance with licences respectively.

- (b) The most widespread exemption in practical terms is that provided in Clause 9(2)(a), in respect of persons using licensed or authorised telecommunication systems. There are three specified circumstances, where this exemption will apply namely:
 - (i) A person may operate an item of terminal equipment which is connected to such a system by line. A telephone handset (or, indeed, a sophisticated data transmission apparatus) may be connected to any licensed or authorised system, subject to compliance with standards (see Clause 17). The system itself is licensed, but the contents of signals which may pass across the system are unregulated: the operation of terminal equipment is not prohibited conduct. The traffic content of the terrestrial line network is not subject to Ministerial licence.
 - (ii) If a licence specifies that terminal equipment may be used by persons other than the holder of the licence, that operation by those persons is exempt from the basic prohibition. In

this manner, an "umbrella" licence may be granted by the Minister, in respect of some specified "total" system. For example, the Royal Flying Doctor Service could obtain a licence which identified a number of transmitters, as well as a specific frequency band. Any person could use such a transmitter in connection with the Service, so long as that person conformed to the specified frequency which would apply as an operating standard (see Clause 19). This exemption may also apply to paging and like services.

- (iii) The Minister may exempt specific items of terminal equipment which may be operated with a telecommunication system. This exemption will apply to devices which transmit by radiation of signals, so as not to be within the exemption discussed in (i) above. Radio-telephone devices (used in connection with domestic handsets) could be so exempted.

- (c) Any act of receiving electromagnetic signals is exempt.

This exemption may be unnecessary taking into account the definition of "telecommunication system" and the nature of the basic prohibition. It has been included to take account of the case of a person maintaining or operating a system which may facilitate both the transmission and reception of signals, but who utilises the system solely in relation to the reception of signals. Sub-clause 2(b) and sub-clause 2(c) provide that a person in such a case does not require a licence merely because of the capacity to transmit. The act of reception is exempt; but so also is the maintenance or operation of the relevant terminal equipment in relation to that act or conduct. The Committee believes that a person engaged in the conduct of receiving signals in these circumstances should not require a licence.

In the case of O'Leary v. Matthews (1979) 42 FLR 114, the Court considered whether the exemption provided by clause 130(2) of the Broadcasting & Television Act 1942 in respect of the maintenance and operation of "broadcasting receivers", excused persons operating certain receivers from the need to acquire a licence under the Wireless Telegraphy Act 1905. The Court had to distinguish between equipment which received messages, which both transmitted and received messages, and which, although used only to receive messages, was also capable of transmitting messages. Such distinctions will not be necessary under the Bill.

- (d) The operation of leased lines in connection with authorised or licensed systems is exempt. The exemption will apply in circumstances where one party leases a bearer from (say) the Company or AUSSAT and, by virtue of that bearer, provides some further service. For example, a person may obtain a Sydney-Melbourne bearer and utilise it for the purposes of data transmission, as well as sub-lease that facility to other parties.

The exemption provided in respect of the operation of a leased line, in Clause 9(2)(d)(iv), applies, inter alia, to an independent leased line constituting a new telecommunication system. The definition of "telecommunication system" however includes any part of a system,

so that it would be logical to assume that a leased line is covered by the "umbrella" authority or licence. The exemption has been included to put the matter beyond doubt, since leased lines are so much a part of the Australian telecommunications scene.

The Report of the Australian Broadcasting Tribunal into Cable and Subscription Television Services (August 1982) recommends that a designated amount of channel capacity of a cable television system should be required to be available for leased use by persons other than the licensee, either for entertainment or broadcasting-type services or "enhanced" services. Such a condition could be imposed by the Minister, pursuant to clause 10(2) of the Bill.

- (e) Specific operators of telecommunications systems, for railways, tramways, and O.T.C. are exempt, as under Section 94(2) of the Telecommunications Act 1975.
- (f) As discussed in the Committee's Report, there is no exemption provided in respect of the holders of licences pursuant to Part IIIB of the Broadcasting & Television Act 1942. Such an exemption is now provided by Section 94(2)(f) of the Telecommunications Act 1975.

The Bill is drafted on the assumption that the Australian Broadcasting Corporation Bill 1982 (the "ABC Bill") will be enacted.

The ABC Bill provides in Clause 25 that the Australian Broadcasting Corporation has power to do all things necessary or convenient to be done for or in connection with the performance of its functions. The functions of the Corporation are defined in Clause 6, and these include the provision within Australia of broadcasting and television services and to transmit to countries outside Australia broadcasting programmes and television programmes of an identified type. Therefore, the corporation will have the power and authority to transmit independently of the Telecommunications Bill. The Corporation will therefore be in a different position to commercial broadcasting stations which would require a licence under the Bill.

Clause 77 of the ABC Bill provides for the use by the Corporation of satellite systems. Sub-clause (2) provides that the Commonwealth may provide an earth station to the Corporation for use in connection with the operation of the Corporation's transmitters. Pursuant to the powers granted by Clause 25, the Corporation would not require a licence pursuant to the Telecommunications Bill, to maintain and operate an earth station, provided such maintenance and operation was in connection with the performance of the functions of the Corporation.

Accordingly, further provisions may be included in Clause 9(2), upon consideration of government policy generally.

- (g) In respect of persons operating telecommunication systems solely on their own land (sub-clause (2) (e)(viii)), the Bill discards the requirement in the Telecommunication Act 1975 that these communications are used solely for the purposes of the owner of the land.

(This provision was considered in Postmaster General v. National Telephone Company Limited (1909) A.C. 260.)

The Bill would permit persons to maintain private telecommunication systems on their own land for general "public" purposes. For example, hotels may establish an internal cable T.V. or business centres may maintain inter-office intercoms or computer facilities, which are for the benefit of tenants or occupants generally.

The exemption would not extend to any radiated service, because any such system would necessarily be capable of use outside any one person's land.

The Committee acknowledges that the "own land" exemption may permit the establishment of "neighbourhood" networks, because the sub-clause does not require an exclusive occupation of the relevant land by the person operating the system. Accordingly, if an occupier of abutting land were to maintain a system across those two parcels of land, that system would be exempt. Presumably, a private cable operator could obtain a right to occupy land in a certain neighbourhood and thereby maintain and operate a limited cable system to the extent that each owner of the relevant parcels of land agreed.

CLAUSE 10 - LICENSING OF TELECOMMUNICATION SYSTEMS

This clause establishes a licensing regime. The Minister has an absolute discretion to grant or refuse applications for licences. The Minister's discretion embodies that previously exercised by the Minister pursuant to Section 5 of the Wireless Telegraphy Act 1905 and that exercised by Telecom pursuant to Section 13 of the Telecommunications Act 1975.

The Minister may grant a licence subject to such conditions as he thinks appropriate. For example, the Minister may prescribe as a condition of any licence that the licensee shall operate the relevant system as a "common carrier". The obligations of common carriers are provided by clauses 14, 15 and 16.

The Minister shall require every licensee to adhere to technical and operating standards. However, the Minister may not impose conditions which relate to matters in respect of which he may not give a direction to the Company (see Clause 37). This restriction will ensure equality between the Company and licensees.

Each licence will be held by one person. The activities of that person are exempt from the basic prohibition in Clause 9.

The Minister may grant a "class licence", which specifies members of a class of persons who may operate equipment pursuant to the licence. He may also indicate terminal equipment which persons other than the licensee may operate (such operation being exempt conduct, by virtue of Clause 9(2)(a)(iii)). Such "umbrella" licences may be issued to "group users" for example, to the Royal Flying Doctor Service, or to a paging system.

Sub-clause (7) provides a nexus between the Bill and the Broadcasting and Television Act 1942, in that no licence under Clause 10 authorises any transmission of programmes "intended for reception by the general public" -

this phrase repeating the term adopted in Section 4 of the Broadcasting and Television Act. This nexus looks to an amended Broadcasting and Television Act 1942, as discussed in paragraph 12.26 of the Report. The sub-clause refers both to the nature of the programmes and the requirement of a licence under Part IIIB of the Broadcasting and Television Act. The first reference is included to relate to the provision of programmes by cable television, to which Part IIIB will not apply (without amendment).

CLAUSE 11 - RIGHTS OF LICENSEES

The grant of a licence by the Minister shall not itself give rise to any proprietary right in the licensee nor any right to compensation upon suspension or revocation of the licence.

The prohibition provided in clause 9 of the Bill relates to the maintenance or operation of a telecommunication system. A person is not restrained from possessing equipment or property, by which a telecommunication system could be established. Accordingly, a person may have a proprietary interest in the "hardware" which provides a facility, the maintenance and operation of which is prohibited. Upon the grant of a licence by the Minister pursuant to clause 10, conduct which is otherwise prohibited is permitted. The licence should properly be considered not as a proprietary right, but as a permission to use property in the manner specified by the licence.

Clause 11(1) defines a licence to be a personal right rather than a proprietary right.

Clause 11(3) prohibits the assignment of licences.

Clause 10(4) provides that the Minister may revoke or suspend or vary a licence for any reason related to the "conduct behaviour or reputation" of persons controlling a body corporate. The Committee believes that this discretion is necessary to control conduct of corporate licensees.

The Committee notes that, if the Government wishes to control foreign ownership of telecommunication systems, appropriate restrictions could be imposed under the Foreign Investment Guidelines.

CLAUSE 12 - NATIONAL TERRESTRIAL COMMON CARRIER

This clause defines the role and obligations of the Company. The Company is to maintain and operate a system for the "purposes of being the national terrestrial common carrier for telecommunications in Australia".

Sub-clauses (2) and (3) further define those obligations. Sub-clause (2) looks to the need for the Company to provide lines (physical media) to make services available throughout Australia, so far as reasonably practicable. Sub-clause (3) creates an obligation to respond to meet the reasonable social, industrial and commercial needs of the Australian people, in respect of the "basic" services (telephone, telex, data transmission and like services). Therefore, the Company must maintain a capacity to provide the necessary telecommunication services between geographical locations in Australia, so far as practicable. This capacity may be met by the provision of lines or radiated systems. However, sub-clause (4)(c) provides that, although the Company has an authority to provide such

services, it must obtain a licence where such services are to be provided by radiated systems. This requirement maintains the present situation in which the Commission operates its radiated systems pursuant to licences granted under the Wireless Telegraphy Act 1905 (Section 8 of the Telecommunications Act 1975). If both the Company and some other party seek a licence in respect of the same portion of the radiated telecommunications spectrum, no statutory preference is given to the Company.

There is a certain degree of conflict between the concept of the Company as a public company whose directors act in accordance with normal "business principles", and the obligations created pursuant to sub-clauses (2) and (3) of clause 13. For example, the directors of the company may perceive a conflict between the commercial interests of the company and an obligation pursuant to sub-clause (2) or (3).

The Bill establishes a means by which such conflict may be resolved.

If the Company were not to follow advice by the Minister pursuant to Clause 12(5), then the Minister may give a direction to the Company pursuant to Clause 37. Clause 37 provides, however, that a direction by the Minister to the Company requiring the provision of a telecommunication service may only be given if the Company and the Commonwealth have reached an agreement as to the respective proportions of capital expenditure, relating to that new service. (See Clause 37(5)).

This process could result in direct subsidies by the Commonwealth, rather than by current means of "cross-subsidisation" of services provided by the Commission.

There is no statutory prohibition included in the Bill to the effect of recommendation R27 of the Report. This is considered a matter of practical implementation.

The Committee considers it important that the Company and AUSSAT adhere to all technical and operating standards as apply pursuant to the Bill. Clauses 12(4)(d) and 13(7) respectively require such adherence.

CLAUSE 13 - NATIONAL SATELLITE COMMON CARRIER

This clause provides an authority which extends to the "satellite" system, constituted by the satellites maintained by AUSSAT and certain earth stations to be nominated by the Minister.

The Committee considers it appropriate that the Minister may nominate certain "major city earth stations" or other earth stations, as being within the authority provided by Clause 13. In this manner, a comprehensive satellite telecommunication system can come into operation, with consistent conditions of operation, even if certain of these nominated earth stations are not owned or controlled by AUSSAT. The Committee acknowledges the recent decision of the Minister that AUSSAT will own the "major city earth stations". However, it considers that the drafting of Clause 13 is appropriate because it allows the future development of an earth station infrastructure to include earth stations not owned by AUSSAT.

AUSSAT will require a licence under the Bill to maintain and operate any earth station, other than is nominated pursuant to sub-clause (1), or other telecommunication system.

The transponder capacity of the AUSSAT satellites is to be provided by AUSSAT as a common carrier to persons having the relevant earth station capacity by virtue of an authority or licence under the Bill, subject to those matters prescribed under sub-clause (2) (which may include remote subscriber telephone services and air traffic control). The provisions of the Memorandum and Articles of Association of AUSSAT would at all times be subject to this duty.

Unlike the authority of the Company, AUSSAT's authority is subject to such conditions as the Minister thinks appropriate. These conditions will also apply to authorised earth stations. Any non-compliance will result in the revocation of the authority conferred on the person who has failed to comply for the period of non-compliance. (Sub-clause (4)).

As with licences under Clause 10, conditions may not be imposed by the Minister if the Company cannot be subject to directions effecting conditions of like nature.

CLAUSE 14 - COMMON CARRIER

Clause 10(5)(a) gives the Minister power to require, as a condition of a licence granted pursuant to that section, that the licensee maintain and operate his telecommunication system as a common carrier. In addition, both the Company and AUSSAT are designated by the Bill to be authorised as common carriers in relation to their statutory responsibilities (see Clauses 12(1) and 13(2)).

Clause 14 defines the duties of a common carrier. A common carrier must give reasonable access to its telecommunication system to any person, unless that person would be unable to meet the financial obligations connected with such access, or that person contravenes a provision of the Bill in respect of such access (e.g. the person is seeking to interconnect without complying with Clause 15, or is operating sub-standard equipment).

The common carrier may not make any unjust or unreasonable discrimination, or give any undue or unreasonable preference or advantage to any person. This will prevent a common carrier from using commercial means to prevent access to its telecommunication system, as has been subject to litigation in the United States.

Sub-clause (2) exempts common carriers from suit in tort in respect of loss or damage suffered by reason of failure in or faults arising from a telecommunication system, or by reason of the interception of information by persons other than the common carrier. Interception by other persons will be a criminal offence under the Telecommunications (Interception) Act 1979, ("the Interception Act") if amended by a Schedule to the Bill (see Clause 3(2)). The Committee notes that the Interception Act now applies to the interception of communications over a "telecommunication system" which is defined to include any system (whether by line or radiated) controlled by the Commission, together with services authorised by the Commission. The Interception Act does not presently extend to radiated systems in general, although the Committee considers that a case could be made for application of this offence to the interception of any signal transmitted by a common carrier.

A party aggrieved by such interception may also have a remedy against that stranger in nuisance. Sub-clause (2) does not affect any proceedings which may lie for breach of contract.

CLAUSE 15 - INTERCONNECTION

This clause provides the means for the Minister to regulate the interconnection of telecommunication systems, one or both of which have been designated as common carriers. The Minister must consent to an interconnection before it can take place, and where consent is granted full details of any agreement, arrangement or understanding between the parties to the interconnection must be disclosed to the Minister. The Minister must maintain a public register upon which are entered details of such agreements, arrangements or understandings.

In addition to the obligation to notify agreements concerning interconnection with common carriers, a person who is entitled to such interconnection must also notify any other agreement by which some third party may interconnect with his system, and thereby interconnect with that maintained by the common carrier. This regime, put into effect by Clause 15(4), is necessary so that some independent network does not acquire access to the wider telecommunication system, by virtue of the first interconnection, thereby avoiding the obligations of Clause 15 by use of an intermediary system.

Any condition to the ministerial consent is deemed to be a condition to any relevant licence or authority. The Minister may withdraw his consent or impose new conditions at any time. However, as with Clauses 10 and 13, conditions may not be imposed by the Minister if the Company cannot be subject to directions affecting conditions of like nature.

The requirements of Clause 15 apply only to an interconnection between a common carrier and a licensed or authorised system. Accordingly, it is not necessary to obtain Ministerial consent to any interconnection with PABXs, which may be maintained without any licence (pursuant to exemption in Clause 9(2)(d)(vii)).

CLAUSE 16 - COMMON CARRIER OBLIGATIONS OF CONFIDENTIALITY

The Telecommunications (Interception) Act 1979 (in the amended form anticipated by the Committee) will deal with the interception of messages by persons other than the parties to the message or the common carrier.

Clause 16 provides a duty upon a common carrier, or its employee or agent, not to divulge information obtained by reason of his position as, or with, a common carrier.

Certain exemptions are provided in sub-clause (2) to protect employees acting in the course of their duties and other persons.

This clause should be considered together with Clause 14(2).

If a common carrier or any employee intercepts and divulges messages, two consequences follow. First, that person commits an offence pursuant to Clause 16(1). Secondly, an action in tort may lie, in respect of the breach of confidence arising from such interception (Clause 14(2)).

The case of Malone v. Commissioner of Police of the Metropolis (No. 2) (1979) 2 All ER 620 suggests that the Commission may not be subject to actions of this kind, either in contract or tort. However, common carriers under the Bill, because they will be fulfilling a contractual rather than a statutory duty to provide services, would not appear to be within the scope of this decision, and may be subject to actions for breach of contract. The exemption in Clause 14(2) will only pertain for such time as the common carrier is licensed. If a breach of condition of licence resulted in the suspension of the licence, pursuant to clause 10(2), no protection would be afforded by sub-clause (4).

PART III - MAKING AND COMPLIANCE WITH STANDARDS

This Part provides a means whereby standards are determined and offences created in respect of a failure by any person to comply with such standards.

Clause 18 contemplates that the standards authority (the Standards Association of Australia or some other person prescribed for this purpose by the Minister) shall determine and approve appropriate technical standards. In this manner, new standards in respect of telecommunication installations shall be adopted, upon a declaration by the Minister in accordance with Clause 18(2).

Clause 18 will operate in conjunction with the transitional provision in Clause 6(2). Pursuant to Clause 6(2), all existing relevant technical standards applicable either pursuant to the Wireless Telegraphy Act 1905 or the Telecommunications (General) Bylaws shall continue in force until published. Upon such publication, these standards shall be technical standards applicable pursuant to the Bill. In this manner, the Standards Authority shall commence to discharge its responsibilities after a comprehensive set of standards is available. The Committee acknowledges that Clause 18 may come into operation after a period in excess of 12 months, taking into account the significant number of standards which must be drafted in publishable form.

As a signatory to the General Agreement on Tariffs and Trade ("GATT") Standards Code, Australia is obliged not to impose non-tariff barriers by the prescription of technical standards which effectively operate to exclude the importation of goods into Australia. It is necessary, therefore, for the operation of Clause 17 (which imposes a prohibition with respect to dealing in goods not complying with relevant standards) and Clause 18 (which creates the means by which such standards are to be determined) to be in accordance with Australia's obligations under GATT. However, other than to note that the operation of these clauses may be restricted in this manner by virtue of Clause 8(2), the Committee does not consider it appropriate to comment further.

The regime of determining technical standards is new to Australia. Technical standards may, pursuant to in Part III, be applied to receiving equipment. This is so because "terminal equipment" is defined to include any apparatus used or intended for use "to establish a point...to send or receive electromagnetic signals...".

CLAUSE 17 - STANDARDS OF TELECOMMUNICATION INSTALLATIONS

This clause creates a series of offences in respect of persons who deal in terminal equipment or use telecommunication installations which do not conform to technical standards declared pursuant Part III.

Terminal equipment which complies with technical standards may be distinguished from that which does not by means of an affixed mark. In this way, consumers can easily discern compliance with standards. Clause 17(5) provides a defence to persons who rely on the prescribed mark, unless aware of a non-compliance.

Sub-clause (3) provides that it is an offence for a person to affix a mark to equipment which does not conform to technical standards.

Telecommunication installations dealt in or used in contravention of Clause 17 shall result in forfeiture of the installation to the Commonwealth (sub-clause 9).

Sub-clause (4) provides a defence to any prosecution in respect of use of terminal equipment in "emergency" situations.

Sub-clause (6) excludes from the operation of this clause telecommunication installations intended for export. Clause 17 is directed to the supply of equipment to the Australian market-place. Accordingly, it would seem inappropriate to require Australian standards to be applied to exported goods.

CLAUSE 18 - TECHNICAL STANDARDS

This clause sets out the means by which technical standards are to be adopted.

It comes into operation when the technical standards presently in force are published. Technical standards are to be declared by the Minister in the Gazette, provided the Minister is satisfied that the standard has been prepared by the Standards Association of Australia (or another prescribed Standards Authority), and that the standard has been available for public comment for a period of not less than two months, before approval by the Standards Authority.

Sub-clause (5) provides a means whereby the Minister may declare a class of telecommunication installation to conform to every technical standard by means of notice in the Gazette. This clause will enable the Minister to make available equipment which is novel in some manner but has not been subject to consideration by the Standards Authority.

CLAUSE 19 - OPERATING STANDARDS

Clauses 17 and 18 deal with the technical standards of equipment used in connection with a telecommunication system. Clause 19 is concerned with the operation of radiocommunication transmitters.

Clause 19 creates an offence in respect of the operation of radiocommunication transmitters by persons other than qualified operators. A "qualified operator" is a person who holds a certificate of proficiency issued pursuant to Part IV. It is also an offence for a person to authorise or permit a person other than a qualified operator to operate a radio-communication transmitter.

The clause also creates an offence in respect of the operation of a radio-communication transmitter in contravention of operating standards applied by sub-clause (3), as well as operating standards which may be notified by the Minister in the Gazette (sub-clause (3)(e)).

It is a defence that a radiocommunication transmitter was used in contravention of this clause in an "emergency" (sub-clause (4)).

This clause will apply to all persons, whether authorised, licensed pursuant to Part II or exempt from the prohibition in Clause 9(1). It is directed to the public policy that there be an ordered national telecommunication network.

PART IV - TELECOMMUNICATIONS TECHNICIANS AND OPERATORS LICENSING BOARD

Part IV establishes the Telecommunications Technicians and Operators Licensing Board, and defines the functions of the Board. The Board has the responsibility of licensing persons to instal, repair or service any telecommunication installation, as well as issuing certificates of proficiency to persons who wish to operate radiocommunication transmitters (Clause 21).

The Board may suspend or revoke licences and certificates of proficiency in cases where the licensees or operators are no longer fit to hold licences or certificates of proficiency (Clause 24).

The details of each licence and certificate of proficiency are to be maintained on a public register (Clause 26). The Minister may by notice published in the Gazette, declare that certain persons are deemed to be qualified operators. This clause will allow the Minister to declare, for example, that members of the defence forces need not make application to the Board for certificates of proficiency.

By Clause 27, decisions of the Board are subject to appeal to the Administrative Appeals Tribunal.

The Committee notes the relationship between Clauses 22 and 28 of the Bill. Clause 28 creates offences for a person to instal, repair or service any installation of a class which is prescribed for the purposes of that section. An offence also exists in relation to persons who authorise an unlicensed person to act in contravention of the first offence or falsely represent that an installation, repair or servicing is in compliance with the Act. The Committee anticipates that classes for the purpose of Clause 28 will be prescribed as and when the Board establishes its system of licensing. Clause 22(5) authorises the Board to grant licenses in respect of the classes of terminal equipment in respect of which notice is given by the Minister in the Gazette.

The scheme represented in Clauses 22 and 28 is that the Board will, upon Gazettal of new classes, institute a licensing procedure, pursuant to which persons will obtain licences in respect of that identified class of equipment. At some later date, by regulation, it will be an offence for any person not holding a relevant licence to instal, repair or service that class of equipment.

Clause 28(1) distinguishes offences relating to installation, and relating to repair and servicing. It is therefore possible that many classes of equipment could be installed by unlicensed persons, (e.g. "plug in" telephone handsets which meet applicable technical standards), although repairs ought only to be effected by licensed persons.

The repair, installation and servicing of prescribed terminal equipment should comply with all technical standards which apply to that equipment and to the connection of the equipment to any telecommunication installation (sub-clause (1)(d)). This offence shall not, however, apply to the act of "plugging in" handsets, unless there is a standard as to how to so "plug in" (a most unlikely event).

PART V - THE COMPANY

Part V is concerned with the establishment of Telecom Australia Limited, a company to be formed by the Commission, pursuant to Clause 29, which will take over the functions and duties of the Commission.

The recommendations in relation to Telequip Pty. Limited leave open a number of organizational possibilities. Because of the openness of these questions, the Bill has not provided other than for a transfer of all assets and liabilities to the Company. Further statutory provisions could be necessary to implement recommendations in Chapter 11 of the Report.

Clause 30 provides that all assets and liabilities of the Commission are to be transferred to the Company on commencing day (a date to be fixed by the Minister).

Clause 31 provides that all employees of the Commission are, on commencing day, to become employees of the Company.

The employees of the Company are to continue on the same terms of employment as with the Commission and superannuation benefits are preserved by means of this clause and following clauses.

The scheme of the Bill relating to superannuation is as follows:

- (1) Upon ceasing to be an employee of the Commission, each person will cease to be an "eligible employee" for the purposes of the Superannuation Act 1976.
- (2) The Company is to establish a superannuation fund for its employees (Clause 32(2)).
- (3) Upon ceasing to be employees of the Commission, employees are entitled to the amounts of their contributions (Clause 31(5)).
- (4) The Commissioner for Superannuation is to transfer the amount of each employee's contributions to the superannuation fund established by the Company (Clause 32(3)).
- (5) The Company and the Commonwealth are to agree as to the amount that the Commonwealth shall pay to the superannuation fund established by the Company so as to enable the Company's superannuation fund to pay to former employees of the Commission who have remained with the Company the same benefit to which they would have been entitled had they remained with the Commission (Clause 32(4)).

- (6) With respect to former employees of the Commission, any continuing or contingent liabilities in the Commonwealth Superannuation Fund are to be subject to a contribution by the Company (if required pursuant to Section 159 by way of reimbursement to that Fund), but only so that the ultimate employer contribution is no greater than with respect to the Company's private fund. Any difference shall be met by the Commonwealth (Clause 30(4)).

Clause 33 provides for the registration of land vested in the Company by virtue of Clause 30.

Clause 34 provides that judicial or administrative proceedings involving the Commission shall continue in the name of the Company.

Clause 35 provides that any instrument or document related to the vesting in the Company of any assets of the Commission pursuant to Clause 30 is not liable for stamp duty.

Clause 36 deals with the financial structure of the Company. Clause 36(4) is of particular importance and provides that any liability attributable to investment by the Commonwealth in the Commission shall be carried to a statutory reserve.

Clauses 37, 40 and 41 establish a relationship between the Company and the Commonwealth. Clause 37 enables the Minister to give directions to the Company in respect of certain prescribed matters (specified "commercial" matters may not be prescribed - Clause 37(3)), and requires the company to carry out such directions, subject to the provisions of that clause (see below).

The Company must, after each financial year, furnish to the Minister an Annual Report for presentation to the Parliament. The Report must set out certain matters provided in Clause 40. Further, the Company must supply to the Minister, upon his written request, documents which relate to the operation of the Company (Clause 41). However, the Minister may not require documents with respect to the affairs of an individual person.

Clause 38 requires the Company to pay all rates, taxes and charges applicable under any law of the Commonwealth, State or Territory.

The Commission is to prepare a report and final accounts to the Minister to be laid before each House of Parliament (Clause 39).

CLAUSE 29 - THE COMPANY

This clause sets out the procedures by which the public company shall be formed, this Company being authorised to carry on business under the name "Telecom Australia Limited", "Telecom Australia" or "Telecom".

Sub-clause (3) envisages that the Company shall be wholly owned by the Commonwealth unless the Minister otherwise consents. The Company is not permitted to issue any shares to persons other than the Commonwealth or register transfers of any shares, without the written consent of the Minister (Clauses 29(3) and (4)).

CLAUSE 30 - TRANSFER OF ASSETS AND LIABILITIES TO THE COMPANY

On a day to be notified by the Minister, all the assets and liabilities of the Commission are to be vested in the Company.

The Company continues to be liable to the Commonwealth, as if it were the Commission, to reimburse Consolidated Revenue for payments made to employees of the Commission pursuant to Section 159 of the Superannuation Act 1976. However, the company need pay only the sum which it would have contributed to its own superannuation fund. In this manner, the Company is insulated against change in relativity between public sector superannuation benefits and private sector benefits.

The guarantee provided by the Commonwealth in respect of securities issued by the Commission (pursuant to Section 72(4A) of the Telecommunications Act 1975) is maintained by sub-clause 30(6).

The superannuation scheme provided by the Bill is discussed more fully in the commentary on the next clauses.

CLAUSE 31 - EMPLOYEES

All persons who are employees of the Commission before commencing day become, by force of this clause, employees of the Company from commencing day. The terms and conditions of employment with the Company are to be the same as they were with the Commission, but are deemed to be embodied in a contract of employment. From commencing day, terms and conditions of employment may diverge from those of employees in Commonwealth employment.

Clause 31(5) provides that, upon employees of the Commission ceasing to be "eligible employees" for the purposes of the Superannuation Act 1976 they are entitled to their contributions to the Commonwealth Superannuation Fund.

Clause 32 deals further with the preservation of the benefits to which the employee was entitled under the Superannuation Act 1976.

CLAUSE 32 - SUPERANNUATION FUND

The Company is not to be an approved authority for the purposes of the Superannuation Act 1976 and is required to establish a private superannuation fund.

To preserve the benefits to which former employees of the Commission were entitled Clause 32(4) provides that the Commonwealth shall pay to the trustees of the Company's superannuation fund an amount necessary to preserve the benefit to which that employee was entitled as an employee of the Commission.

CLAUSE 36 - FINANCIAL STRUCTURE

This clause establishes the financial structure of the Company as at "commencing day".

Sub-clause (1) provides that the value of assets and liabilities vested in the Company pursuant to Clause 30 shall be that shown in the final accounts of the Commission prepared pursuant to Clause 30.

The Committee acknowledges that the accounts of the Commission may overstate certain values of assets held by the Commission. The Company may therefore, as a public company, be entitled to significant depreciation allowances. However, these allowances may serve to ameliorate the new taxation obligation (Clause 38) of the business.

Sub-clause (1) is subject to the following:

- (a) The amount of shareholders funds shall equal the amount of outstanding liability of the Company for loans to the Commission by the Commonwealth. The amount of outstanding liability is to be determined by the Minister who may extinguish liability for such loans to the extent that is required (sub-clause (2) and see Recommendation R94 of the Committee's Report).
- (b) Any surplus of assets over liabilities (not including shareholders funds determined pursuant to sub-clause (2)) shall be carried to a share premium account (sub-clause (3)).

Sub-clause (5) implements Recommendations R73 and R74 of the Committee's Report. The obligations imposed on the Board of Directors of the Company by this sub-clause are at all times subject to the general duties of the directors at law (that is, to act for the benefit of the company as a whole) (sub-clause (b)).

CLAUSE 37 - CONTROL AND SUPERVISION BY THE MINISTER

This clause enables the Minister to direct the Company in respect of prescribed matters. The Company must comply with a direction given by the Minister. The direction power enables the Commonwealth to control the activities of the Company in respect of matters of public policy prescribed by the Parliament.

Sub-clause (3) restricts the power of the Minister to give directions by providing that he may not give directions which relate directly or indirectly to:

- (a) the terms and conditions of employment of staff and officers of the Company;
- (b) the determination, fixing or variation of rentals payable in respect of terminal equipment or charges for the use of telecommunication systems;
- (c) the terms and conditions of the purchase or supply of goods or services by the Company.

Therefore, the Minister may not interfere with the commercial aspects of the administration of the Company.

Sub-clause (4) provides that the Minister is not given the power to interfere with the contractual dealings of the Company nor may he require the directors of the Company to act in breach of their obligations under the Companies Act 1981.

Sub-clause (5) provides that, where the Minister directs the Company to provide a service which is not already provided by the Company, the Commonwealth and the Company must reach agreement as to the amount of capital expenditure that each will bear in the provision of such service. This will require the Commonwealth to make contributions to the provision by the Company of unprofitable services where the directors of the Company would, by reason of their duties imposed by law, be unable, in the interests of the Company, to direct that the Company to provide such a service.

CLAUSE 38 - TAXATION

The Company will be subject to taxation liabilities. The Company is to stand in a position identical to other public companies. Accordingly, the Company's securities are not to be treated as "public securities" for the purposes of the Income Tax Assessment Act (see Clause 38(3)). However, the Company is to enjoy depreciation allowances available upon any depreciation from the values of assets attributed by the Commission (Clause 38(4)).

PART VI - POWERS OF THE COMPANY IN RELATION TO LAND

This Part empowers the Company to enter lands owned privately or by the Commonwealth or a State or Territory in order to carry out its functions under the Bill. The powers granted to the company are substantially the same as those that were granted to the Commission under the Telecommunications Act 1975.

Like the Commission, the Company is required to give notice to land owners and public authorities of its intention to enter and work upon their land.

Clause 44 gives the Company power to construct telecommunication installations. However, sub-clause (11) expressly limits this power to acts of the Company done in pursuance of its authority as the national terrestrial common carrier (pursuant to Clause 12). Therefore, if the Company intended to construct a telecommunication installation as a part of a licensed telecommunication system, rather than as part of its "authorised" system, it would be in the same position as other persons in the business of supplying telecommunication services, without statutory power to enter land.

The Committee considers it appropriate that only the Company be granted statutory powers to enter land, because only the Company will be required by statute to provide a national line system. Private operators, including AUSSAT and the Company acting pursuant to a licence, will be required to enter into normal contractual agreements with land owners with respect to the establishment of their telecommunication systems.

Clause 48 provides that the Company must compensate an owner of land who is injuriously affected by the exercise of the powers conferred upon the Company by this part. Clause 48(5) provides that, in the event that no agreement can be reached between the Company and the land owner, compensation shall be determined by arbitration in accordance with the law of the State or Territory in which the claim arises. Clause 48 provides a means whereby compensation may be made in respect of the acquisition/use of land pursuant to the Bill. It is not part of the Committee's (or its legal consultant's) brief to consider the question, but attention is drawn to the fact that a query has been raised as to whether Clause 48(5), based on Section 20(5) of the Telecommunications Act 1975, conforms with the requirements of Section 51(xxix) of the Constitution.

PART VII - NATIONAL TELECOMMUNICATIONS ADVISORY COUNCIL

This Part establishes a National Telecommunications Advisory Council ("the Council"). The function of the Council is to advise the Minister on matters relating to planning the development of telecommunication services

in Australia. The Minister may also refer matters to the Council for its consideration. The Council may conduct enquiries into matters relating to planning the development of telecommunication services in Australia and it is to furnish to the Minister an annual report of its recommendations, and may furnish other reports to the Minister. All reports furnished by the Council to the Minister are to be tabled before both Houses of Parliament.

The Committee considers that the Council should have an active role to play in planning the development of telecommunication services in Australia and that the members of the Council should be carefully chosen so as to represent the various interests in the telecommunications industry, and public interests generally.

The Bill gives great flexibility to the Minister to determine which licences and on what conditions such licences should be granted. The Committee considers it necessary that the Minister have access to expert opinion on these matters and therefore regards the Council as an important adjunct to the responsibility of the Minister to plan the development of telecommunication services in Australia.

PART VIII - MISCELLANEOUS

This Part deals with the responsibilities of the Minister to plan the proper functioning of the national telecommunication system.

Clause 63 provides that it is the responsibility of the Minister to plan the development of telecommunication services in Australia, and to prepare and publish a national spectrum plan. In discharging the former responsibility, the Minister is to consult the Council.

The purpose of the national spectrum plan is to divide the telecommunication spectrum into frequency bands, and, where appropriate, to allocate these bands to the use of specific persons, or for specific purposes.

Therefore, the Minister may plan the use of existing telecommunication services in Australia, both on a regional and national basis. He may identify certain frequency bands as being for the exclusive use of certain persons or for an exclusive purpose (for example, emergency services).

Clause 66 gives the Minister power to control interference with the transmission of signals. The Minister may prescribe certain persons or certain frequency bands for the purposes of this section. In the event that interference is caused with the transmission of signals by those prescribed persons or in a prescribed frequency band, the Minister may order the person responsible for such interference to cease operation of irrelevant telecommunication installations. The Minister may also give such an order where interference causes a risk of danger to persons or property.

It is an offence to fail to comply with an order issued by the Minister. However, an order is expressed to last for a period of fourteen days and the Minister may withdraw an order at any time or issue further orders subsequent to the lapsing of an order.

Clause 67 gives the Minister power to delegate his powers under the Bill, but he may not delegate his responsibility to plan the development of telecommunications in Australia.

A regulation power is provided by Clause 68.

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