Australian telecommunications services: a new framework

Statement by the
Minister for Transport and Communications
25 May 1988

Australian Telecommunications Services: A New Framework

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Australian Government Publishing Service
Canberra

ISBN 0 644 08049 3

Printed in Australia by Canberra Publishing and Printing Co., Fyshwick, A.C.T.

Foreword

In describing the Government's third-term agenda, the Prime Minister has given greatest emphasis to micro-economic policy: the structural adjustment of key industries, and the relationships between them, with a view to establishing and sustaining longer term growth. The Government's goal is to ensure that the manufacturing and service sectors in particular become more efficient and so improve our trade competitiveness, reduce our reliance on imports and ensure the Australian economy has the versatility, adaptability and resilience necessary to take advantage of the rapid changes this nation faces in the years ahead.

The Australian telecommunications services industry is well placed to make a major contribution to these goals of efficiency and trade competitiveness in the information economy, while continuing to serve the important social objectives associated with the central role of the telephone in the Australian community.

With this in mind, the Government initiated a fundamental review of telecommunications policy in September 1987.

This review has been carried out concurrently with the review of the major Transport and Communications government business enterprises, the results of which are also being announced today in the separate statement "Reshaping the Transport and Communications Government Business Enterprises".

This statement explains in detail the consideration given by the Government to the complex set of issues involved in reshaping arrangements for the telecommunications services industry. It sets out the decisions we have taken to bring about structural reform and the reasoning behind those decisions.

Gareth Evans

25 May 1988

AUSTRALIAN TELECOMMUNICATIONS SERVICES:
A NEW FRAMEWORK

1: TELECOMMUNICATIONS POLICY OBJECTIVES

1.1 Under the Constitution the Commonwealth Government has full legislative and executive powers in respect of telecommunications matters.

1.2 The Australian telecommunications services industry is presently served by three fully Commonwealth Government-owned instrumentalities. These are the Australian Telecommunications Commission, or simply Telecom, which provides domestic telecommunications services; the Overseas Telecommunications Commission (Australia), known as OTC, which provides Australia with international telecommunications services; and AUSSAT Pty Ltd, which is responsible for Australia's domestic satellite communications system.

1.3 Australia has had to confront a difficult array of circumstances in delivering telecommunications services. Factors include:

- a population concentrated in a few parts of the country but also inhabiting some of the most remote settlements on earth;
- a country with a land area nearly the size of Europe or the continental United States, but with a market only one-twentieth the size;
- pressures to keep local tariffs low and to ensure uniform service; and
- a geographic location that is remote from its major trading partners and its overseas telecommunications correspondents.

1.4 The principal policy objective that has been pursued in this context has been the provision of telephone services throughout Australia on a non-discriminatory, uniform basis at affordable prices. The needs of rural Australia have been given special status in this context.

1.5 This objective has also been coupled with policies which have used equipment purchases by the telecommunications services industry to

promote the development of the Australian telecommunications equipment manufacturing industry.

1.6 These objectives - and the policy measures used to achieve them - have generally served Australia well over the past years. The traditional objectives themselves remain important, and the Government will continue to promote them under the new policies set out in this statement. But they are no longer sufficient, by themselves, to meet Australia's future needs for telecommunications services.

1.7 Technological and economic developments, new service opportunities and new national and global market opportunities and imperatives require the definition of a wider range of objectives, and reconsideration of the policy measures needed to achieve them.

1.8 In considering new national policy objectives for telecommunications, the Government has borne in mind the increasing importance of efficient telecommunications - especially the advanced services - to the success of the key growth industries in the economy. It has considered the linkage between telecommunications and the growing information industry sector in particular. The importance of achieving appropriate structural adjustment - both within the telecommunications sector itself and within the wider economy - has been a major economic consideration.

1.9 At the same time the Government recognises - and fully accepts - its continuing responsibility to ensure that appropriate equity in the provision of essential telecommunications services can be maintained.

1.10 Telecommunications is no longer just traditional telephone, telegram and telex services, but now includes access to information, to computers, to new services, to electronic mail, to entertainment and to the world's markets. Australia's success in both providing and using these wider services will be crucial to

success in re-structuring for growth in advanced economic activities.

1.11 The central role of standard telephone services in Australian society will continue to be supported. The benefits of the access to services and information that can be provided by advanced telecommunications will be made available as widely as possible.

1.12 Against this background, the Government has developed policies which now seek to achieve the following newly articulated objectives:-

(1) to ensure universal access to standard telephone services throughout Australia on an equitable basis and at affordable prices, in recognition of the social importance of these services;

(2) to maximise the efficiency of the publicly-owned telecommunications enterprises - Telecom, OTC, AUSSAT - in meeting their objectives, including fulfilment of specific community service obligations and the generation of appropriate returns on investment;

(3) to ensure the highest possible levels of accountability and responsiveness to customer and community needs on the part of the telecommunications enterprises;

(4) to provide the capacity to achieve optimal rates of expansion and modernisation of the telecommunications system, including the introduction of new and diverse services;

(5) to enable all elements of the Australian telecommunications industry (manufacturing, services, information provision) to participate effectively in the rapidly growing Australian and world telecommunications markets; and

(6) to promote the development of other sectors of the economy through the commercial provision of a full range of modern telecommunications services at the lowest possible prices.

1.13 These objectives underpin the set of policies developed in Sections 3 to 7 of this paper, in response to the more detailed assessment of issues and prospects contained in Section 2.

2: THE ISSUES CONFRONTING AUSTRALIAN TELECOMMUNICATIONS

AUSTRALIAN TELECOMMUNICATIONS IN CONTEXT

2.1 Australian Governments have long faced the problems of providing an integrated telecommunications infrastructure for economic and social activity across a large national territory. The telecommunications network has played an important role in Australia's development and the network has grown to a point where 92% of Australian households are now connected to a fully automatic telephone service with an international reach.

2.2 Government policies towards the telecommunications industry have developed with the needs of the nation and the evolving technology. Significant milestones have been:

- the formation of OTC in 1946 to provide overseas telecommunications facilities and services;
- the separation of telecommunications and postal functions in 1975 in response to the need separately to manage the distinctly different needs of these areas for capital, labour and technology; and
- the establishment of AUSSAT in 1984 in response to the need for domestic satellite-based communication facilities.

2.3 Change is ongoing, but with the pace increasing, so that more frequent stocktakes of current and anticipated situations are necessary to ensure the best future arrangements.

2.4 Section 1 referred to the issues and prospects which have led to the Government's new objectives for the telecommunications industry. Australia must respond rapidly to the new and complex pressures. Technological advance in telecommunications generally,

including the replacement of analogue with digital technology(1) and advances in computing, customer premises equipment (CPE) and the value added services areas(2), will continue to provide pressures - at the margin but increasing in intensity - on the existing regulatory arrangements (as discussed in paragraphs 2.8 to 2.12). The rest of this Section provides a background to these and other pressures, and identifies the questions which need to be addressed so that Australia can best meet the challenges and take advantage of the opportunities created by the rapidly changing environment.

2.5 In 1975, Australia took what was then a pioneering step in telecommunications by separating its public service postal and telecommunications administrations and establishing each as an independent statutory authority. This step worked well in the succeeding years. In 1981/82 the Davidson Inquiry reviewed these arrangements for telecommunications and made recommendations for further development. However, the Davidson recommendations failed to give sufficient weight to the central social importance of telecommunications and were judged to risk leading to an unacceptable degree of instability in social policies relevant to telecommunications. Since the Davidson recommendations were set aside in 1983 it has become increasingly apparent that, while the 1975 arrangements have served Australia well, they have been overtaken by events. There is a need to introduce considered change to enable the industry to continue to respond to changing

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(1) Analogue transmission is the electronic carriage of information by the continuous variation of a signal to model the complex changes in the original information. Digital transmission involves sampling of information at very short intervals and the conversion of these sample values into a coded (binary) series of on-or-off pulses. These pulses are then transmitted electronically to convey the information.

(2) Value added services (VAS) in the telecommunications field are services which are delivered by telecommunication means and which involve the addition of significant value to basic switching and transmission functions eg manual intervention for telephone answering services or the provision of visual information.

technological and market imperatives, and provide the full range of telecommunications services required in the latter years of the 20th century.

MAJOR PRESSURES AND OPPORTUNITIES

2.6 The pressures on the telecommunications system come from a number of directions. New technologies are creating increased scope to diversify the range of services provided while steadily expanding the types of equipment which can be connected to the network. Users, and in particular businesses, need to gain the full advantages of these opportunities to remain competitive in increasingly integrated world markets. As the significance of telecommunications to their operations rises, they need to become progressively more sophisticated in assessing quality of service. Australia's international competitiveness also depends increasingly on efficient telecommunications.

2.7 The three main factors creating pressures on today's telecommunications system (technology, business needs, and the changing world economy) are discussed below.

Technology

2.8 Technology is perhaps the most obvious source of pressure. Rapid technological advancement is revolutionising the way signals are transmitted, the manner in which signals are routed and the means by which they are processed at either end. This process is achieving large increases in the speed and reliability of service. It is leading to a substantial upgrading of the network intelligence, and hence of the number of functions built into the network, and is broadening the range of types of information which can be transmitted. The outcome will inevitably be an increasing integration of computer and communications technologies so that the differences between these industries will progressively, but rapidly, disappear. Telecommunications has changed from a largely single-product (voice-telephones) industry to one servicing the

increasingly diversified markets of information communications and processing.

2.9 Developments in technology mean that the current arrangements for industry regulation are no longer effective. For example, there has been minimal regulation of computers which have previously received and despatched data using the telecommunications transmission network. But increasingly these same computers are capable of efficiently switching their information inputs and outputs to alternative locations and by alternative routes. They are able to handle data, text, voice and video information. Yet the switching functions for all these messages has so far been tightly regulated as to who may supply the equipment, who may maintain it and what it may do.

2.10 Similarly, word processing equipment within offices has always been unregulated. Yet the passing of such messages between offices is highly regulated as telecommunications traffic. Separate regulation of equipment for data telecommunications, telex and for facsimile transmission is increasingly encountering multi-purpose equipment that handles all those functions.

2.11 At the same time the technology is offering new opportunities. It provides increased diversity - more ways of doing similar things. A simple example is telecommunications messages, which once passed only by telegraph, then by voice and telegram, can now also be passed by telex, facsimile and electronic mail. Technology provides cheaper ways of doing things. For example, optical fibre transmits high density traffic at a fraction of the cost of copper wire, and satellites carry traffic at costs that are wholly independent of distance. Technology provides the opportunity to do new things, especially by taking advantage of the convergence between computers and telecommunications. For example, modern travel and tourist industry reservation systems and video information systems are only possible because of such developments.

2.12 A more robust framework for industry regulation is required which can cope with all technological pressures that are likely to eventuate in a way that enables the opportunities to be exploited in the national interest.

Telecommunications and Business Needs

2.13 The growing importance of telecommunications as a basis for business activity is a second major pressure for change.

2.14 A rising share of the world's economic resources is being devoted to generating, processing and distributing information - a trend which is referred to as "the information economy". This shift reflects the growing sophistication, diversification and complexity of products and processes and the increasingly global nature of markets. Information arrangements are rapidly changing from being an ancillary aspect of a firm's operation to becoming a major factor in securing and maintaining a competitive advantage. This is reflected in steadily rising volumes of business expenditure on information processing and, in turn, on telecommunications (particularly value added services). The ratio of telecommunications input to business expense, although generally still small, is estimated by Telecom to have more than trebled over the last decade. It is likely to go on rising at an accelerating rate.

Telecommunications in the World Economy

2.15 The steadily rising importance of telecommunications to business performance is, in turn, placing increased pressures on telecommunications providers to deliver more diversified and innovative services at prices related to cost. Australia's future international competitiveness will be reduced if these pressures are ignored. It will be enhanced if these pressures are promptly assimilated within the national economy.

2.16 Individual firms and national economies increasingly operate in an environment of intensified competition. Markets are becoming global, not least because of the shrinking importance of distance through improved telecommunications and technological advances. This environment means that firms increasingly need to be able to access and rely on efficient, timely, responses and well-managed, advanced telecommunications systems. The presence of inefficiencies, excessive prices for services, or a limited range of services to meet growing business needs, will lead to loss of market share and contraction of opportunities for a firm.

2.17 Thirty years ago, the international competitiveness of a country was not greatly affected by the efficiency of the telecommunications network. Today, any country whose communications ability falls significantly behind its competitors may quickly find its external competitiveness eroded and its attractiveness as a site for investment diminished. For example, the Commission of the European Communities has estimated that the role of telecommunications in the European economy will increase by 350% (from 2% to 7% of gross domestic product) by the year 2000. Up to 60% of European employment is expected to depend to an important degree on telecommunications within the information economy. Australia must keep up with these trends to remain a viable participant in overseas markets. There is also the risk that failure to create a domestic environment for the development of efficient, advanced information processing and transmission arrangements will result in these high-value strategic functions being performed offshore, in those countries currently vying for global dominance in this area.

2.18 The opportunity is now there for Australia to gain a better position in the world economic scene. Improved telecommunications services will help to increase international competitiveness and assist in the establishment of new Australian-based activities, with attendant employment and other benefits.

Overseas Developments

2.19 Pressures from technology, business needs, and economic growth and diversity on telecommunications are far from unique to Australia. They apply at least in every developed western economy and in the newly industrialised countries, and are increasingly applying in other economies as well. The overseas responses to those pressures have varied. Much is often made of the scope of introduction of competition, privatisation and re-regulation in the United States, United Kingdom, Japan and, as more recently announced, in New Zealand.

2.20 These countries have allowed - and even encouraged - competition in most aspects of telecommunications, including the basic network. Some have moved to reduce public sector ownership. All have introduced competition in the customer premises equipment markets, and have ended any regulatory onus on their carriers (regulatory separation).

2.21 But such policies have also been driven by national policies on matters other than telecommunications, policies that differ from those of the Australian Government. They represent the current extremes of regulatory responses to the pressures that apply. Other Western economies have moved more gradually. The majority still retain a high degree of monopoly control over basic networks and the standard telephone service. Indeed, allowing this retention is central to the developing common policy on telecommunications within the EEC. However, most are moving progressively towards regulatory separation; many have introduced or will introduce competition for customer premises equipment (CPE) (this will be required by the EEC by 1992). Some of those that have had CPE competition for some time - for example, France - are now introducing additional competition in new, fast-growing areas like cellular mobile telephony (such competition is also well established in the United Kingdom, United States and other countries).

2.22 Meanwhile the question of the international regime for the regulation of telecommunications is of increasing importance and is increasingly under scrutiny, as the need for international inter-operability is heightened by the trend to globalisation of world markets. The International Telecommunications Union (ITU), which has traditionally provided the forum for international technical regulation, and a framework for commercial relationships between national carriers, is currently reviewing its regulations. This review will be in the form of a major ITU World Administrative Telephone and Telegraph Conference in Melbourne in November/December 1988. Furthermore, telecommunications services are included in the international negotiations on trade-in-services now proceeding in conjunction with the GATT Uruguay Round in Geneva, and are similarly under consideration in the context of the current bilateral review of the Australia/New Zealand closer economic relations trade agreement. The international cooperative satellite systems INTELSAT and INMARSAT are also increasingly under competitive pressure, from proposed private satellites, from regional and national satellites and from growing international optical fibre cable networks. The competitive pressures, due both to unilateral regulatory positions in some countries and to the changing economics of technology will inexorably change the established arrangements.

2.23 As part of the world community, Australia is inevitably influenced by these external and international developments. The challenge is to channel influence in a considered way, to maximise Australia's national advantage, and to select the best course of change for Australia to follow given its present position and particular circumstances.

THE NEW TECHNOLOGIES AND SERVICES

2.24 Technological developments are changing the traditional structures for providing communications and information services, breaking down long established regulatory boundaries and opening up new options for delivery systems. A copper wire terrestrial system is

no longer the only or most economical solution. A communications network must now be constructed making the best use of all available technologies. The modern system is now being built on a mix of traditional copper wire, microwave, new optical fibre and satellite network components, and using both fixed and mobile radio systems.

2.25 The range of options, with their differing costs, have radically altered network economics and hence the shape of future network structures. Processing/switching and transmission technologies and costs have changed dramatically, and the functions have merged significantly, to the extent that the predicted merging of computers and communication systems is well advanced.

2.26 Over the past decade the lead times involved in upgrading customer services by bringing new public switching systems (exchanges) to market, together with the application of computing intelligence to terminal equipment, have given modern customer-controlled switches - PABXs - a significant edge over the public switched networks for many business users. This has contributed to a proliferation of corporate private networks, as business customers take advantage of the "least-cost" fully-featured packages by selecting advanced PABXs and interconnecting them with circuits leased from the public network operators (Telecom, OTC and AUSSAT).

2.27 Allowing the appropriate balance between use of these private arrangements and public network developments is a prime concern. Key questions include whether recent trends in private network formation may naturally slow down, and the balance swing back to a focus on public network developments, as carriers catch up with technological change and provide new network services to attract customers back to the public network. Are there, for example, natural limits to the scope and integration of private networks into the public network infrastructure? Can services like CENTREX - a PABX-type service provided over the public network - now become cost-effective solutions, and can Integrated Services Digital Network (ISDN) developments offer transparent, "virtual"

private networks at a cost, and with a flexibility, that will be difficult for a customer to match using traditional private networks based on leased lines with private switches?

Integrated Services Digital Network

2.28 Integrated Services Digital Network (ISDN) represents the evolution of the public access telecommunications infrastructure - from an analogue voice telephony network to a common network infrastructure for voice, data, text and video, with the access and functionality for different services increasingly integrated.

2.29 In simple terms, introduction of ISDN means that the digital transmission now being used in the network between exchanges in the telephone and data networks can be extended over the access line right to the customer's premises, where this is required. Digital transmission is cheaper, faster and of higher quality than traditional analogue transmission. At the same time the range of services that can concurrently be transmitted over the access line is dramatically extended. Without common digitalisation of all signals, non-voice traffic (eg text, data) has had to be converted into an analogue format for transmission. The resultant message has thus been technically limited by error and distortion. Digital transmission avoids these problems.

2.30 "Basic rate" ISDN allows, for example, two voice conversations and one data flow to be transmitted over an ordinary telephone line to the customer's premises at the same time. For business customers with requirements for larger information transfers, a higher capacity configuration can be used in the form of "primary rate" which allows 30 voice conversations and one data flow concurrently over specialised circuits.

2.31 The introduction of complete 'end-to-end' digital transmission in the public network also means that transmission quality within the network can be significantly improved. (An end-to-end service refers to the complete service connection from one customer to

another, including terminal equipment.) A fundamental point about digital transmission is that for very long transmission paths (as can be encountered within Australia and in its international telecommunications) distortion is far less than for analogue transmission.(1)

2.32 Narrowband ISDN is to be introduced within Australia by Telecom during 1989/90 and progressively developed in terms of both coverage and capabilities during the 1990s. Whilst this will cater for voice, data and text services, the evolution towards broadband ISDN in the early to mid-1990s will enable the integration of video services. Broadband ISDN will require the installation of optical fibre access facilities to customers, involving substantial cost. The progressive development of the ISDN infrastructure will be a continuing, long-term process, extending beyond the 1990s and involving not only huge ongoing investment, but also substantial technological development and significant associated risk.

Optical Fibre Technology

2.33 Optical fibre carries signals by light wave rather than by electrical current. Its advantages over traditional bearers include: lower cost raw materials (glass vs copper); lower power loss in transmission, giving longer transmission paths without relay or repeater function; greater traffic capacity; it does not use the radio spectrum; and it is less susceptible to external interference (eg from parallel electrical circuits). It provides a very large capacity for information transmission at low cost.

(1) This is because in a digital system it is only necessary to recognise the presence or absence of a digital "bit" to interpret information. Once this interpretation is made, even if the signal is weak or distorted, it is then possible to electronically recreate a perfect bit to form part of the total end signal (eg a voice conversation). In contrast, an analogue system can generally only amplify a weak or distorted signal and thus also amplifies the distortion. It cannot restore the quality of that signal.

The cost of optical fibre is falling and its transmission capacity has been increasing with technical developments. In most cases optical fibre is now less than the costs of other alternatives for point-to-point carriage, such as copper wire, microwave radio and satellite. (In adverse terrain or for low-density traffic, specific circumstances can still favour satellite or microwave links.) The costs of optical fibre fall rapidly with increases in circuit numbers, as indicated in Figure 2.1.

2.34 Telecom is currently implementing plans to link all capital cities (except Hobart) with optical fibre by 1991 at an estimated cost of some $300 million. The first link on the Melbourne-Canberra-Sydney route is in place. It involves 15 optical fibre pairs with a potential voice capacity of 400,000 voice circuits compared to the existing 6 co-axial tubes having a capacity of 9000 circuits. Future installations on inter-capital routes will have higher potential capacity. Other optical fibre installations are also in progress for non inter-capital traffic carriage. Optical fibre is also being used to provide business services between locations in large cities. Optical fibre rings are on trial in Melbourne and Sydney central business districts. It is expected that optical fibre will in future be used for customer access to a range of services including high quality video.

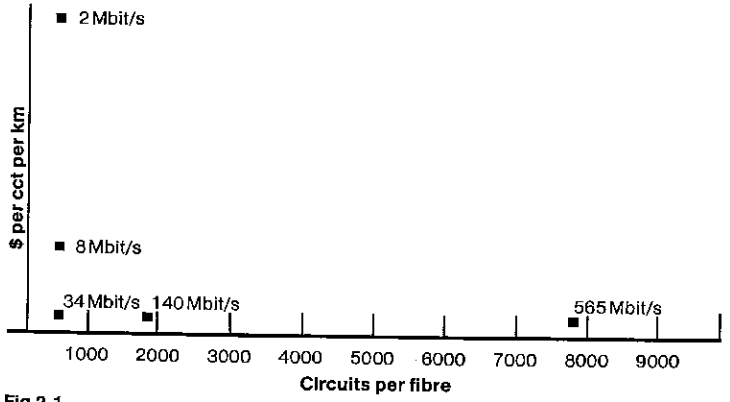

Fig 2.1
Decreasing cost of optical fibre transmission on large routes
Source: Telecom Australia

Specialised Network Developments

2.35 Customer requirements based on the emerging technologies and need for more rapid information flows have led to pressures for specialised network developments, which have been provided by new network services or by value added services.

2.36 Some of the major specialised network services currently in place or proposed are briefly described below.

(i) AUSTPAC

2.37 AUSTPAC is a public packet switched data service which is made available throughout Australia by Telecom. Packet switching involves the bundling of groups of data into elements or "packets", each of which contains a header or destination for the packet. The packet is then switched through the network to its destination and is inter-leaved en route with other user packets to use network capacity efficiently. AUSTPAC packet switching provides benefits to users through simplification of control procedures and equipment, low error rates and inter-working between terminals operating at different data speeds.

2.38 Access to AUSTPAC is via dedicated leased lines or the public switched telephone network. It is priced at rates based on usage volumes, irrespective of distance. The number of packet switching exchanges is being increased from 31 in 1987 to 48 by June 1988.

(ii) Digital Data Service

2.39 Digital Data Service (DDS) is designed to provide digital data transmission for point-to-point or point-to-multipoint transmission, avoiding the need for lower quality standard analogue connections between customer premises and the digitalised inter-exchange network. It provides higher quality, increased traffic volume and more features than the analogue Datel

service. DDS is currently provided between all capital cities and to most large centres, and is being extended to a total of 600 centres by June 1988.

(iii) Electronic Funds Transfer (EFT)

2.40 To meet the need for electronic funds transfer at point of sale, Telecom has introduced the Tran$end network access service. Tran$end uses AUSTPAC and is accessed by a leased data line or dial-up connection. Tran$end enables retailers to provide customers with direct transfer of funds from their bank account to the retailer's account.

(iv) Keylink

2.41 Keylink is an electronic messaging service offered by Telecom and OTC which provides access to overseas messaging services. Messaging services are essentially operated through electronic mail boxes from which recipients can retrieve messages at their convenience. The service uses AUSTPAC as the transport medium.

(v) Teletex

2.42 Teletex is a high speed, high quality document and file transfer service. As distinct from the Keylink mail box messaging service, Teletex operates on a real time basis. It can operate between computers, word processing systems and office automation systems. Teletex uses the inter-exchange digital transmission component of the public voice network for its operation.

(vi) Telex

2.43 The telex network, which for years was the major business means of sending electronic messages, is now contracting slowly due to the rapid growth of facsimile and other services.

(vii) Facsimile

2.44 The facsimile market has expanded rapidly in recent years in Australia. Facsimile is transported over the standard telephone network.

(viii) Paging Services

2.45 Radio paging services are operated in Australia by Telecom and a number of other organisations. Services provided are basic alert paging, numeric display and alphanumeric display.

Developing Services

2.46 With the rapid developments in "intelligent" terminal switching equipment (eg PABXs and automatic call distributors) and the integration of voice and data transmission into private networks, public network designers and operators have been developing the public network to attract back some of this business. Three key services which are developing in this area are ISDN, Intelligent Network Services (IN) and CENTREX.

2.47 ISDN was described above. IN is based on providing access to a range of user services (eg credit card calling) by automatic access to a centralised data base. A key capability of the intelligent network is the provision of virtual circuits. A virtual circuit provides the equivalent of a dedicated circuit (or leased line) from the user's perspective, but is achieved by using network intelligence control functions to actually provide the circuit on demand via the public switched network, thereby increasing network utilisation.

2.48 CENTREX is the provision of equivalent private exchange services (ie private PABXs) within the public exchange, again by using network intelligence functions. An organisation can lease CENTREX capacity rather than purchase a private PABX, but still obtains the benefit of an advanced PABX, including internal calls without

charge, abbreviated dialling, messaging, call queuing, conference calls and so on. CENTREX (which has been provided in the United States for some years) is now being developed in conjunction with IN in a form which makes it more attractive to business customers, including those with only very small numbers of lines. A major attraction of the combined use of CENTREX and virtual circuits to provide private networks, is the addition of full direct control of the user's network and its configuration, by the customer using remote access from a VDU terminal over a data link to the IN data base.

Mobile Communication Services

2.49 With the introduction of radio paging in the late 1960s and cellular mobile radio in the early 1980s, the market for mobile services has now been shown to be very attractive to users. Costs for these services are falling quickly (see Figure 2.2) so that radio access may become cheaper than wired access in various situations, such as for office equipment networks.

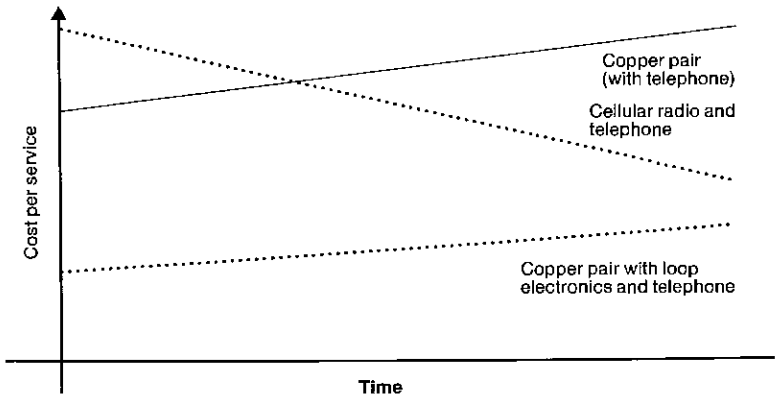

Fig 2.2
Customer access cost trends
Source: Telecom Australia

2.50 The Telecom MOBILENET cellular service is planned to be available to all capital cities by the end of 1988, and currently Telecom plans to extend the network to a total of 35 regional and provincial centres in 1988/89. Digital mobile services which are now under development will possibly be compatible with ISDN. Work is also in progress on lower cost mobile voice services with reduced coverage and one-way call origination (mobile originate) combined with radio page call-in for voice reply. Radio paging services are open to competition in Australia. They achieved a growth of about 400% between 1982 and 1987 as an increased range of services - and service providers - was introduced to the market.

2.51 The application of satellite-based mobile radio services for broader coverage areas is also under consideration.

CONSTRAINTS ON RESPONDING TO THE PRESSURES FOR CHANGE

General

2.52 Responses to the pressures outlined above will inevitably be shaped by the current market characteristics. No country, in formulating its industry policies, starts with a clean slate. Australia's location, size, culture and history all influence decisions on the best approach.

2.53 For a number of years Australia has operated a successful system based on requiring monopoly carriers to provide access to standard telecommunications services at affordable prices. Those carriers are fully publicly owned, and cooperate in appropriate ventures. They are all facing the wider realities of a more demanding and competitive market place. The Government is conscious of the requirement that alterations to current arrangements are desirable in terms of the overall economic and social needs, and that the benefits are widely understood.

2.54 There has been significant change over recent years. This has been brought about by government and industry pressure on the carriers and by the desire of the three public enterprises to adapt positively to changing circumstances. Telecom, OTC and AUSSAT all plan ahead, strive to anticipate developments which will affect their markets and seek to meet them. The Government intends to strengthen the ability of public enterprise participants in the telecommunications industry to respond even more rapidly to the pressures of modern society. At the same time it will ensure that the private sector continues to play its appropriate role and that a structural and regulatory framework is developed that will allow the increasing range and diversity of users' needs to be met.

2.55 There are a number of constraints which must be addressed or accommodated in responding effectively to the challenges of change, thereby capitalising on the opportunities presented. One important constraint is to minimise any adverse effects of structural adjustment on individual industry participants. Other significant constraints are:

- the capital requirements of many telecommunications activities;
- the presently embedded pricing structure and community service obligations; and
- the management and operating structure of government business enterprises.

Capital Requirements of Telecommunications

2.56 The telecommunications industry accounts for a growing share of national infrastructure expenditure and a significant proportion of the output of Australia's high technology manufacturing sector. The capital requirements of the industry are substantial relative to other sectors in the Australian economy. For example, the combined annual capital programs of Telecom, OTC and AUSSAT account for around one-fifth of total investment by public

enterprises, and constitute over one-third of private investment in manufacturing industry.

2.57 Capital funding requirements for the public telecommunications infrastructure under current arrangements are already large and are expected to increase significantly over the next few years: Telecom anticipates that its capital program will increase to around $4,000 million annually by 1990/91; OTC plans to invest $1,000 million in the Pacific Optical Fibre Network (which will see stage one completed with the Tasman 2 link to New Zealand coming into service in 1991); and AUSSAT's proposed second generation satellite system, due in service by late 1992, may cost around $600 million.

2.58 In view of the limited capital resources available in Australia, it is important that the investment programs of our major telecommunications authorities are complementary, that the need for diversity does not develop into uneconomic duplication, that appropriate returns are identifiable and that risks are carefully weighed.

2.59 The increasing diversity of customer needs creates a new set of demands on a telecommunications network which was originally conceived to provide a standard, universal telephone service. One response has been to build specialised networks to accommodate more specialised users, as described above. Many countries are adding specialised circuits and packet-switched data networks to the standard telephone network. These additional networks can require large-scale investments and significant effort in terms of standardisation and inter-connection. Furthermore, it is becoming more difficult to predict precisely what services will be demanded because users' needs are rapidly growing more diverse and specialised. Therefore, the risks involved (eg of premature technological or economic obsolescence) in introducing a new service are much greater than in the past, and could discourage necessary investment.

2.60 Facilitating service introduction requires a new approach to telecommunications network investment: it must become less service specific and more adaptable. The concept that is best suited to meet this need is ISDN. Telecom now expects to invest about $1,000 million on ISDN associated infrastructure over the next five to seven years. Investment of this order in this technology is now necessary to provide the infrastructure for the increasingly diverse range of user-services that will be a key input to national economic growth.

Traditional Pricing Practices and Community Service Obligations

2.61 Market developments, emerging regulatory pressures, increasingly complex customer needs, technological changes and government objectives for access to standard telephone services all combine to make telecommunications pricing a key issue. Pricing of standard telephone services, and in particular the balance between access rentals and usage costs, is a world-wide issue - not just an Australian one. This is because costs of providing a customer with access to the system are high, while the costs of using it are relatively low. To encourage a wide customer base - for both commercial and social reasons - customers have been provided with access at a price which is often below the direct cost of provision, with offsetting higher prices for usage of the trunk network. Geographical equalisation of prices has led to additional geographic differentiation in the gap between price and cost. Meanwhile, productivity gains and technological changes have further widened the gap between the price and cost of individual services, to the point where the economic efficiency of the overall arrangement is under question.

2.62 All countries face similar pressures to reduce costs and adjust prices to meet the business requirements of the new operating environment, while satisfying important social objectives. The pressures for adjustment of prices to reflect costs better are real, but there are also far-reaching consequences from such changes because of the widespread anomalies and imbalances in the

existing price structure when costs alone are considered. The Government will not pursue policies which result in sudden large or potentially disruptive changes to prices for monopoly services for the sake of unclear gains, but nevertheless recognises the need to harmonise, and align, complex pricing strategies across a wide range of existing and new types of services.

2.63 Inevitably, any move to change the structure of pricing for standard telephone services raises significant social and community concerns. The very ubiquity of the network makes changes in the pricing of telephone services highly visible. The Government cannot and will not ignore this dimension of its responsibilities, and accepts that the social concerns bearing on telecommunications pricing will remain important in the years to come. A key question is how universal service is to be maintained, whilst moving towards overall pricing structures that are consistent with the economic and market imperatives of the emerging information economy.

2.64 The current telecommunications pricing regime has evolved partly because of the national social objectives which telecommunications carriers are required to serve. These community services obligations (CSOs) have related principally to universal access and equity for non-metropolitan users, but have been seen as including other aspects such as the uniform pricing of national infrastructure services. These policies have resulted in, inter alia: the price for basic access services for the majority of residential metropolitan users, and for most country users, being below cost; subsidies flowing from thick to thin international routes; and the provision of specialised satellite services to provide broadcasting access to people in remote areas.

2.65 Traditionally, the way in which the Government's CSO policies have been implemented has been thoroughly embedded in Telecom's day-to-day operations, and has been handled through specific programs such as the current rural and remote area program as well as through the pricing structure. It is necessary to ensure that the

response to the rapidly changing telecommunications environment does not undermine legitimate community service obligations, or inadvertantly place them at risk.

The Structure and Control of the Government's Business Enterprises

2.66 The Government, in its October 1987 Policy Guidelines for Commonwealth Statutory Authorities and Government Business Enterprises, drew attention to the need for reforms to put its enterprises on a better footing. Management reform packages for Telecom, OTC and AUSSAT have been considered within the context of the current telecommunications policy review, in order to better position these enterprises to respond to the challenges of the markets in which they are operating.

2.67 The Government embarked on its managerial reform program because it recognised the need to ensure that the day-to-day operations of Telecom, OTC and AUSSAT, and their management accountability, should not be unduly or inappropriately constrained by direct administrative controls which are not required to satisfy other over-riding objectives. Unnecessary bureaucratic regulation of operations can act to reduce accountability for business results and lead to operational inefficiencies.

2.68 The domestic and international telecommunications industry provides a good illustration of the way in which market pressures have changed, with consequences for the appropriateness of specific controls on government business enterprises (GBEs) operating in the industry.

2.69 The current legislative framework for Telecom and the related scheme of administrative controls, was set in place in 1975. (The corresponding date for OTC is 1946.) At that time the telecommunications market was not, and was not envisaged to be, a significantly competitive market. Since then, there has been rapid and far-reaching market and industry change, reflecting the fundamental shifts in technology and customer demand previously

identified. This has produced a far more competitive marketplace through, for example:

- the progressive liberalisation of the customer premises equipment market;
- the proliferation of customer private networks using facilities leased from Telecom; and
- the establishment of AUSSAT as an alternative facility supplier for leased circuits.

2.70 There is now increasing substitutability across a wide range of telecommunications services, and direct competition in a significant proportion of the business operations of the three carriers. Specific government controls previously considered necessary may not, therefore, be appropriate for the future.

2.71 This policy review, and the related development of managerial reform packages for Telecom, OTC and AUSSAT, have provided an opportunity to update the legislative framework of 1975, and to provide an environment more consistent with the needs of the 1990s. However, in creating this new environment, the Government acknowledges the need for it to retain all its rights and obligations as the ultimate owner of Telecom, OTC and AUSSAT on behalf of the Australian public, and to ensure the long-term national interest.

POLICY QUESTIONS TO BE ADDRESSED

2.72 One lesson of the recent past has been that current industry and structural arrangements do not readily lend themselves to the satisfactory and efficient resolution of many of the problems facing the industry. Nor do they seem to equip it to respond well to the challenges and opportunities that are now emerging.

2.73 Rather than attempt to regulate or force such resolution and responses directly - with all the attendant risk that approach implies - the Government has decided to reform the basic

structural and regulatory framework. The objective is to establish a framework within which appropriate service and price adjustments can take place without undue government intervention, while ensuring that the fundamental objectives of efficiency and equity continue to be met within the new overall policy objectives outlined in paragraph 1.12.

2.74 Therefore, this policy statement is directed to resolving these fundamental structural questions. There are five of them:

- the extent to which existing monopoly arrangements for the provision of the basic network need to be maintained (Section 3);
- how the boundary lines between monopoly and competition should be drawn in the provision of value added services (Section 4);
- how the boundary lines between monopoly and competition should be drawn in the supply, installation and maintenance of customer premises equipment (Section 5);
- the need for a new independent body to carry out necessary new economic and technical regulatory functions (Section 6); and
- the extent to which the telecommunications carriers should be relieved from government constraints to enable them to perform more effectively (Section 7).

2.75 Once the framework that follows from the resolution of these structural questions has been put in place, the industry and the Government will be better equipped to deal with pressing dynamic adjustment issues such as:

- the more precise definition of community service obligations;
- the calculation of costs of community service obligations and the control of levels of cross-subsidy;
- the development of pricing structures which reflect efficiency and market imperatives, while still safeguarding essential community interests;

- the development of enhanced marketing and consumer service arrangements; and
- levels of investment, and the measurement and accountability of performance, by Telecom, OTC and AUSSAT.

3: DEVELOPING THE BASIC NETWORK

INTRODUCTION

3.1 Public telecommunications network facilities for Australia are provided by Telecom, OTC and AUSSAT ("the carriers"). The telecommunications network comprises the facilities needed for the transmission of information by electromagnetic means from point to designated point, where the connection may be provided on demand ("switched" service) or established on a fixed link basis ("dedicated" service).

3.2 The network comprises: **terminal facilities**, which are usually located on the customer's premises and which transform a message into a signal in a form suitable for transmission; a **transport infrastructure**, which provides the physical means of transmission; and the **switching and network intelligence facilities**, which guide the flow of signals from origin to destination, determining the route taken and establishing connections between elements of the transport infrastructure.

3.3 The arrangements for providing terminal facilities in customers' premises are dealt with separately in Section 5. This Section addresses the core transmission and switching facilities which essentially comprise the links from customers' premises to local exchanges, together with the inter-exchange network and related switching and network intelligence facilities within the various levels of exchanges. This Section also addresses the provision of the so-called 'basic' services. The provision of 'value added' services is addressed in Section 4.

3.4 The Government is committed to ensuring the maintenance and development of a high-quality, efficient public telecommunications network as a basis for the efficient provision of a broad range of telecommunications services to meet the needs of all Australians.

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3.4 The Government is committed to ensuring the maintenance and development of a high-quality, efficient public telecommunications network as a basis for the efficient provision of a broad range of telecommunications services to meet the needs of all Australians.

3.5 Achieving this objective requires a regulatory framework which provides for the growth, integrity and efficiency of the network, while ensuring that essential access to this network remains affordable. These goals underpin policies for the basic network - that is, the physical infrastructure employed to achieve pervasive, nation-wide interconnectivity - and for the services derived from this network.

3.6 The central issue is the need to create an environment in which there is adequate incentive for efficiency and innovation, and the capability to respond to that incentive, while ensuring that the capacity to pursue wider national objectives - particularly essential equity of access - is sustained. The question that follows is whether this infrastructure is still best provided - either wholly or in part - on a reserved or monopoly basis by a single carrier, or by a designated group of carriers. This question, which is dealt with in the remainder of this section, then leads to the question of appropriate structure, control, accountability and management arrangements for the publicly-owned carriers. That issue is dealt with in Section 7.

3.7 There are two fundamental considerations in determining appropriate boundaries to the monopoly areas. First, the infrastructure itself, or certain parts of it, may possess "natural monopoly" attributes as a result of pervasive economies of scale and scope. In these circumstances, any competing provision could lead to long-term inefficiency, in the form of excess capacity and the uneconomic duplication of facilities. In addition, relying on market forces to resolve infrastructure issues may have other undesirable outcomes. The next part of this Section (paragraphs 3.10 to 3.33) discusses the natural monopoly argument and considers the competitive provision of domestic infrastructure.

3.8 Secondly, competitive provision of certain services may be inconsistent with the Government's objective of maintaining and extending universal service, in the sense of ensuring broad access

to telecommunications throughout the national territory and to all sections of the community. This inconsistency arises from the pursuit of universal access through a price structure that contains extensive cross-subsidies, both between and within services, that may not be sustainable in an unregulated commercial market. The third part of this Section (paragraphs 3.34 to 3.49) discusses the goal of universal service and the means by which the Government intends to pursue it.

3.9 Against this background, the fourth part of this Section (paragraphs 3.50 to 3.79) sets out the Government's decisions with respect to the appropriate boundaries for monopoly in the domestic market, with the international aspects being addressed in the fifth part (paragraphs 3.80 to 3.99).

THE PHYSICAL INFRASTRUCTURE

Description

3.10 Public telecommunications network facilities represent a substantial public investment in essential national infrastructure. Fixed assets amounted to about $13,700 million at 30 June 1987, plus $73 million equity investment in international satellite systems (INTELSAT, INMARSAT). Current investment levels are high in absolute terms; $2,800 million per year by Telecom, $155 million by OTC. Further increases in investment are planned: to about $4,000 million a year by Telecom by 1990/91; there will be a $1,000 million investment by OTC in an international optical fibre network in the Pacific by the mid 1990s; and AUSSAT is preparing to invest about $600 million in a proposed replacement satellite system to be operational from late 1992.

3.11 The majority of Telecom's investment is in the Public Switched Telephone Network (PSTN), although in recent years this has broadened to include a range of networks and services. Since 1976, Telecom has introduced over 30 new major products and services, and plans are being finalised for the establishment of a

new range of services based on Integrated Services Digital Network (ISDN) technology. Telecom has commenced a major investment program to introduce optical fibre cables into its network. It introduced cellular mobile telephony in Melbourne and Sydney in 1986/87 in a program designed to achieve rapid growth in coverage and customer numbers.

3.12 In 1986/87 there were 6.8 million telephone services in operation with 618,000 new services connected during the year. Net growth of telephone services is expected to be 4% in 1987/88. The number of manual telephone services has been cut from 146,000 in 1975 to 6,300 in June 1987. Telecom expects to convert a further 3,300 manual telephone services to automatic operation in 1987/88, and to achieve a level of 94% telephone penetration by 1989/90.

3.13 Telecom investment in the non-core cellular telephony "MOBILENET" network infrastructure, targeted to be commercially profitable on the basis of a five-year payback period, is as follows:

	$ Million
Investment to date:	82
Total investment programmed to 1988/89:	175
Total investment planned to 1991/92:	230

3.14 Telecom's cellular mobile service has grown to 27,000 services since it commenced in Sydney in February 1987. As discussed in paragraph 2.50, the service is now available in 15 major centres, with current plans for 1988/89 to bring this up to a total of 35 centres.

3.15 Telecom also provides a wide range of other specialised network services aimed at supporting business, commerce and industry. These services, in addition to the PSTN and cellular mobile services, include AUSTPAC (Telecom's packet switched data service), Electronic Funds Transfer at Point of Sale (EFTPOS), Telex, and Teletex.

3.16 In the data services business, about 106,000 customers used data services over the PSTN via modem connections in 1986/87 (up 3.4% on 1985/86). In addition the dedicated Digital Data Service (DDS), providing higher speed direct data carriage, had 35,100 terminals (up 54% on 1985/86). The separate AUSTPAC packet switching data service had 4,040 terminals, up 72%. Telecom's videotext service, VIATEL, had 25,000 subscribers in 1986/87, making it one of the most successful videotext services in the world. Overall growth in Telecom's data market is anticipated at 13% during 1987/88. These market growth rates have been matched by a five-year Telecom investment program of $891 million as set out in Table 3.1 below:-

TABLE 3.1: TELECOM INVESTMENT IN AUSTPAC AND DDS, 1985/86 TO 1989/90

($ million)

Services	1985/86	1986/87	1987/88	1988/89	1989/90
DDS	114	128	136	165	188
AUSTPAC	38	38	19	20	45

Source: Telecom

3.17 OTC is a major owner of international submarine cable capacity. Major cables linking Australia are the ANZCAN cable across the Pacific Ocean and the Australia-Indonesia-Singapore cable. Forty per cent of Australia's current international communications are through cable links. OTC expects that this will rise to about 60% following completion of the Pacific Cable Network. OTC is the Australian signatory to the operating agreement for INTELSAT, which currently carries about 60% of Australia's telecommunications traffic, and is also the Australian signatory to the INMARSAT (international maritime satellite) operating agreement.

3.18 Although on a smaller scale to Telecom, OTC is also a significant investor in facilities which it uses to provide a broad range of international telecommunications services. It is the world's

third largest investor in undersea cables and the sixth largest investor in, and user of, INTELSAT.

3.19 Through OTC, Australians can direct dial to 181 overseas countries and territories - the world's largest direct-dial network. This network can now be directly accessed by 4.1 million Australian telephone customers through ISD.

3.20 The average annual growth rate of outgoing international calls over the period 1976 to 1984 was 31% - a growth rate second only to the United States among the developed economies. To accommodate the continuing growth in international telecommunications traffic to and from Australia, OTC now has over $600 million invested in cables, satellites and associated infrastructure. Around $2,000 million more will be invested in the network over the next 10 years to meet growing demand.

3.21 The major project over this period will be the optical fibre Pacific Cable Network, at a cost of approximately $1,000 million. The first phase, Tasman 2, will replace obsolete, lower capacity co-axial cables to link Australia and New Zealand, by 1991, with further extensions to be completed by the mid-1990s. Tasman 2 will cost approximately $120 million and will carry up to 57,000 simultaneous telephone conversations - compared to only about 1,000 on existing cables.

3.22 AUSSAT now has three satellites in orbit. Each satellite has four high-power (30 watt) and eleven low-power (12 watt) transponders. The satellites are controlled from two tracking stations, one located in Sydney and the second in Perth. Major communications earth stations, owned and operated by AUSSAT, are located in each capital city, including Darwin and Canberra. AUSSAT provides transmission facilities for private networks in marginal competition with Telecom's terrestrial system, but does not carry public switched traffic (other than on behalf of Telecom). Principal AUSSAT services are: direct broadcasting (both the ABC's Homestead and Community Broadcasting Satellite

Service - HACBSS - and the Remote Commercial Television Service - RCTS); point-to-point and point-to-multipoint distribution of radio and television programs for terrestrial retransmission; multipoint distribution of video and audio entertainment and information services (VAEIS); and various private telecommunications network services.

3.23 AUSSAT is now nearing the end of its planned business start-up phase, during which it has incurred anticipated operating losses while traffic built up towards capacity. It anticipates profitable operations from 1988/89. Replacement satellites are expected to cost up to $600 million and would be required to be in service before late 1992, prior to the end of the operational lives of the existing satellites.

Monopoly and Competitive Provision of Domestic Infrastructure

3.24 Given the size and economic and social significance of this public infrastructure it is clearly essential that the Government ensure that it is provided and operated as efficiently as possible, and that new investment levels and directions are efficient and appropriate.

3.25 One major factor which may serve to support continued monopoly provision of the infrastructure over the longer term is the natural monopoly argument. Where economies of scale to particular network components are very large, or where there are widespread economies of scope between the facilities needed to provide different services, the market may not be large enough to sustain more than one supplier in the long term. In addition, if the costs involved in providing particular facilities are largely sunk (in the sense that the assets employed cannot readily be transferred to other uses) then competition may generate inefficient outcomes, as the risks associated with those sunk costs can lead to insufficient competition in some markets and to excessive competition in others. It is the interaction of significant economies of scale and scope with high sunk costs

which has underpinned the traditional economic rationale for regulating the development of the telecommunications infrastructure. This rationale now needs to be continually reviewed in the light of changing technologies and network economics. Nonetheless, it appears that current and emerging technology still exhibits economies of scale and scope, as well as high sunk costs.

3.26 The evidence on economies of scale and scope, and sunk costs, does not irrefutably confirm that there is a natural monopoly in the provision of the basic network infrastructure. However, it does suggest that the presence of more than one operator in the Australian market could result in overcrowding and a consequent wasteful use of resources.

3.27 Apart from the considerations relating to economies of scale and scope, there are other arguments why the competitive provision of domestic infrastructure may not be desirable.

3.28 As mentioned in Section 2, measures to increase the competitive provision of facilities have been taken or foreshadowed to some extent in recent years in the United States, United Kingdom and Japan and have been more recently decided upon in New Zealand and some other countries. Permitting competition could be expected to drive prices towards efficient provision costs on a commercial basis, ensuring that the scope for productivity gains is realised and that users of the network face economically efficient prices. In addition, competing private sector involvement in providing alternative facilities could open up additional sources of capital investment, to increase rates of modernisation and expansion of the system.

3.29 However, in the context of the policy objectives outlined in Section 1, such an approach would raise a number of practical and policy difficulties. Most importantly, competitors would obviously target the highest profit markets - the heavily trafficked trunk or international routes, where prices are

presently well above current costs of provision. This is a clear lesson from overseas experience. A competitor that had only commercial objectives could quite readily undercut present prices on specific routes, and develop a significant and profitable market share. Because present Telecom prices are well above its provision costs on these routes - for valid wider policy reasons - achieving a significant market share would not require the new entrant to have a particularly high level of efficiency.

3.30 For so long as the established carriers' prices are sustained above costs because of the cross-subsidy obligations associated with the Government's universal service policy, there is no particular merit in such trunk route competition. It may have little effect on improving efficiency in what is probably already the most efficiently provided component of the network. Uneconomic duplication of facilities would be a likely outcome. At the same time, trunk route competition would erode the capacity to sustain community service obligations by cross-subsidy.

3.31 Perversely, the areas of the basic network that appear to most need additional pressures to improve efficiency - remote network services, and the provision of basic access from local exchanges to customers' premises - would be unlikely to attract significant competition because prices for these services are, on average, cross-subsidised and there is little or no apparent scope for profitable market entry.

3.32 A further consideration is that in the United States and the United Kingdom, competition in the basic network facilities and services area has not necessarily led to benefits to ordinary residential telephone users, because competitors have targeted business users, who have benefited. The resultant "tariff-rebalancing" has, by some commentators' measurement, led to higher residential connection charges and basic access rentals in those countries. Such an outcome in Australia would be counter to the social equity policy objective of sustaining universal affordable access to standard telephone services. The Government is keen to

see both the business user and the residential customer benefit from improved overall efficiencies; not merely to shift the burden of cost from one to the other.

3.33 Given all these considerations, the Government has decided to retain regulatory controls over the terrestrial network. However, the Government sees benefits in allowing competitive provision of specified radio-based facilities that augment the basic network, while recognising that radio facilities which may offer alternatives to the basic network need to be regulated consistently with it.

MAINTAINING UNIVERSAL SERVICE EFFICIENTLY

3.34 Hitherto the objectives of both efficiency and equity have been met through the monopoly provision of basic network facilities and services, albeit with some minor competition between Telecom and AUSSAT in providing private network facilities. By excluding competing facilities or service providers, there has been the opportunity to provide a minimum cost system by eliminating potentially wasteful duplication and by realising those economies of scale and scope that are attainable by a single operator within a natural monopoly.

3.35 The prevailing monopoly has permitted pricing structures to embody the internal cross-subsidies that have been used to sustain the traditional - and ongoing - equity policy of providing universal access to standard telephone services at uniform affordable prices. Telephone call charges - notably trunk call charges on heavily trafficked routes - have been set at levels that are in excess of the associated costs. This has allowed the fixed charges for providing basic access (connection and rental fees) to be held, on average, at levels that are often below the direct costs of providing the dedicated exchange line, household wiring and first telephone instrument required for access, and so encouraged expansion of the customer base.

3.36 Such monopoly arrangements may carry with them some risks. There is the risk that protecting operators from possible competition may remove the usual commercial imperatives to innovate and to realise all possible efficiency gains. There is also the risk that prices that diverge significantly from the underlying costs can lead to economic losses through inefficient uses of the system, and to distorted demands for investment levels and patterns. The absence of alternatives for customers can lead to inadequate responsiveness on the part of a monopoly provider towards customers' needs and individual circumstances.

3.37 It is a matter for judgement whether these risks are realised to a significant degree, and whether they outweigh the benefits of sustaining the traditional established arrangements. However, the relative efficiency of the carriers in providing basic services provides relevant information.

3.38 Overall Telecom has had a good record of innovation in respect of network technology and services, notwithstanding its protection from most competition. OTC likewise has not lagged in these areas, and AUSSAT has provided Australia with direct access to satellite technology. While there has been some analysis showing that Telecom's direct employment levels may be high for the size of network it operates (Figure 3.1), Telecom has pointed to drawbacks in the analysis (notably its failure to account for Telecom's traditional practice of in-house employment compared to other countries' more extensive use of contractors), sufficient to question these conclusions. Moreover, while Section 5 suggests that there is considerable scope within Telecom for improvements, particularly in the customer premises equipment, access line and administrative overhead areas, the engineering provision and operation of the switched network itself appear to offer less scope.

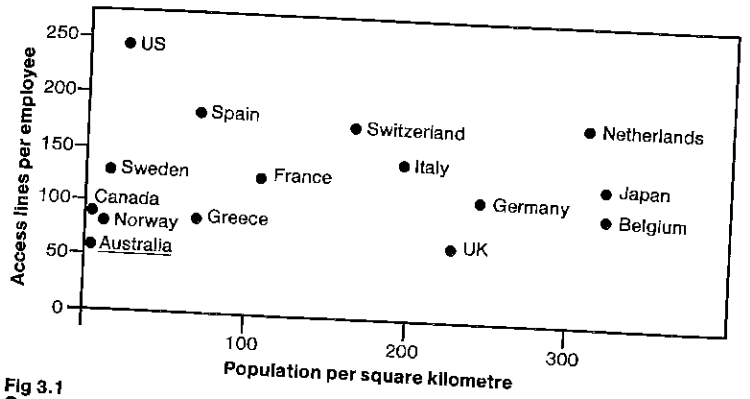

Fig 3.1
Comparison of employment levels in telecommunications systems
Source: Bureau of Industry Economics, *Regulation of private communications networks in Australia;* Information bulletin 11, 1988.

3.39 In any case, as long as Telecom's access to capital remains constrained, as it has been in the past, it could be expected to sustain relatively higher levels of labour inputs. Overall, average prices for telecommunications services appear lower than those in most OECD countries and the efficiency of service supply seems relatively high (Figures 3.2 and 3.3).

3.40 It is not clear how much economic loss actually arises from the current pattern of cross-subsidisation. Telecom's internal management accounts have indicated that cross-subsidy levels from the profitable trunk network are up to $670 million in 1987-88, based on concepts related to providing all services on comparably profitable commercial bases. In seeking to measure only the direct losses that would be incurred in operating the cross-subsidised services, one alternative estimate of $250 million has been made by officials during this policy review process. However it is not possible to sufficiently disentangle separate service costs within Telecom's present management information and accounting system to enable a reliable calculation of the costs or levels of these cross-subsidies or to enable proper consideration of possible alternative service-delivery arrangements.

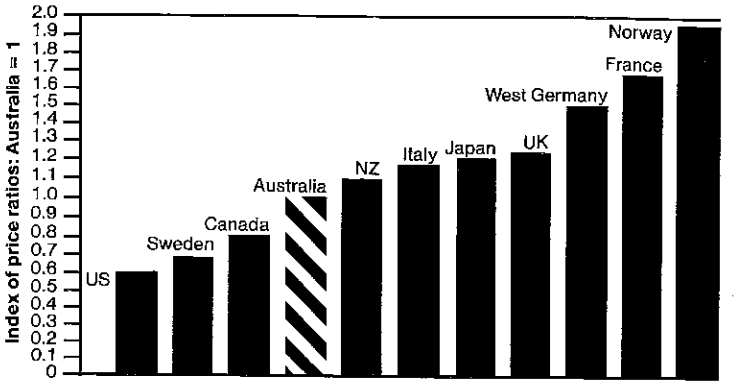

Fig 3.2
Price comparison of residential services (adjusted to reflect efficiency)
Source: Telecom economic paper no. 3, using information from Office of Telecommunications (OFTEL, UK)

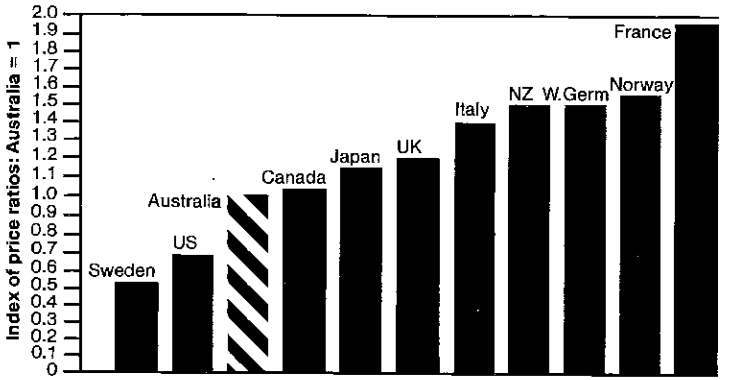

Fig 3.3
Price comparison of business services (adjusted to reflect efficiency)
Source: Telecom economic paper no. 3, using information from Office of Telecommunications (OFTEL, UK)

Nonetheless, it is certain that very substantial non-commercial financial transfers are taking place within present arrangements.

3.41 While remaining committed to the underlying equity objectives set out in Section 1, the Government is concerned that the levels of resources being directed by the carriers to meet what are essentially governmental social and equity objectives, are largely unknown in size, and are outside the Government's own control and accountability provisions. It has not proven possible to rectify this within the scope of this current review.

3.42 The Government recognises the need to ensure that community service obligations are met to standards that are subject to government scrutiny, within cost parameters that are determined by government in a national resources allocation context. Therefore:

Telecom will be required to obtain the approval of the Minister for Transport and Communications for its plans to meet its community service obligations, including the associated levels of costs and cross-subsidy that will be involved. The approved plan will then be set out explicitly in Telecom's corporate plans.

3.43 In order that work can proceed quickly on this important issue the Government has decided that an immediate study will be commenced in the context of preparation for Telecom's 1989/90 corporate plan.

The Bureau of Transport and Communications Economics with appropriate assistance for consultants and in conjunction with Telecom, will prepare a report on the costs and cross-subsidies associated with meeting identifiable community service obligations now met by Telecom. The report will be available for consideration in the context of developing Telecom's corporate plan for 1989-90 and beyond.

3.44 It will be an important feature of this future policy environment that the independent regulatory agency, described in Section 6, will be charged with developing and overseeing appropriate measurement and accountability arrangements for the future financing of community service obligations.

3.45 Meanwhile, the Government will not jeopardise the sustainability of its ongoing universal service policy objective by adopting policy measures that could undermine the necessary cross-subsidy funding mechanism.

3.46 This decision alone means that monopoly provision of the infrastructure of the basic network - and of some services - will continue. To the extent that this is required, it will also need to be accompanied by new mechanisms to protect consumers, to provide alternative incentives for efficiency, and to ensure carrier accountability and responsiveness. These will be applied in the context of the Government's new policy towards the ownership, control and regulation of its government business enterprises - both as wholly-owned enterprises, and as monopolies.

3.47 Arrangements for controlling prices in the monopoly areas of telecommunications can provide scope for pressure to be placed on the efficiency of the carriers, although existing arrangements have not so far been used in this way. By requiring the carriers in future to maintain a target reduction in real-terms in specific prices, or price-bundles, while continuing to require adherence to reasonable commercial performance targets for the enterprises, pressure can be created for the realisation of reasonable efficiency gains and for the equitable sharing of these gains with, and among, consumers.

3.48 In conjunction with consideration of corporate plans for Telecom the Government will in future impose a cap on price rises, by reference to general price rises. Caps will be applied to both business and residential services, and will be constructed to avoid any inequitable rebalancing of tariffs. The observance of these price caps will be monitored by the independent regulatory authority described in Section 6, in association with its role as a consumer watchdog for Telecom.

3.49 Finally, the Government will establish measures within the independent regulatory authority to ensure that the carriers are fully responsive to the needs of their customers. The authority will be charged with monitoring Telecom's fulfilment of its community service obligations, especially in respect of public telephones and arrangements for servicing applications for new standard telephone service connections. It will also have a role in the investigation of consumer complaints against Telecom's misuse of its monopoly position in respect of its relationship with its customers. These functions are outlined further in Section 6.

DEFINING THE BOUNDARIES OF MONOPOLY

3.50 In short, the Government's approach to redefining the scope of monopoly provision is based on two considerations:

- the need to maintain and extend universal service by fully maintaining Telecom's ability to provide access to standard telephone services through cost-averaging and cross-subsidy; and

- the need to secure the orderly and efficient development of the basic network by enabling the fullest exploitation of the efficiencies arising from economies of scale and scope, and by avoiding costly and uneconomic duplication of facilities.

3.51 In translating these objectives into policy, the Government has taken into account the benefits flowing from both monopoly and possible competing provision of specific services, and the need to ensure that regulatory mechanisms are put in place in the monopoly areas to safeguard the efficiency and effectiveness of service - these too are outlined further in Section 6.

Facilities

3.52 In keeping with the approach described above, the Government has decided that:

> **The monopoly provision of the basic public switched voice network by Telecom within Australia and by OTC internationally will continue.**

3.53 In continuing this monopoly, the Government will ensure that the measures needed to ensure orderly development and public safety are clearly specified. The independent regulatory authority will have a limited power to permit modifications to the monopoly areas in specific cases where they would clearly not harm the integrity or viability of Telecom's network (and are required to provide a service that otherwise would not be provided, for example a particularly long exchange access line). This power will be constrained to be exercised consistently with the wider policy on reserved services outlined in paragraphs 3.54 to 3.63 following. Present arrangements governing radio-based transmission facilities in the basic network will be maintained, as will the monopoly provided to AUSSAT over the domestic satellite system.

Services

3.54 Competition in the provision of services over telecommunications facilities will continue to be precluded to the extent necessary to ensure continued protection of Telecom's ability to finance its specific community service obligations. (However any service which is currently unrestricted will remain so.) The Government's primary concern here is to protect the source of present and future cross-subsidy revenues.

3.55 Although the data for measuring the extent to which particular services cover their costs are imperfect, there can be little doubt that Telecom's capacity to finance universal access depends first and foremost on the revenues from the basic public switched telephone network - which presently generates over 90 per cent of

Telecom's revenue from network services. There is therefore a clear need to reserve to Telecom the rights and obligations associated with the exclusive operation of the national standard telephone service.

3.56 This reservation will apply to the provision of standard switched voice services, including the use of facilities derived from Telecom's network, from OTC, from AUSSAT or provided by any other entity.

3.57 The reservation given to Telecom and OTC will be further supported by providing adequate protection to Telecom's additional services:

- that are provided jointly with the switched voice service;
- that may be direct substitutes for the switched voice service; and
- that have been developed on a basis similar to, and derived from, the voice service.

(i) Services provided jointly

3.58 The reservation of basic switched voice services will entail a restriction on the supply by entities other than Telecom and OTC of services which "bundle" a switched voice connection with any other service or set of services. As a result, Telecom and OTC will be provided with monopoly rights in the provision of public switched ISDN services, given that ISDN involves the joint provision of voice and non-voice access and services.

(ii) Services which are Direct Substitutes for Switched Voice

3.59 The Government also intends to regulate provision of services which are, or which may become, direct substitutes for switched voice services. An area of particular importance in this respect is the regulation of private networks and of the shared use and re-sale of leased lines.

3.60 There can be no doubt that private networks are valuable in allowing corporate users to develop innovative telecommunications applications geared to their specific requirements - and which hence contribute to efficiency and productivity in the economy as a whole. However, it is also the case that the pricing of leased lines has contained an element of bulk discount, even taking into account the lower cost of providing for an equivalent amount of traffic on a fixed, as against switched, connection and the value of the certainty associated with the provision of dedicated lines. In these circumstances, allowing the shared use and re-sale of leased lines could simply lead to arbitrage of traffic from the public switched network to private networks without providing any gains in underlying efficiency. This would then jeopardise the source of revenue for financing community service obligations.

3.61 Given the reservation of standard public switched voice, data and text services, the Government therefore intends that:

> **The shared use and resale of simple carriage of all traffic over private networks will continue to be restricted. This restriction will apply both to facilities leased from Telecom and OTC and to services obtained from AUSSAT.**

This restriction will prevent undue diversion of traffic from the public network to private operators.

(iii) Other Services

3.62 The Government recognises that certain other established services currently provided, by Telecom and OTC have developed on the basis of the traditional tariffing principles that have derived from the public switched network (viz public switched data, text and video services, leased network facilities). These tariffing principles involve considerable cost-averaging, both geographically and among customers, to an extent that may not be wholly commercial. Opening these services to competition at this time would impose an excessive adjustment burden on Telecom and OTC and on their

customers.

(iv) Summary of Reserved Services

3.63 The Government has decided that:

> Telecom and OTC will be provided with continued regulatory protection of their monopolies in specific services where opening them to competition at this time would impose excessive adjustment burdens on the carriers or their customers. These services are:
>
> - Basic public switched voice
> - Public switched data
> - DATEL
> - AUSTPAC
> - Public switched text and video
> - telex
> - teletex
> - Public switched ISDN (integrated services digital networks)
> - basic rate
> - primary rate
> - Leased circuits
> - voice (eg tieline)
> - data (includes Digital Data Service, both DDS and DATEL)
> - text
> - video
> - Mobile telephone services

(v) "Non-core" Services

3.64 Where "non-core" services are provided that use and extend the basic network but do not compete with it, it may be appropriate to permit competition, in much the same way as value added services are open to competition, as discussed in Section 4.

3.65 Radio paging telephone services are in this category and have been open to competition since 1981. Competition appears to have increased the diversity of services available, provided additional capital resources to develop the market, and provided a high level of customer responsiveness. Since 1981 there has been a growth of about 400% that has also generated significant additional revenue for Telecom because the basic network is used to access the service. Radio paging has now evolved from a simple "alert" system involving radio alarm messages, to include complex one-way information services (eg. text messages, stock market information and so on).

3.66 The extension of this development to two-way information exchange by radio, coupled to the largely de-regulated existing access to private radio communications systems, has raised the question of the need for cellular mobile telephone services to remain a Telecom monopoly. Experience overseas has pointed to possible benefits for that service from competition, including increasing customer responsiveness and faster technological innovation.

3.67 There is already a considerable amount of competition in this market in Australia, in that the provision of all terminal equipment is fully competitive within existing Australian content requirements. As detailed later, in Section 5, this competition will continue under new manufacturing industry development arrangements. This competition has already demonstrated its value; equipment costs have been reduced by up to 15% over the last two years, despite customer numbers, while rising fast, still being only about 27,000.

3.68 Extension of competition to the provision of mobile telephone services themselves would not appear likely to affect Telecom's capacity to fund its community service obligations by cross-subsidies: the services would, in fact, provide additional trunk and local traffic on the Telecom network through interconnection between the mobile services and the basic network infrastructure.

3.69 At the same time there are several issues that need specific consideration because the cellular mobile telephone service is integrated with the standard telephone service. First, Telecom has only recently embarked on a major program to introduce its MOBILENET service throughout Australia, aiming to cover 80% of the population by 1991/92. The Government is keen to see the geographic coverage of this service continue to be extended as

widely and as quickly as is consistent with commercial viability, and would need to be sure that any additional operator would not jeopardise this aim. Secondly, the present allocation of radio frequency spectrum in Australia has been established on the basis that there would be only a single national operator of cellular mobile telephone services. Any change may require, depending on its nature, detailed re-consideration of the relevant spectrum plans. Thirdly, the presence of an alternative provider of switched voice services - albeit limited to mobile telephones - could, through further advances in the technology, lead to unforeseen difficulties in the future for the maintenance of Telecom's monopoly of wider switched voice services, leading to problems of inappropriate network bypass with implications for the important cross-subsidy issue.

3.70 Finally, there are some specific emerging technology developments that would require consideration in this context. It already appears likely that present analogue technology for cellular mobile telephone services will be superseded by digital technology in the early-to-mid 1990s. This is about when Telecom's presently planned coverage should have been completed, and its planned investment recovered. At the same time, the Government is presently giving separate consideration to proposals for the inclusion of new technology land-mobile satellite radio communications systems in the proposed replacement satellites for AUSSAT. The implications of these developments need careful consideration.

3.71 For these reasons the Government considers that there is too much uncertainty to make a decision now to introduce competition into the provision of cellular mobile telephone services. It has decided that a further examination of this issue is required.

3.72 The Government has therefore decided that:

On its establishment the new independent regulatory authority will be required to report on the implications of licensing an

additional operator of cellular mobile telephone services with rights of interconnection to Telecom's public switched telephone network, having regard for the implications that such services may have for the orderly and efficient development of the national telecommunications system, and for the continued capacity of Telecom to provide the cross-subsidies required to meet its essential community service obligations. The Government will, after receiving that report, review the case for licensing such an additional operator.

Public Telephones

3.73 Telecom presently operates about 32,100 public payphones (where Telecom provides the installation and collects the revenue) and 53,700 private payphones (where Telecom leases or sells the phone and the lessor or owner collects the coinbox revenue and pays Telecom for calls at standard rates).

3.74 There is a considerable degree of community concern over the adequacy of Telecom's provision and maintenance of public telephones, although there are no established standards or guidelines for their provision. At the same time, Telecom's standard accounts showed a loss of $67.8 million on payphones in 1986/87, with about $18.5 million attributed to costs of vandalism. (However there are questions over the adequacy of the standard Telecom accounts in measuring the contribution of this business to profit.)

3.75 As with the cross-subsidy question, there is considerable difficulty in disentangling current Telecom management information to determine the real economic costs of maintaining public telephones as community service obligations (CSOs) rather than as a commercial business. But one estimate made for this review process has indicated that, on a direct cost/direct revenue basis, public payphones may even make a positive economic contribution of up to $12.8 million per year to Telecom network costs. However, there are clearly major differences in profitability (or loss) between different payphone sites.

3.76 The Government has decided that:

Telecom will continue to have the exclusive right to provide payphone services.

3.77 As a condition of its sole public network operator status and its exclusive right to provide private payphones:

Telecom will be required to provide and maintain a comprehensive network of public telephones in line with community needs.

3.78 The independent regulatory authority described in Section 6 will monitor public payphones, including the adequacy of provision to meet community needs, and the efficiency with which Telecom meets its obligation. It will be required to draw up and monitor appropriate national guidelines for the standards of provision and maintenance that will be expected.

3.79 The authority will also approve new accounting arrangements to determine the profitability or costs of the public telephone business, as part of its responsibility for monitoring prices in monopoly areas. The Government will explicitly consider the costs of public telephone provision in determining the specific financial targets it will expect Telecom to achieve as a government business enterprise.

INTERNATIONAL SITUATION

Current Situation

3.80 OTC has a monopoly on the carriage of telecommunications traffic to and from Australia, with domestic connections from its international gateways being provided by Telecom. It is a relatively efficient organisation when compared to other international carriers. Despite long distances between Australia and its major telecommunications trading partners, a relatively small population, and relatively small volumes of international traffic compared with major trading partners, OTC's calling rates as a proportion of population are high, tariffs are low,

international coverage is extensive and its return to government is high. Growth in outgoing international telephone calls over the period 1976 to 1984 averaged 31.4% per annum (exceeded only by the United States with 34.2%).

3.81 OTC makes a substantial return to its shareholder. For the last five years, revenue has increased by an average of 16% per annum and after-tax profit has increased by an average of 39% per annum. Telephony accounts for 73% of OTC revenue. For the five years from 1983, the Commonwealth has received dividends totalling $120.4 million from OTC; these payments have increased each year. Table 3.2 indicates that OTC compares favourably with international telecommunication companies over a range of performance criteria. In Figure 3.4 an international comparison of OTC charges shows that Australia fares very favourably with other major countries.

TABLE 3.2: INTERNATIONAL COMPARISONS OF COMPANY AVERAGE ANNUAL PERFORMANCE - 3 YEARS TO 1986
(per cent)

Measure	OTC	KDD	C&W	AT&T
Return on Sales	10.9	8.6	17.9	3.0
Return on Total Assets	6.9	5.5	9.7	2.6
Return on Capital	19.1	9.0	18.4	6.6
Dividend Payout	50.7	12.6	25.6	69.3
Capital/Total Assets	36.5	61.4	48.6	38.5

Source: Overseas Telecommunications Commission

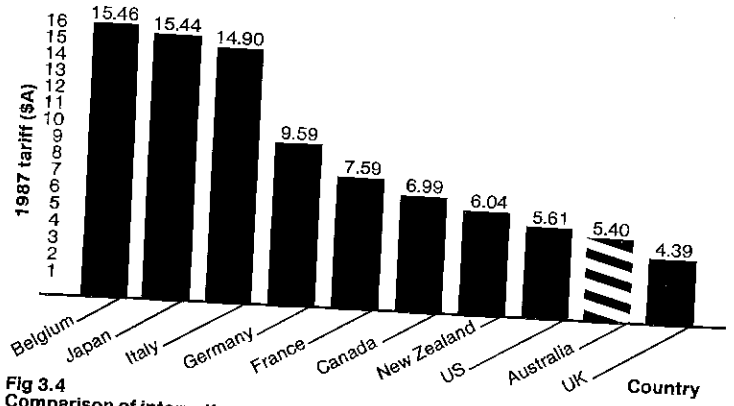

Fig 3.4
Comparison of international call charges, 1987 (typical cost of a 3-minute trans-ocean international telephone call)
Source: Overseas Telecommunications Commission

3.82 No significant representations have been received from users indicating systematic impediments to economic growth or business competitiveness from OTC's monopoly of international facilities, though some users of leased lines have pointed to potential advantages from allowing third-party use of leased lines.

3.83 OTC now faces considerable competition in a growing element of its business conducted between third countries via Australia (its "hub Australia" business strategy). Specific pressure upon OTC's strategy of attracting telecommunications business can be expected in the near future from the recent policy change in New Zealand allowing competition in international services. Private sector investment may add to the relative attractiveness of New Zealand as a location for telecommunications operations in the region, thus increasing the competition faced by OTC.

Seeking Efficiency Gains

3.84 Open competition in international network facilities could lead to the fragmenting of the market by the direct entry of major overseas carriers. As an adjunct to their global operation, the opportunities open to these carriers to support predatory pricing from other parts of their operation exceeds OTC's ability to defend against such a tactic. There is no effective international mechanism to regulate such behaviour. The consequent rate reductions may bring some short-term price gains to the business community, but competition is not the only way to achieve those gains and cutting OTC profits would reduce its capacity to invest in new technology offering greater long-term gains. The benefits of exposure to international innovation and technology are already available through OTC's correspondent arrangements with overseas carriers serving their home markets. Further stimulus to innovation and benefits of technology transfer will be gained without the disadvantages noted above by the entry of international value-added service providers using OTC circuits, as discussed in Section 4.

3.85 OTC is pursuing commercial solutions to reduce tariffs, including proposals to assist in the establishment of satellite earth stations within specific countries to minimise transit charges.

3.86 Scope exists to improve AUSSAT's revenue growth by removing regulatory impediments to the fuller use of its satellite technology capability. AUSSAT's current satellite coverage extends as far as Tahiti to the east and to Papua New Guinea to the north. Although AUSSAT may operate within third countries, it is presently effectively prohibited from operating internationally. This constitutes a regulatory barrier to optimum use of the satellite technology that is in place, and proposed. It also leads to operational inefficiencies in integrated regional private network communications by artificially forcing the international traffic through the OTC gateway arrangements when it could actually be better handled directly through a single satellite link. As a consequence, some services provided directly within Australia by AUSSAT satellites and which could also be provided directly via satellite in other countries, for example in New Zealand, may not be provided there at all. The additional cost of transmitting the services via OTC, then uplinking back to the same AUSSAT satellite for transmission within the other country, may be prohibitive. This would apply to point-to-multipoint services such as the STARNET Corporate Communications Service and to other Multi-point Distribution Services (MDS) and Video and Audio Entertainment and Information Services (VAEIS).

3.87 Permitting provision of international private networks by AUSSAT would not preclude the use of AUSSAT facilities by OTC, or an arrangement between AUSSAT and OTC data services, to overcome the present restrictive separation of particular domestic and international telecommunications services. However, Australia's international obligations under the INTELSAT agreement would require formal consultations prior to any implementation. Following recently announced policy changes within New Zealand, it appears that OTC and AUSSAT (and also Telecom) will be able to market services there directly.

3.88 An extension of AUSSAT private network capability would need to have regard to the effect on OTC. The extent of the effect is difficult to assess; the private network area is one of rapid growth, and its revenue contribution to OTC is correspondingly rising. It is anticipated that private leases to the region could contribute approximately $6 million to total OTC revenue in the current year, a significant market for AUSSAT, but scarcely crucial to OTC even as this market increases. To some extent, as indicated above, the services using AUSSAT would be new traffic, rather than diversion of OTC revenue.

3.89 Any proposal to allow AUSSAT to compete for the carriage of switched public traffic would, however, have a major impact, and in the case of switched telephone traffic in the region, would expose more than 20% of OTC's total telephone traffic and major revenue sources ($110 million in 1988) to competition. If this eventuated, OTC may need to realign all international tariffs as a response to such competition. Such realignment could mean substantial price increases for a large number of overseas destinations. OTC's capacity to maintain an adequate level of investment to upgrade and develop the network could also be reduced.

3.90 The negative consequences of open network competition appear to outweigh the possible efficiency gains. However, allowing AUSSAT to provide regional competition in private networks by better utilising its international network facilities, appears a low risk, high benefit option. Recent developments in broadcasting and related activities as well as the potential for development of international broadcasting in the region are cases in point.

3.91 The Government has therefore decided that:

OTC's monopoly on the provision of the basic international network facilities will continue.

The Government has also decided that:

AUSSAT will be allowed to extend its provision of private network facilities internationally to the limits of its present satellite footprint.

3.92 While this may provide some limited competition for OTC, it will

remove a regulatory impediment to growth in regional markets linked to satellite technology. It will not allow AUSSAT to provide switched services, either domestically or internationally, on its own account. OTC will remain the sole Australian signatory to the INTELSAT and INMARSAT operating agreements. But in view of the developing pressures for private earth station provision, and the decision to permit AUSSAT limited scope to operate internationally, the Government will increase its direct policy oversight of these agreements to ensure Australia's overall interests are advanced appropriately.

3.93 At the same time, restrictions on the third-party use of international private networks obtained from OTC and AUSSAT facilites will be clarified explicitly to allow such use for value added services, in the same way as will be permitted for Telecom facilities (see Section 4, paragraphs 4.46 to 4.48).

3.94 The Government expects that OTC will continue to be efficient and commercially-oriented; it will carefully monitor OTC performance through OTC's corporate plan and through the new independent regulatory authority. The Government also expects that OTC and AUSSAT will both energetically develop value added network services and pursue trade in service opportunities, working with one another and with Telecom where this is appropriate (see below).

Relationship of OTC, Aussat and Telecom

3.95 During the review process, most of the possible permutations of structural linkages between Telecom, AUSSAT and OTC have been put forward for consideration. There has been a case made, in the context of Australia's capacity to participate optimally in the global services market, for a closer corporate relationship between Telecom and OTC. This could be through amalgamation, common or overlapping Board membership, or through appropriate joint ventures (the last of these is, of course, already possible under pre-existing policy).

3.96 The Government sees some value in the diversity of style and managerial approach of the three authorities, which are each oriented toward somewhat different objectives. Commercial avenues already exist for OTC, Telecom and AUSSAT to co-operate in ensuring customer needs are met efficiently within their present relationship. Those avenues have already led to a formal memorandum of understanding between OTC and Telecom, and to the merging of the Telememo and Minerva electronic mail services into Keylink. The Government expects such commercial avenues for appropriate cooperation to be fully utilised.

3.97 There has been concern that Telecom's 25% equity in AUSSAT, and its representation on the AUSSAT Board, may militate against healthy competition between the two carriers (in providing private network facilities). OTC has been suggested as a more appropriate shareholder in AUSSAT, given its responsibilities for Australian involvement in international telecommunications satellites, and the opportunities which that offers for efficiencies in both expertise and in economies of scope in investment. However, such a combination would preclude the kind of competition at the margin between OTC and AUSSAT in the trans-Tasman and regional private network markets that the Government sees as desirable.

3.98 After having considered the possible merits of all the various propositions, the Government has decided that there is no compelling case for making any particular change in the present ownership arrangements or structural relationships among the three carriers at this time. It has simply not been persuaded that the effort and possible disruption that would be involved in any significant structural change would be warranted now. The more immediate problems and issues of addressing consumer responsiveness, efficiency and market dynamics are now more pressing, and more appropriately demanding of relevant senior management attention.

3.99 However, the Government remains concerned that these structural arrangements should still be directed towards the overall national

interest. It will expect the carriers to work together to foster appropriate Australian participation in global markets, and is prepared to ensure that they do so. It will also ensure that the limited competition among them is directed constructively. The Government will keep the question of structural arrangements under close consideration in monitoring the effects of the other changes it has decided on in this policy review, and it should not be assumed that those arrangements are beyond modification, once the policy package that is covered by this statement has been put in place. Accordingly the Government has decided that:

> There will be no changes in the present ownership arrangements or structural relationships among the three carriers (Telecom, OTC and AUSSAT) at this time, but these will be subject to review after the main elements of the reform package embodied in this statement have been put in place.

REVIEW

3.100 The rate of technological change is accelerating, creating new pressures for innovation with consequences for the accelerated obsolescence of past investment. New technology and global business trends also open up additional scope for innovation and for competition - the benefits of which should not lightly be foregone. This in turn creates new practical difficulties for any regulation that is directed at limiting competition.

3.101 In this dynamic environment, the Government will continue to monitor the appropriateness of the boundaries of the monopoly. This will be one ongoing function of the independent regulatory agency described in Section 6. The Authority will be empowered to make recommendations concerning the boundaries of monopoly when reporting on the efficiency and adequacy with which the carriers are fulfilling their service obligations.

3.102 The Government expects that Telecom and OTC will use their monopoly advantages to energetically develop basic network facilities and the services reserved to them. The Government will

carefully monitor the situation through the carrier corporate plan and associated reporting requirements, and through the independent regulatory authority.

4: PROVISION OF VALUE ADDED SERVICES

INTRODUCTION

4.1 In view of the major role of value added services (VAS) in the development of the information economy and Australia's domestic and international economic growth, the Government will adopt a regulatory framework designed to facilitate and encourage the growth and development of innovative and entrepreneural activity in VAS. This regulatory framework will provide:

- a competitive value added services market environment;
- independent regulation to ensure fair competition as well as market certainty; and
- continuation of Telecom's, OTC's and AUSSAT's capability to compete with private value added service suppliers on a non-discriminatory basis.

4.2 The provision of VAS is already competitive in Australia. Indeed, in terms of the range of services offered and the number of participants, the Australian VAS market is possibly more developed in some particular areas than that of many other OECD countries. However, there is a need to encourage further Australian involvement in the international VAS market, both for its direct economic value and because it is a forerunner of development of global communications markets.

4.3 A key consideration in the VAS area is the extent to which public investment in the infrastructure and basic network services is required to provide a foundation on which all service providers can then most efficiently add further value in service delivery of a more specific nature. The development of advanced network transport and management services is also important to the growth and widespread take-up of VAS. Public investment in such services needs to be struck at an optimum level so that new business opportunities progressively evolve, with entry and exit

requirements sufficiently minimal to stimulate the necessary scale of entrepreneural participation. Closely related to these considerations are the economies of scale and scope associated with this public investment.

DESCRIPTION OF VALUE ADDED SERVICES

Service Types

4.4 A value added telecommunications service is one delivered or accessed by telecommunications means and involving the addition of significant value to the basic switching and transmission functions, in the form of information processing, delay or other intervention. Examples of present types of VAS are secretarial and personalised answering services, and information providing services such as recorded information, electronic mail and electronic databases.

4.5 The value added may be simple and obvious (for example, a personalised answering service), or more complex (for example, transactional data services such as order placement through an interactive videotex service).

4.6 The provision of VAS is a fairly recent and rapidly expanding development both in Australia and overseas. VAS in Australia commenced with voice services of the secretarial and telephone answering type, then extended to time-sharing computers (for example, the Austas answering service commenced only a decade ago). With the introduction of radio paging, call diversion, computer data bases and automatic call distributers, sophisticated value added secretarial services with message passing and special answering formats for businesses have been developed. In the data area the development of the videotex concept has led to the development of specialised transactional services and store and forward services including electronic mail. (Telecom's Viatel service started in 1984.)

4.7 The major categories of VAS are those which involve access via a public voice or data telecommunications network to a specialised VAS capability or network. The main regulatory issue is to determine when a proposed VAS is providing significant added value and not merely duplicating the public voice or data network, and thereby undermining the profitable services that are used to finance community service obligations or services that are otherwise reserved.

4.8 Examples of present types of VAS are:

- manual services, such as secretarial and personalised answering services;
- information providing services, such as recorded information services, and various forms of data base access, such as videotex;
- information processing services, as offered by a number of computer bureaus;
- transactional services, such as order placement, ticketing and billing, which may be provided by interactive videotex services; and
- time delay services, such as voice and text store and forward or store and retrieve, messaging services.

This list is not exhaustive; a particular value added service may combine a number of these elements; and new types may emerge. In view of the rapid evolution of this market it is important not to constrain the scope for development of new VAS types by adopting any definitive typology in any regulatory context.

4.9 The demand for, and scope of, VAS is expected to grow rapidly. Estimates of likely annual growth rates of 30% to 40% in business volume have been made. This sector is at the forefront of telecommunications technology and application. Beyond simple manual services, VAS operates at the intersection of telecommunications and computer developments, and encompasses a wide and growing diversity of demand for information services

required for the storage, processing, retrieval and dissemination of information in many dimensions of social and business development. Further evolution of VAS is likely to encompass not only business applications, but also a greater degree of entertainment and education uses as the broadband transmission capabilities of the public network infrastructure are increased to enable improved video transmission. The scope for convergence between VAS provided via telecommunications and the possible reticulation of television or other Video and Audio Entertainment and Information Services (VAEIS) by cable (optical fibre or co-axial) is rapidly emerging. This is, of course, relevant in the context of the Government's recently announced review of the statutory moratorium on the introduction of pay television services.

4.10 Extensive involvement of private sector capital in the VAS markets will be crucial to the funding of adequate expansion, especially as growth in VAS provision may concurrently require investment to support extensive network expansion and modernisation.

Market Characteristics

(i) Domestic

4.11 The continued development and penetration of VAS by a range of public and private sector service providers is likely to be critically important to Australia's transition to an internationally competitive information society.

4.12 Innovative investors are taking advantage of technological advances, and the demand for increasing sophistication in the services sector, to provide new services which can significantly benefit business efficiency and competitive advantage and create employment opportunities in the information field. In this way, VAS are playing a key role in the development of the finance and related industries, and they are becoming increasingly important in tourism, transport, manufacturing, education, retailing, and the rural sector.

4.13 There has been a rapid increase in the number of public VAS suppliers from about 10 in 1981 to approximately 250 at present, offering over 700 different service options. Particular segments of the VAS market have shown remarkable growth, with electronic mail services experiencing a 300% annual growth rate since 1983. VIATEL has enjoyed a growth rate second only to the French Videotex service with its heavily subsidised Minitel. The Telecom electronic funds transfer at point of sale (EFTPOS) service, the first electronic funds transfer service in the world to use Open Systems Interconnection (OSI)(1) international standards, has placed Australia in a leading position in the world of electronic banking and EFTPOS services. This is a value added service carried on the AUSTPAC packet switched public network service.

4.14 Increased activity has also been evident in storage and forwarding of voice messages, and in recorded voice information services. As well as the VAS that are made available to the public, many firms have installed value adding technology behind their PABX (or other equipment) for their own in-house use and, increasingly, private VAS systems are being deployed at the business interface between companies to manage inter-company transactions and information flows. The major use of VAS so far has been largely for business applications.

4.15 The composition of the principal services currently known to be publicly available in Australia is estimated at Table 4.1.

(1) OSI is a set of standards and protocols being developed by the International Standards Organisation. These standards and protocols aim at creating a common communications environment for distributed data processing systems, permitting equipment from different vendors to inter-operate in an open manner (that is, requiring no special modification). A related concept is open network architecture (ONA). This is a planning concept used in the United States. It is intended to enable all providers of VAS to have the same access to the network architecture as the monopoly carrier.

TABLE 4.1: PRINCIPAL VALUE ADDED SERVICES PROVIDED IN AUSTRALIA

Value Added Service	Approx. No.	No Provided by Telecom
Telephone Answering	50	-
Voice Mail	10	-
Telex Bureaus	80	6
Facsimile Bureaus	50	-
Time Sharing Computers (Bureaus)	30	-
Videotex	10	1
Electronic Mail	10	1
Other (Includes electronic funds transfer)	10	1
Total	250	9

4.16 The services offered by computer bureaus include the fast-developing field of electronic document interchange (EDI) which uses the convergence of computers and telecommunications to greatest commercial advantage.

4.17 VAS are provided by a wide range of companies in Australia. These range from traditional established computer service bureaus, through to banks and other large companies diversifying on the basis of their computing and networking expertise and investment, to business service companies adding VAS to their range of services. Internationally the market appears set to be heavily influenced by the major trans-national computer and telecommunications companies, often operating in partnership with a company from the wider services sector. However, because of its diverse nature it is expected that the VAS market will remain open for entrepreneurial initiatives by smaller participants for some considerable time.

4.18 The total size of the VAS market in Australia in terms of revenue is not known. But VAS revenue will be of growing importance not only to VAS providers but also to the public network operators as VAS leads to increased network usage. Telecom estimates that at 1987/88 its public VAS market represents about $31 million of its own revenues. This could grow to $250 million by 1991/92 and even to $1,500 million by the mid to late 1990s. The achievement of this growth will to some degree depend upon the regulatory conditions for VAS as well as the acceptance by users of these types of services, and the continued development of new services.

4.19 To meet the needs of VAS developments, specialised networks and network arrangements have been provided and these will need to continue to evolve to provide access to the most appropriate network facilities for each service as the VAS market expands. The introduction of ISDN will further expand the network capability for VAS development both nationally and globally.

4.20 It is expected that household applications of VAS will also increase with continued reduction in real terms of the price, and an increase in the ownership of, personal computers. (Already home shopping by catalogue is targeted for a resurgence in the United States through a major VAS now under development.) The high usage of the French Minitel service(2) provides some indication of the growing demand for technology that is developing toward the "intelligent home" concept. The progressive extension of ISDN and optic fibre cable to domestic customers will further accelerate demand. Cable television would add considerably to the economies of scope.

(2) The French service was accompanied by the free provision to customers of relatively low-cost home VDU terminals, as a subsidised element of national technology development policy.

(ii) International

4.21 Internationally, OTC is actively involved in the provision of its own VAS offerings as well as providing the network facilities for carriage of VAS. OTC currently offers the Keylink electronic mail service in conjunction with Telecom, and the Online Directory Service which provides an automatic directory system for telex, teletex and facsimile users. In addition, OTC's international packet switched Data Access service complements Telecom's AUSTPAC service and serves as the means for business and private users to access enquiry systems, computer-based services and information databases located overseas. Data Access also provides the means for the export of information from Australia, and facilitates the implementation of value added services offered by other parties. The use of leased OTC circuits in private networks for the provision of value added services by separate service providers has, however, so far been subject to commercial limitations imposed by OTC to mirror Telecom's domestic regulation of VAS.

4.22 OTC is expanding its product range to incorporate new value added services, some in commercial association with other companies. New VAS planned for introduction later this year include the following:

- electronic data interchange (for electronic exchange of documents);
- online databases (for online retrieval/processing of information stored in host computers); and
- customised data networks and office automation systems (for subscribers with particular internal or inter-company communications needs).

OTC is also considering the implementation of a videotex gateway for access to international videotex systems, such as Prestel in the United Kingdom.

4.23 The international VAS market is widely forecast to grow at a high rate as active competition and innovation increase and as companies exploit the business benefits of electronic information processing that can be provided by VAS.

4.24 A significant feature that distinguishes the international VAS market from the domestic market is the increasing multiplicity of carriers involved. The traditional unified, integrated international telecommunications carriage system has now responded to the stimulus of liberalisation in key countries overseas. Countries such as the United States, United Kingdom, Hong Kong and Japan already have multiple international carriers. Given the importance of the United States in particular as an information 'host' in the global information economy, this development is important.

4.25 International VAS providers therefore need to establish and optimise their transparent global transport networks in co-operation with a range of overseas entities, if they are to maximise the value of their services to their clients. Given the specialised nature of the associated relationships, this gives VAS providers a clear market edge in acting as an intermediary between trans-national commercial groupings with common or overlapping telecommunications needs, and the world's telecommunications carriers. It gives a further marketing edge to organisations like OTC who are concurrently commercial VAS providers and leading international telecommunications carriers.

4.26 Typical end users of international VAS are multinational businesses that use packet switched networks to link international facilities in a global version of automated office concepts. These are intra-corporate applications. Examples of such business areas are:

- international airline reservation systems;
- banks using VAS for monetary dealings and exchange rate information;

- Australian branches of international corporations exchanging management and other information with overseas parents and other branches; and
- computer aided design/computer aided manufacture.

4.27 VAS vendors in the United States are now pursuing both data carriage and applied communications opportunities within foreign countries. Examples are Computer Sciences Corp's aggressive promotion of Infonet, its packet switched network for VAS with local access nodes in 19 countries; and AT&T, British Telecom International, and Kokusai Denshin Denwa Ltd's announced "Account Management Plus" service which will offer voice and data services internationally, with one consolidated bill for customers.

4.28 The nature and characteristics of the value added services sector make it particularly suited to global operations, from both a provision and usage perspective. Because VAS are at the forefront of new developments in international communications networks, and because they convey information which facilitates international trading, it is essential that Australia makes every effort to participate in this business. If Australia were merely a reactive participant in global VAS operations then its share of the global communications market might reduce, and new international business opportunities could be lost.

4.29 The Government therefore sees a need to complement its Information Industries Strategy, which is designed to foster Australian participation in the wider information economy, with specific new telecommunications measures. These will minimise the necessary regulation of VAS and clarify the application of the remaining regulations, to ensure that competition is both permitted and encouraged within the bounds of the regulatory arrangements, and to safeguard VAS competition against any misuse of carrier market power as noted below.

EXISTING REGULATORY ARRANGEMENTS

4.30 Telecom presently authorises value added services using the provisions of s.13(1)(b) of the Telecommunications Act 1975. Its approach has been based on the view that it is not feasible to divide all services delivered by telecommunications means, or which are based on telecommunications, into "basic" services and "value added services" according to some fixed boundary definition. Rather Telecom has held that a judgement needs to be made in each case on the extent to which such services impact on its reserved service role. In many cases there has been no such encroachment, or only marginal impact, and in these cases Telecom has authorised the service provider.

4.31 On the other hand, Telecom has recognised that without some general guidelines, the development of genuine value added services could be circumscribed. For this reason, Telecom's regulatory policy document describes Telecom's approach based upon allocating VAS proposals into one of three categories, viz:

- those value added services which have been and will continue to be readily approved;
- value added service offerings which will continue to be examined on a case by case basis; and
- proposed offerings which will not be approved.

4.32 This "characterisation" approach has allowed for the first category to be given a "class" approval, providing a substantial degree of assurance to potential investors that proposals clearly identifiable within an approved class will also be approved. However, Telecom's approach in the second category may give less predictability than is sought by potential investors. There is concern that this reduces the attractiveness of investing in VAS, compared to less troublesome or risky investment elsewhere, and it may therefore be hampering the extent to which the rapidly developing market prospects will be energetically pursued by the private sector.

4.33 Following representations from business users and VAS providers over what they saw as an unduly selective and defensive approach to approving VAS, Telecom revised its policy in September 1987, but retained its broad approach to characterising VAS proposals. Business users and VAS providers remain unsatisfied that the amended policy fully meets their concerns, but have deferred further action pending the outcome of this policy review.

4.34 OTC has no regulatory authority, but has protected its monopoly services commercially through the lease conditions for private networks. Its monopoly on carriage is largely protected against simple resale of capacity in the guise of VAS by Telecom's regulation of VAS, and by the need for an international VAS provider to use Telecom facilities for domestic connection.

NEW REGULATORY ARRANGEMENTS

4.35 The Government places considerable importance on the potential for value added services in economic growth and trade in telecommunications services. However, it is also concerned to ensure that value added service providers do not encroach on reserved service areas. The Government has decided that:

> **Value added services will be open to full competition.**

4.36 In this context the important issues in regulatory reform for value added services are:

- how to continue to delineate the boundaries between competitive VAS and the reserved services;
- how to ensure that regulation is not capable of being used to favour the monopoly network operator;
- how to ensure that market power in either VAS provision or in the provision of reserved basic network facilities and services is not capable of misuse to damage competition;
- how to promote active competition in VAS provision; and

- implications for private network policy.

Delineation of the Boundaries

4.37 Any telecommunications service which is not explicitly reserved to Telecom, OTC or AUSSAT will be open to competitive provision. Section 3 outlined the definition of the reserved facilities and services necessary to protect the cross-subsidy capacity of Telecom to fund its community service obligations. These arrangements will be carried forward to the regulatory regime for value added services. The Government has decided that:

> **There will be a licensing arrangement administered by an independent regulatory authority to ensure that value added services do not intrude on the monopoly services reserved to Telecom and OTC.**

The new independent regulatory authority (described in Section 6) will be responsible for administering the precise definition of reserved services, with competition being permitted for all services outside this definition, under a "class licence" mechanism.

Independence of Monopoly Network Operators

4.38 Organisations intending to provide VAS will need to advise of compliance with class licence conditions and, unless this advice is contested within a statutory time limit, a right to proceed will accrue subject to a continued obligation to maintain compliance. Once this right has accrued, Telecom and OTC will not be empowered to restrict VAS providers' access to the public network facilities, or to discriminate in the terms on which that access is provided.

4.39 This process will set out clearly in statutory form the limits of allowable competition. It removes any regulatory role for Telecom or OTC concerning the initiation of a service, yet it provides two levels of safeguard against threats to the monopoly areas: first, the notification of the service allows the regulatory authority to

detect violations of the boundaries; secondly, the statutory notice period allows Telecom and OTC to contest possible undetected violations of their reserved services.

Misuse of Market Power

4.40 As mentioned above, once the regulatory arrangements have provided a VAS operator with a right to operate, the monopoly network provider will be obliged to provide non-discriminatory access to the public network facilities for that service. In addition to the application of the standard provisions of Part IV of the Trade Practices Act 1974, the carriers would be subject to explicit legislative provisions proscribing price discrimination.

4.41 Telecom, OTC and AUSSAT are well placed to compete as efficient providers of value added services in conjunction with their reserved national and services role. The Government has therefore decided that:

> **Telecom, OTC and AUSSAT will be free to participate commercially in the value added services market.**

They will be encouraged to be active participants. However, because of the market power they possess, especially when coupled with their roles as monopoly network service providers to their VAS competitors, it will be important to the encouragement of wider competition to signal clearly to potential market participants that Telecom, OTC and AUSSAT will not be allowed to derive any market advantage from their monopoly status.

4.42 Telecom, OTC and AUSSAT will be required to operate in the VAS market on an equal basis with their competitors in respect of their usage of the reserved network facilities and services. Their VAS charges will be required to reflect the standard non-discriminatory tariffs for these facilities and services. They will be barred from the use of monopoly revenues to unfairly subsidise VAS activities. Accordingly:

Telecom, OTC and AUSSAT will be required to maintain separate accounting records for their value added services and their VAS charges will be required to reflect the standard tariffs for associated use of monopoly facilities and services.

These obligations will be subject to regulatory oversight and scrutiny as outlined in Section 6.

4.43 Telecom, OTC and AUSSAT will be encouraged to continue to co-operate commercially where appropriate in the provision of VAS. Where they operate separately, or with other commercial partners, their relationship will be governed by the uniform regulatory regime applying to all VAS providers.

4.44 In the increasingly important international services arena, it will be important to ensure that Australian VAS providers are not disadvantaged vis-a-vis their overseas competitors in either the Australian or overseas markets. Retention of OTC as the monopoly provider of international carriage to and from Australia provides a mechanism to enable the government to safeguard fair market behaviour by overseas service providers operating within Australia. More widely, the Government will be working actively in the International Telecommunications Union (ITU) forums, in the international negotiations affecting trade-in-services in conjunction with the GATT Uruguay round, and in other relevant international forums, to ensure that the developing international rules of the game do not disadvantage Australia.

Promoting Competition

4.45 The foregoing regulatory arrangements include elements such as accounting separation and non-discrimination, that also serve to signal the Government's intent that competition in VAS should be encouraged and facilitated. In addition to these specific provisions, the independent regulatory authority, described in Section 6, will have a general duty to promote competition outside

the boundaries of the monopoly area. The Government expects private sector investors to take up these new opportunities.

Implications for Private Network Policy

4.46 The value added services market is closely inter-related with Telecom's private network or leased line policy. A private network exists where a user operates facilities which it has provided on its own account, or obtained from the public network provider for its own internal communications needs. About 50% of VAS suppliers using Telecom's facilities lease such private networks. The business of a VAS provider is to sell a service to customers. The issue from a regulatory point of view lies in the definition of a licensed user; that is, determination of whether a legal entity or collection of such entities may operate such facilities without de facto engaging in prohibited resale or shared use of reserved infrastructure.

4.47 Those value added services which are built upon leased line access for delivery, implicitly involve shared use of leased lines as an element in that overall service. The concern from a regulatory viewpoint is to ensure that value is added to distinguish from simple carriage of a basic service. Regulation will be used to ensure that private networks established under the guise of VAS do not act to divert reserved services from the Telecom network. This will be an integral element of the policy on resale of leased capacity. Specific arrangements for licensing VAS providers and inter-connection of private networks are discussed further in Section 6.

4.48 Section 18 of the Satellite Communications Act 1984 is presently seen as inhibiting the use of AUSSAT-provided transmission capacity in publicly-offered value-added telecommunications services. Consistent with the current liberalisation of these services over Telecom-provided private networks the Government has decided that:

Restrictions on the use of AUSSAT facilities for the provision of publicly-offered value added services will be removed.

However, simple third-party carriage, or resale of simple transmission capacity in such AUSSAT facilities will continue to be precluded, on a basis consistent with the regulation of leased circuits obtained from Telecom or OTC.

5 : PROVISION OF CUSTOMER PREMISES EQUIPMENT

INTRODUCTION

5.1 This Section addresses the customer premises equipment (CPE) market in some considerable detail. This is because it is this market that appears to be subject to the greatest pressure for early change in regulatory arrangements, while presenting its own complex set of issues that have often been overlooked or misunderstood in some of the views that have been put forward in recent debate. The main issues are: consumer choice and diversity; customer responsiveness; efficiency, costs and prices; Australian manufacturing industry development; employment within Telecom and the wider industry; and the rate at which any changes can be made without jeopardising ability to adjust.

5.2 The CPE market covers equipment that may be attached to the Telecom telecommunications system. As provided for in s.13(1)(b) of the Telecommunications Act 1975, the Australian Telecommunications Commission "may authorise the attachment of a line, equipment or apparatus . . . to a telecommunications system." Telecom's management arrangements presently include pay phones as part of CPE. However, pay phones are not included in this analysis of the CPE market but were dealt with separately in Section 3, because of their community service role.

5.3 The CPE market dealt with here includes principally:

- telephones (including telephone answering machines);
- telex terminals;
- modems and computer terminals;
- facsimile machines;
- cellular radio telephones;
- PABXs (private automatic branch exchanges);
- small business systems; and
- cabling and wiring.

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- facsimile machines;
- cellular radio telephones;
- PABXs (private automatic branch exchanges);
- small business systems; and
- cabling and wiring.

5.4 Installation, maintenance, alterations, enhancements and additions to CPE hardware and software all form part of this market.

5.5 The main policy considerations in the future provision of CPE are: the extent to which additional competition can be introduced (liberalisation) without losing the established benefits of traditional arrangements; how the boundaries between competition and monopoly can be controlled; what arrangements there should be to control relevant standards; and what future role should be played by telecommunications policy in support of the development of the Australian communications equipment manufacturing industry.

5.6 This Section sets out current regulatory arrangements and examines some of the structural factors, including the possible scope for efficiency gains, in the context of possible liberalisation (paragraphs 5.7 to 5.50). It then goes on to examine the possible implications of liberalisation from the perspectives of structural adjustment (including the impact on Telecom and the Australian communications equipment manufacturing industry) and of consumers (paragraphs 5.51 to 5.112). It concludes with a description of the changes that the Government will make as a result of this examination (paragraphs 5.113 to 5.128).

CURRENT REGULATORY ARRANGEMENTS

5.7 Telecom exercises its powers to authorise specific equipment for attachment to the system through a system of by-laws and regulatory approvals. In practice these are presently used to control:

- the technical standards of the equipment;
- Australian content of some of the equipment;
- servicing, installation and maintenance of some equipment;
- monopoly supply by Telecom of some equipment; and
- who may supply some equipment.

5.8 These arrangements have been questioned in recent years. Suppliers of competitive equipment have asked whether it is reasonable that their competitor - Telecom - should make regulatory decisions on their equipment. Potential suppliers query whether restrictions on competition imposed by Telecom regulations really do serve the objectives of the Telecommunication Act, or merely protect existing suppliers from competition. Telecom itself queries whether such a regulatory role fits well with pressures for it to improve its commercial orientation and performance.

5.9 Some of Telecom's current regulatory practices have been questioned as having the potential substantially to lessen competition or to amount to a misuse of Telecom's market power in relation to its competitors. The extent of Telecom's powers under the Telecommunications Act, and the impact of the Trade Practices Act on the manner in which those powers might be exercised, has not been determined by a court.

5.10 The Trade Practices Commission has specifically drawn Telecom's attention to the possibility of contravention in the case of the first telephone instrument. It appears that any continuation of the first phone monopoly may require specific authorisation pursuant to the Trade Practices Act, and similar considerations may apply to other monopoly areas, even during any transition periods.

5.11 Telecom's regulatory approach has developed over several years, from a position where in 1975 authorised attachments were almost exclusively provided by Telecom, to now embrace different degrees of competition for different items of equipment. The present position is generally as set out in paragraphs 5.12 to 5.27.

Telephones

5.12 This group has three components: the first telephone (which is presently provided by Telecom with each exchange line); additional telephones; and multiple interconnected telephone systems (Small Business Systems - SBS - or "key systems"). SBS have special characteristics and are dealt with separately (see paragraph 5.24).

5.13 Telecom's charter under the Telecommunications Act is the provision of telecommunications services. In the case of voice telephony this is currently interpreted to involve the provision not only of exchange access, but also of a standard telephone to ensure 'end-to-end' service. Customers are offered a choice from a limited standard range of instruments, the supply and maintenance cost of which is included in the integrated annual 'rental' or 'access charge' levied for the exchange line. There is currently no competition in this component of the market. There was an installed base of over 5.8 million units in 1986/87, and an additional 526,600 units are expected to be installed in 1987/88. Telecom sources its standard telephones from Australian manufacturers, consistent with a policy of using Telecom purchasing to support the development of the Australian communications equipment manufacturing industry.

5.14 Additional telephones are open to competitive supply, with over 450 type-authorisations issued by Telecom. To be authorised, such instruments must be differentiated from Telecom's standard range of telephones in terms of significant features, styling, or by being system-integral to a PABX (that is, they will only work when attached to a particular PABX, and not directly to the network). The latter requirement serves to distinguish additional telephones from monopoly SBS.

5.15 Maintenance of privately supplied instruments and of enhanced instruments sold by Telecom is a matter for the customer. Telecom does not offer standard instruments on an outright sale basis, and

the rental includes maintenance as well as recovery of the cost of the instrument.

Telex Terminals

5.16 Currently telex terminals can only be provided by Telecom, and there is no competition. However, Telecom will remove all restrictions on sources of supply from 1 July 1988, subject only to approval in respect of technical standards conformance. Telecom will continue to participate in this market.

Modems and Computer Terminals

5.17 Modems are units which provide a technical interface between digital computer equipment and the analogue telecommunications systems. There are no restrictions on sources of supply, subject only to regulatory approval in respect of technical standards conformance. A number of suppliers with recognised technical competence have been authorised to self-certify compliance with technical specifications. Telecom supplies equipment in this market in competition with other suppliers.

5.18 There are no restrictions on sources of supply for computer terminals that may be connected to the telecommunications system, subject only to regulatory approval in respect of technical standards conformance for the interfaces and terminating equipment. Some suppliers are authorised to self-certify that equipment. Telecom is a very minor supplier of equipment in this market.

Facsimile Machines

5.19 There are no restrictions on sources of supply for facsimile machines, subject only to regulatory approval in respect of technical standards conformance. Telecom did not enter this market in compliance with a request in 1980 from the then Minister for Communications. Some suppliers are authorised to self-certify equipment.

Cellular Radio Telephones (CRTs)

5.20 Supply of CRT instruments (handsets) is subject to regulatory approval in respect of technical standards compliance, and is limited to approved suppliers who meet Telecom's Australian content requirements (30% rising to 35%). Imported handsets are denied Telecom approval for connection and use. There are presently nine endorsed suppliers of CRT equipment. Telecom supplies CRT handsets in competition with other suppliers. Purchase prices presently vary from about $2600 to over $6000 per unit. Separate access charges are levied by Telecom as the sole service provider.

PABX

5.21 Supply and installation of PABX systems is open to competition from among 12 suppliers who have been endorsed by Telecom. To be endorsed, a supplier must formally undertake to meet a minimum level of performance measured by a "points" system across categories including level of locally manufactured content, employment, research and development, technical support, and exports. In addition, suppliers must negotiate a service and training agreement with Telecom for each system to ensure that spares, training and other support is available for system maintenance, and post a security bond. Telecom competes in the PABX market as a reseller of systems from its own contracted suppliers.

5.22 A condition of Telecom's approval to connect each PABX is that maintenance be carried out by Telecom (although Telecom contracts the more complex maintenance back to the supplier). There are 26,000 PABXs installed subject to Telecom maintenance. Maintenance charges generated revenue to Telecom of $60 million in 1986/87.

5.23 The price of PABX equipment ranges widely with simplest equipment starting at about $5,000. The majority of PABX equipment is in the $7,000 to $50,000 range, depending on the number of attached ends and ancilliary services incorporated. There are a few items of equipment in the range of $100,000 to $500,000 and occasional contracts for equipment in the $2 million to $3 million range. Market growth is about 12% per annum. Telecom's share of sales is about 30%, with revenue of $88 million in 1986/87.

Small Business Systems

5.24 These may be attached to one or more exchange lines in lieu of first telephones or a PABX. Only Telecom is presently authorised to supply, install and maintain these systems, which provide multiple instruments/keysets each of which is capable of directly 'picking up' or initiating a call on any line, of transferring calls, and of operating as an intercom. Telecom currently markets its main range of small business systems as 'Commander systems'. (Telecom has, however, authorised "dealer systems" to be supplied by four private suppliers to meet the specialised needs of the financial, commodity and other dealer markets.) Although there is no direct competition in the key systems area, there is increasing substitution from small PABXs, running at about 20% of the market at the moment. A typical SBS (say 4 exchange lines x 6 extensions) might cost around $4,500. Telecom sources its purchase of SBS for resale from Australian manufacturers to maintain its support for industry development.

Cabling and Wiring

(i) Large Commercial Premises

5.25 Cabling within "high-rise" commercial premises ("backbone cabling") is open to competition between Telecom and about 1,500 Telecom-registered cabling contractors. Registration is based on a demonstration of competence. Facility cabling (within a suite of offices) is open to all endorsed PABX suppliers, their

nominated agents, and Telecom. Telecom expanded eligibility to enter facility cabling markets to all registered cabling contractors in March 1988.

(ii) Other Customer Premises

5.26 Telecom retains a monopoly over provision of cabling from the exchange to, and wiring within, domestic premises, or smaller business premises. Telecom has authorised certain extension cord attachments to extend wiring from existing (Telecom installed) sockets. This allows a limited "do-it-yourself" approach to fitting additional telephones or other attachments such as computers, without Telecom installing wiring and instrument.

(iii) Lead-in Wiring Across Property

5.27 Telecom is responsible for providing the lead-in wiring from the network reticulation point in a street, across the customer's property and into the premises to the first telephone socket. Lead-in cabling may be buried in trenches or hung from shared use electricity poles to the customer's premises. The installation of this wiring from the reticulation point to the first socket in the customer's premises is included in Telecom's connection fee for a new service. (Whether this is 'CPE' or part of the basic network monopoly depends on where the boundary is determined. This question is dealt with in paragraph 5.32 and 5.109 to 5.112.)

STRUCTURAL FACTORS

Pricing of Access to the Network

5.28 Telecom presently provides an 'end to end' telephone service which includes not only access to the public switched telephone network (PSTN), but also supply, installation and maintenance of the first telephone. Telecom's pricing policy bundles these sub-elements within the annual access rental charge. (Provision of the wiring to the first socket on the customer's premises is charged for

separately in the new service connection fee.) Telecom's accounting system is not structured to disaggregate the costs or revenues of the access rental charge to identify the sub-elements separately. However an approximation of Telecom's revenue allocation may be made, by considering the new service connection fee and the annual access rental.

New Service Connection Fee

5.29 Telecom levies an initial charge upon the customer for each new connection to make a contribution toward the cost of provision of access cable and reticulation from the exchange to the customer's premises and wiring up to and including the first socket. The fee for urban areas is presently $210. The new service connection fee for rural customers is $210 up to 16 kilometres radial distance from the exchange to the premises. Beyond 16 kilometres the fee is $210 plus $25 per each half kilometre radial distance to a maximum fee of $1410 (which arises at 40km distance). Excess of costs over revenue is met from other revenue sources. Maintenance of premises wiring is covered in the annual access rental charge but the incidence of maintenance is very low.

Annual Access Rental Charge

5.30 The present access rental charge is $135 per annum for non-business customers and $234 per annum for business customers. The non-business rental does not necessarily meet the full cost of providing the service to all non-business customers even in metropolitan areas, and is cross-subsidised to some extent, depending on the location of the individual non-business customer. While business rentals probably cover costs for business users on average, this may still include some internal cross-subsidies, eg to non-metropolitan subscribers - depending to some extent on how relative call charge revenues are taken into account.

5.31 Assuming that Telecom's rental allocation for its first telephone equates with the competitive rental price charged for Telecom's rented additional telephone, allocated revenue would be $40 per annum out of the presently bundled access charge for supply and maintenance of the instrument. Of that $40, Telecom estimates an amount of $17 per annum to cover the capital cost of the instrument which has a cost to Telecom of about $55. The balance of $23 per annum out of the $40 attributed to the first telephone covers maintenance of the instrument. The mean time between failure is estimated to be about 7 years and the average cost of maintenance is estimated to be $120 per fault diagnosis and repair.

Boundary Between CPE and the Network

5.32 There is at present no requirement for any boundary in Telecom's policy or pricing between the first telephone or SBS and the network. Boundaries between the network and those CPE items that are open to competitive supply are effectively set by Telecom in its approvals process. Where Telecom retains a monopoly on installation of wiring, the boundary between the network and competitive attachments (eg additional telephones, modems and facsimile machines) is the extension socket. In larger commercial premises, where Telecom has authorised competition for installation of 'backbone cabling', the boundary is effectively set at the main distribution frame in the basement. The question of boundary location is relevant to the definition of the boundaries of the network monopoly outlined in Section 3. This issue is addressed further in paragraphs 5.109 to 5.112.

Telecom Revenues and Profit

5.33 The bundled nature of Telecom's access rental charge, and highly aggregated accounting system, makes it impossible to calculate Telecom's revenue from the first telephone accurately. Telecom allocates $154 million of 1986/87 revenue to first instrument and domestic wiring, and estimates a positive profit contribution of

$16 million after costs and overheads. However, the bundled fee arrangements, together with the application of cross-subsidy to the bundled product (exchange line, wiring and telephone) makes the concept of a separate profit for the wiring and/or telephone components rather difficult to establish.

5.34 Telecom's 1986/87 revenue earned from CPE other than first telephone was $706 million. After subtraction of direct costs and allocation of overheads, the indicative contribution of CPE to overall revenue is a net loss with SBS and PABX maintenance showing positive contributions after costs and overheads. In other words, Telecom apparently makes a loss on the competitive areas of CPE and makes quite small margins of profit from the monopoly on PABX maintenance and SBS.

Telecom's Market Share and Staffing

5.35 Telecom's present market share in those CPE areas now open to competition is approximately 50% for additional telephones, and 30% for PABX supply. Telecom's share of monopoly markets is nominally 100%, although as noted previously substitution of small PABX is already taking some 20% of what was previously seen as the SBS market. It is not known what proportion of first telephones that are supplied as a required 'end' to the network are not actually used by customers who substitute their own telephone or who attach other CPE in their place, but who nevertheless pay for the bundled service which includes this instrument.

5.36 Telecom's estimate of staff allocated to the CPE area for 1987/88 is 23,000 out of a current full time staff of about 89,400. This estimate includes an accounting allocation to the CPE area of administrative and overhead staff on a 1:1 ratio with operational staff. Not all the allocated staff may be directly working in the CPE area. Indicative staffing details are provided at Table 5.1.

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5.33 The bundled nature of Telecom's access rental charge, and highly aggregated accounting system, makes it impossible to calculate Telecom's revenue from the first telephone accurately. Telecom allocates $154 million of 1986/87 revenue to first instrument and domestic wiring, and estimates a positive profit contribution of

$16 million after costs and overheads. However, the bundled fee arrangements, together with the application of cross-subsidy to the bundled product (exchange line, wiring and telephone) makes the concept of a separate profit for the wiring and/or telephone components rather difficult to establish.

5.34 Telecom's 1986/87 revenue earned from CPE other than first telephone was $706 million. After subtraction of direct costs and allocation of overheads, the indicative contribution of CPE to overall revenue is a net loss with SBS and PABX maintenance showing positive contributions after costs and overheads. In other words, Telecom apparently makes a loss on the competitive areas of CPE and makes quite small margins of profit from the monopoly on PABX maintenance and SBS.

Telecom's Market Share and Staffing

5.35 Telecom's present market share in those CPE areas now open to competition is approximately 50% for additional telephones, and 30% for PABX supply. Telecom's share of monopoly markets is nominally 100%, although as noted previously substitution of small PABX is already taking some 20% of what was previously seen as the SBS market. It is not known what proportion of first telephones that are supplied as a required 'end' to the network are not actually used by customers who substitute their own telephone or who attach other CPE in their place, but who nevertheless pay for the bundled service which includes this instrument.

5.36 Telecom's estimate of staff allocated to the CPE area for 1987/88 is 23,000 out of a current full time staff of about 89,400. This estimate includes an accounting allocation to the CPE area of administrative and overhead staff on a 1:1 ratio with operational staff. Not all the allocated staff may be directly working in the CPE area. Indicative staffing details are provided at Table 5.1.

TABLE 5.1: INDICATIVE STAFFING ALLOCATION TO CPE : 1987/88 PLANNED LEVELS

CPE Item	Install.	Maint.	Sales	Admin and Overhead	Total
First Telephone					
Lead-in and installation	3400	0	0	3450	6850
Supply and maintenance	0	1450	0	1400	2850
Other telephones	1550	1050	400	2800	5800
SBS	1450	650	400	2500	5000
PABX					
Marketing	100	0	150	250	500
Maintenance	0	700	0	700	1400
Other CPE	50	200	50	300	600
Total	6500	4000	1000	11500	23000

Source: Telecom

Present Staff Turnover

5.37 Telecom is presently reducing its overall staff numbers by natural wastage as a planned program to realise productivity gains already available through agreed improved work practices and technological change. In 1986/87 Telecom reduced staff numbers by a net 1,350 (5.5%) out of a total technical workforce (not just CPE) of 24,744 staff. This is roughly in line with Telecom's expected long term rate of reduction of 5.0%. Within the total, loss rates for some particular categories are as high as 14%. The present net reduction of lines staff of 1,268 or 5.9% out of a total population of 21,499 from all areas, is higher than in technical grades because of an older age profile, but is expected to reduce to a long term rate of 4.5%. The overall clerical loss in 1986/87 was 1,226 or 9.1% of a total workforce of 13,478 in this area, which is above an expected long term rate of 5.0%. This reflects a core of clerical staff with a low turnover, while beyond the core turnover is high. Rates of reduction in some support staff are higher. Telecom reduced 961 or 16.2% out of a total population of 5,934 clerical assistants, and 207 or 24.7% out of a total population of 838 typists.

Scope for Efficiency Gains

5.38 Telecom management considers that there is still considerable scope for further improvements in the costs of the work of the operative labour force (lines staff and technicians). Telecom's Customer Access Area (CAA) Study of February 1987 (1) assessed that Telecom costs could be considerably above those of competitors in wiring of commercial premises. The CAA Study estimated that by both international comparison and from observation of Telecom's operations the customer access area would not be commercially competitive. Telecom plans on a 4% to 5% per annum increase in productivity in the CPE area in general, and up to 10% in lead-in connections from Telecom reticulation in the street across property boundaries to premises.

5.39 However the relevant unions - the Australian Postal and Telecommunications Union (APTU) and the Australian Telecommunications Employees Association (ATEA) - have been critical of the CAA study, suggesting that it exaggerates inefficiencies in work practices. They strongly dispute claims of inefficiencies in the field workforce. They point to the increase of 75% in network size over 12 years with only a 3% change in workforce as showing their strong past achievement in this respect. However, these unions have identified an increase in administrative and overhead staff relative to operational staff over a considerable period of time, as an area of possible scope for efficency gain.

(1) The CAA Study relates to one district only, the Bankstown District of NSW, which was chosen as a reasonably typical example of Telecom districts. The proposals which resulted were cross-checked by reference to the Frankston District of Victoria.

5.40 Nonetheless the CAA Study noted that in comparison with twelve other major telephone enterprises around the world, Telecom now has 60% more employees per unit of services. While this performance comparison masks some significant differences such as population density and the more extensive use of contractors by other enterprises, it still appears to be an indicator that major productivity gains need to be made in labour intensive areas to keep Telecom viable in the longer term.

5.41 Examination of Telecom's approach to costing suggests significant additional scope for efficiencies in the non-operational administrative support structure. Telecom's current allocation of the costs to revenue-producing activities such as CPE include the attribution of one 'overhead' staff-year for each field operative staff-year (eg lines, technical and field staff). Thus some staff with little immediate involvement with CPE (such as State and Headquarters staff) may be, in effect, attributed to the area and held against the staff numbers at Table 5.1. The scope for productivity gain/efficiency improvement in this direct overhead structure could exceed that in the field workforce.

Communications Equipment Manufacturing Industry

5.42 Out of a total communications equipment manufacturing workforce of 12,000, and a production of goods worth $1,400 million, CPE output in Australia employs some 1700 people and produces goods worth about $480 million. CPE thus represents about 14% of the employment and about 34% of the market value of the communications equipment manufacturing in Australia. The balance is mainly network equipment and some commercial radio transmitters and other electronics.

5.43 The local manufacture of telephones, mainly Telecom's standard telephone, provides a baseload of some $55 million per annum and employs over 1,000 people. Additional telephones and related equipment make up a further $5 million. The market for PABX equipment is worth approximately $200 million per annum ex

factory, with the associated PABX maintenance market being worth some $50 million per annum to industry (compared to $60 million to Telecom, see Table 5.1). SBS equipment is worth approximately a further $100 million, mobile telephones $105 million, and telex $15 million. Thus CPE equipment protected by Telecom's Australian content and industry support policies (PABX, SBS, standard telephones and mobile telephones) comprises about $460 million, or about one-third of the total industry output. Little significant manufacture of unprotected CPE now takes place. It has been estimated that the effective levels of protection provided are between 50% and 250%, signalling considerable difficulty in adjusting quickly to any competition from imports.

5.44 The whole industry is presently heavily reliant upon Telecom. In CPE and network areas combined, Telecom takes between about 65% and 75% of industry output. Telecom sets the standards for equipment and has a significant impact on the type and specifications of much of the equipment offered for sale as well as the equipment purchased by value added service providers and for private networks. The result has been an industry oriented toward Telecom's requirements and to domestic scales of production, but benefiting from Telecom's own product design and development support to the industry.

5.45 Australian exports of communications equipment totalled $29.7 million ($55.5 million including re-exports); imports totalled $865 million (including imports for re-export) in 1985/86. The Communications Equipment Strategy announced by the Government in July 1986 emphasised structural adjustment and an export orientation. It set a target of export sales of $200 million by 1990 and $600 million to $800 million by 1996. This was designed to complement the Government's decision in October 1985 to reduce tariffs for communications equipment from levels as high as 35% to a general level of 20% over four years.

5.46 Structural adjustment in CPE manufacture is targeted to spin-off creation of new internationally competitive opportunities in both

the domestic and international markets for Australia's emerging information and communication services industries, as well as industries making use of these services and facilities, and is coupled to a progressive withdrawal in favour of imports from those products where the industry cannot become competitive after allowing for tariffs. There was a 12.4% increase in the value of exports to $62.31 million for the 12 months after the Communications Equipment Industry Strategy was launched, suggesting that attitudinal change and structural adjustment is starting to take place within the industry.

5.47 The early introduction of Integrated Services Digital Network (ISDN) to Australia is expected to offer prospects to Australian manufacturers to provide a new generation of equipment for more creative, cost-effective, value-added services which are being developed elsewhere in the world. This is expected to enhance export prospects as well as opportunities in the domestic market. As Telecom plans to be among the early network operators internationally introducing ISDN technology, Australian manufacturers should have a "window of opportunity". Coinciding with this, the downward trend in the price of personal computers is expected to assist in market growth of home computer users requiring access to the network for a range of sophisticated, or specialised, CPE attachments.

Information Industries Strategy

5.48 The Government's industry policy aims to promote the development of manufacturing and service sectors which contribute to sustained economic and employment growth by becoming:

- more internationally competitive and export oriented;
- more flexible and better able to adapt to changing market conditions; and
- better equipped to take advantage of opportunities presented by technological developments.

5.49 Accordingly, Government industry policy seeks to integrate Australian industry and commerce more closely into the world economy and to reduce reliance upon protection and regulation. The information industries are seen to have strong horizontal and vertical linkages of growing importance as system inputs to the economic infrastructure and into a range of manufacturing and service industries. They provide the foundation for increased productivity, flexibility and efficiency. It is important that the market for information technology goods and services should develop in a manner that allows other industries to maximise their development and competitiveness. Furthermore, by encouraging these industries to focus on the opportunities of the international market place they have the potential to make a far greater contribution to the nation's economic welfare than if they continue with their historical domestic orientation.

5.50 The Government's Information Industries Strategy (which incorporated the Communications Equipment Strategy) was announced in September 1987. It is designed to further support the industry in reorienting its activities towards the global marketplace through a range of measures covering R&D, exports, product development, offsets arrangements and skills development.

THE IMPLICATIONS OF LIBERALISATION

5.51 Full liberalisation of the customer premises equipment market would involve, in the first place, ending the remaining sole-provider privileges enjoyed by Telecom (SBS, PABX maintenance, standard telephones, domestic premises wiring), requiring consideration of customer impacts and effects on Telecom. It would then involve removing from Telecom the authority to administer remaining regulation, and review of that regulation. A liberalised market would still require technical regulation to ensure safety, inter-operability and appropriate minimum quality. The need for any additional regulation of CPE market entry thus needs to be considered mainly in the context of customer benefits and the effects on the level of development support provided to the Australian manufacturing industry.

5.52 Since one of the main reasons for considering changes in this direction is to support business users of telecommunications within the economy, it is also useful to look at CPE mainly affecting those users (PABX, CRT, SBS) separately from that mainly affecting residential users (standard telephones, domestic wiring).

PABX

(i) PABX Maintenance

5.53 There appear to be significant potential efficiency gains for business users from opening PABX maintenance to competition while allowing Telecom to continue to provide this service. Economies of scope exist for PABX suppliers (manufacturers) in maintaining equipment they supply, and in having direct and continuing after-sales contact with their customers. Liberalisation would involve ending Telecom's current monopoly on maintenance.

5.54 The current market for PABX equipment ex factory is around $200 million per annum, with service costs around $50 million and possibly growing to $100 million by 1989/90 (if the present Telecom monopoly continues) because of increasing technological complexity and diversity. Manufacturing industry representatives estimate that increased efficiencies from opening PABX maintenance to competition could amount directly to $10 million per annum. Based on an expected halving of the present 2% average down-time of PABX equipment, and the value of business losses arising from this down-time, the industry has also claimed significant flow-on effects to wider economic activity. Their industry association's specific estimate of a $400 million potential gain is almost certainly greatly over-estimated. Nevertheless, there is clearly significant potential for increased business efficiency. Moreover, the industry suggests that market opportunities may exist for additional PABX equipment of $40 million per annum, and increased value added services of $20 million, once users are

given full control over their PABX equipment beyond the limits of the network monopoly.

5.55 The leading PABX suppliers suggest that efficiency could be increased through liberalisation as a result of better work practices, improved scheduling and control of field operations and elimination of excess overheads. In a competitive market, maintenance suppliers would probably specialise by type of product, and efficiencies would be obtained from improved training and experience. Moreover, PABXs are becoming increasingly software-intensive, with software accounting for over half of development costs, as well as life-cycle costs (capital and maintenance). As a result, the skills required for system maintenance are changing and becoming more specialised, in line with the increasingly proprietary nature of individual manufacturer's product design.

5.56 A continued maintenance monopoly in such an environment has no more justification than it would in the computer industry. It may inhibit the rapid pace and direction of technological change.

(ii) PABX Equipment

5.57 Continually increasing product choice and technological innovation are desirable to assist continued business restructuring and competitiveness. The dynamic nature of the technology and the increasingly important role of PABX equipment to business indicates a need to maintain access to a full range of modern products.

5.58 Although prices in the Australian market for PABXs have traditionally been low relative to those in more highly regulated markets, they are no longer always low relative to prices now emerging, for example in the United States and France. Prices in the United States declined between 25% and 30% in real terms in the period from 1980 to 1985. About 20% of the decline is assessed to result from competition. In the United Kingdom, PABX

prices per extension dropped 17% in real terms over the period from 1980 to 1986. Users reported a 25% saving on maintenance contracts following liberalisation. Export of PABX equipment was also stimulated. The international competitiveness of Australian production is coming under pressure. Users point to what they see as an emerging gap in future PABX product availability in Australia compared with overseas, notably at the high capacity and low capacity ends of the market.

5.59 Telecom's present "points" system under which PABX equipment is authorised was instituted to assist in the development of local industry centring on manufacturing capability and to contribute to stable support for users. It has done this, but there is now a risk that, as administered, it may unduly hamper new entrants, small specialist producers and increased export orientation. At the same time, manufacturers point to the need for some continued positive support if the relatively small scale of PABX manufacturing in Australia is to remain, increase, and participate in export markets.

5.60 Due to continuing convergence between PABX (and other CPE) and computing equipment there are limits to the effectiveness of industry support arrangements based on the measurement of "local content". The very concept of "content" will be difficult to render operational, as software accounts for a rising share of total system costs and as "add-ons" purchased during a system's life-time become of growing significance. This has implications for the continuation of any policy of mandating a largely arbitrary share of "local content", and signals the need for a review of the structure of any future industry development measures that may be linked to approvals to attach equipment to the basic telecommunications network.

5.61 The extent to which these problems may be due to competition being limited by national preference provisions, rather than by the specifics of the provisions or by Telecom regulating market entry within those provisions, is unclear. Nonetheless the continued

retention in Australia of the present level of PABX manufacturing capability is clearly strongly linked to the national preference provisions of Telecom's present regulatory arrangements. PABX manufacture represents $200 million per annum - or about 43% - of the protected CPE manufacturing output in Australia. The Government does not intend to threaten this industry presence by any sudden, destabilising regulatory change. However, removal of the apparent entry barrier due to Telecom being both the regulator and a commercial supplier should increase the scope for competitive response within the Australian industry, and a considered review of the industry development arrangements appears appropriate.

Small Business Systems

5.62 SBS are increasingly important to the successful and efficient management of the small business sector. At the same time SBS manufacture represents 20% of Australian industry's potential CPE manufacturing output, putting practical limits on the scope and pace of any liberalisation. Technology has blurred the distinction between enhanced feature telephones (additional instruments) and SBS, on the one hand, and between SBS and small PABXs on the other, making continued separation of any regulatory regimes covering these areas increasingly artificial. Continued differentiation between monopoly SBS and small PABX or enriched feature telephones discriminates against small business users with limited switching needs and may inflate their costs. There is a strong case for at least aligning any regulatory provisions in respect of SBS with those for PABX to ensure consistency and reduce rigidities. As with PABX, it is not clear to what extent the SBS market has been limited by Telecom's regulatory/monopoly role, rather than by the Australian industry development objectives that formed part of the rationale for that role. Removing Telecom's monopoly, while continuing independent administration of any industry development arrangement, would allow the benefits of competition among suppliers within such arrangements to be realised.

(i) SBS Cost

5.63 The price of equipment could be expected to reduce by ending Telecom's role as the sole supplier. Competition would be expected to keep a curb on prices while widening customer choice of both quality and features. The manufacturers would benefit from gaining more direct access to the end-users of their equipment, and thereby achieve economies of scope in maintenance and product improvement. New manufacturers could enter the market with their own niche products without reliance on Telecom's marketing.

5.64 The evidence available on the economics of this market supports two conclusions. Firstly, as far as product competitiveness is concerned, the new, very small PABXs now appear to be making significant inroads into Telecom's former SBS market (about 20% of total market). Secondly, there is reason to expect that liberalisation could lead to a widening of the range of commercially available SBS alternatives, with consequent advantage to business users.

(ii) SBS Maintenance

5.65 Telecom's present SBS monopoly has been used to provide a nationwide, near-uniform provision and maintenance of equipment. Ending Telecom's sole-provider role would require this to be placed on a fully commercial basis. Fears have been expressed that this may lead to higher charges and reduced service levels for rural SBS users. In this context the possibility of competition should work to restrain excessive charges - either from undue profit-taking or from inefficient service arrangements. Insofar as higher costs do properly arise for business users in some localities, they may be valid business input costs which it would be inappropriate and inefficient to subsidise artificially. However, the changing nature of the technology and the market makes it likely that the mode of SBS

maintenance could change, with greater emphasis on some equipment items being taken to a service centre for repair or for spare items to be held in stock. Telecom could compete for this business in a liberalised market. For more complex equipment it is likely that, in a more competitive environment, Telecom would continue to offer, and private sector maintenance providers would establish, a maintenance call service.

5.66 For businesses that use SBS equipment in more remote areas and may face having to rely on distant maintenance-service providers, one choice for maintenance that would be facilitated by liberalisation would be to cover maintenance down-time by carrying a spare SBS station ($150 to $300 depending on features) or by arranging temporarily to substitute a simple telephone ($15 to $20) carried as a spare. The choice would relate to balancing the need for continuity of the characteristics of the installed equipment against the cost of spares. This would place arrangements for the maintenance of telecommunications equipment on the same basis as maintenance of other business and domestic equipment of a similar value or complexity (micro-computers, portable or mobile machinery, television sets, video recorders etc). However, it may be reasonable for any new regulatory arrangements to ensure that any competing SBS suppliers have adequate maintenance capabilities, in order to protect users.

5.67 Overall, opening SBS maintenance to competition subject to appropriate safeguards could be expected to lead to innovation in the provision of maintenance back-up services and to reduced costs to business users.

Other Business CPE

(i) Cellular Radio Telephones

5.68 Significant cost savings and freer access to this rapidly developing technology would appear to be potentially available to users through access to imported product (basic domestic prices in

the United States are as low as US$799 per unit, less than half the minimum current price of about A$2,600 in Australia). Prices are reducing steadily in Australia. However, too early change would be disruptive to investment undertaken under a recent Telecom requirement, instituted in July 1986, for local content of at least 30%, increasing to 35% after the first year. These arrangements have fostered a $105 million per annum manufacturing capability, that is rapidly growing. As the market grows, and start-up manufacturing costs are recovered, economies of scale should permit further price reductions within Australian manufacture.

(ii) Telex

5.69 Telecom already plans to liberalise the supply, installation and maintenance of telex equipment from 1 July 1988. This will align telex with facsimile equipment which is in direct competition with it and which is presently making significant inroads into telex usage. Telecom's monopoly over telex equipment has contributed to cost and service provision being seen by business users as uncompetitive compared to facsimile; however it seems clear that the underlying economies of the technologies point increasingly to the decline of the telex market in any event.

Additional Telephones

5.70 Telecom's policy of not approving additional telephones without enhanced features may keep the cost of additional telephones higher than it needs to be, by not allowing sale of a basic instrument. Removal of Telecom's requirement for the additional features to distinguish the additional telephone from the first telephone could be expected to make cheaper equipment available to domestic and small business users. The present bottom end of the market, where product presently retails in the range of $20 to $25 would be lowered further with a simple instrument possibly retailing for less than $15. The attributes of such instruments in terms of both durability and transmission quality may, of

course, be lower than that of the present Telecom instruments. This would be a matter for consumer choice.

5.71 Removal of the additional features requirement would complete the alignment of this area of CPE with other consumer electrical and electronic goods. The option of quite inexpensive equipment would increase somewhat the responsibility already on the consumer to make judgements about the most cost effective equipment to meet specific needs. However, this would not be out of proportion with the normal range of consumer choice. Telephones are not a special case in this regard.

5.72 This area of CPE already places responsibility for maintenance arrangements upon the user, and the supplier during warranty periods, including the option of maintenance by simple replacement. Availability of even lower cost equipment would increase the extent to which replacement would be more cost-effective than repair. There is no discernible body of dissatisfaction at the level of responsibility placed upon users for product choice and maintenance arrangements with additional telephones.

5.73 There would appear to be no adverse consequences to users from completing the opening of this market to competition.

Premises Wiring

5.74 Opening premises wiring to competition beyond the physical limits of the basic network monopoly area would extend the benefits experienced in competitive cabling of large commercial buildings to all customers at the installation of a new service, especially in bulk supply such as new housing developments. Small business extending or re-locating premises would also benefit from choice of supplier. Users would be able to seek competitive quotes for alteration or extension of existing telephone or SBS wiring or maintenance as part of an overall building fit-out or refurbishment. As small businesses tend to be relatively mobile, any saving in this regard would increase competitiveness.

5.75 Private electrical contractors could achieve economies of scope. Telecom would be able to compete from the vantage point of economies of both scale and scope gained in its provision of network facilities from the local exchange to the customer's premises.

5.76 Telecom presently charges a visit fee of $38 plus $12 per 15 minutes to install additional wiring past the first socket for domestic users and business customers. This is comparable with commercial rates. Maintenance beyond the first telephone socket is presently included in the rental cost of additional sockets installed in the premises. Telecom advise however that the incidence of maintenance required in premises wiring is very low.

5.77 There is no commanding reason to retain a monopoly over premises wiring. Approved "do-it-yourself" parts are readily available to facilitate the installation of additional equipment, and the work is no more complex than electrical power wiring carried out by electricians.

First Telephone

5.78 The first telephone in residential premises raises particular issues of its own. Telecom's monopoly enables it to ensure that all users are provided with a guaranteed minimum end-to-end quality of service. It requires Telecom to accept the single responsibility for maintaining that service without having to arbitrate on responsibility for fault location between its network equipment and private attachments. At the same time the manufacture of standard instruments provides an important base workload for key companies in the Australian equipment industry that have recently undertaken considerable up-front investment on the new Touchfone 200 on the basis of that becoming the new standard instrument in a market determined by Telecom's sole-provider role. Given the existing largely competitive market for additional telephones without Australian content requirements, it would be impracticable to retain an Australian content rule for first telephones without retaining Telecom as the sole provider. Nonetheless, the monopoly arrangement does serve to limit competition and consumer choice and to reduce pressure to improve efficiency.

(i) First Telephone Cost

5.79 Scope appears to exist to reduce the minimum cost of the telephone instrument in the total cost of a telephone service for both domestic and small business users. The Touchfone 200, which is now Telecom's new standard telephone, is expected to sell on the open market as an additional telephone for around $100. When compared with the cheaper additional telephones available for as little as $20 it is arguable that Telecom presently sets too high a standard for the basic telephone attached to the universal service and therefore customers may pay too much. In a more competitive environment, users would have the option of reducing the technical sophistication of, and thus the price they pay for, the first instrument. Of course, even without competition, Telecom could introduce a wider range of standard telephones at varying prices to increase customer choice.

5.80 If the customer were to choose a more sophisticated product than the basic telephone, the overall cost of having a telephone service would vary commensurately with the cost of the instrument chosen, including its reliability and maintenance costs. In the absence of a requirement to take Telecom's present standard telephone that would be a customer's choice, exercisable at a lower cost than at present. The economic savings derived from the availability of the lower cost option would therefore remain available to all Telecom customers.

5.81 Nonetheless, some concern has been expressed that liberalisation of the first telephone could actually lead to an increase in the price to customers of a standard telephone service. This concern has been linked to the continued operation of cross-subsidies after liberalisation, and to the experience associated with liberalisation in some overseas countries.

5.82 The principal, and perhaps most often cited, overseas experience of access fees rising following telecommunications liberalisation has been in the United States and in the United Kingdom. In those countries it has been associated with the introduction of network competition that has eroded the cross-subsidy capacity of the carriers and also with divestiture and privatisation respectively. As outlined in Section 3, Australia's network monopoly will remain in place in order to maintain these essential cross subsidies. Privatisation has also been rejected. Therefore in Australia there would be no reason for any such increase if liberalisation were to be restricted to the instrument, as distinct from the network. Arrangements for introducing any liberalisation could be developed explicitly to safeguard the customer's interests in this regard.

(ii) First Telephone Maintenance Service

5.83 It appears that the costs of maintenance could be reduced by rationalisation of Telecom's present practices. Such

rationalisation does not, of course, require liberalisation to bring it about. Telecom could vary its maintenance arrangements within the present monopoly. However, liberalisation would give the customer some control over these arrangements. The available modes of providing maintenance service could be more closely aligned with other household electronics. Customers should be able to exercise a choice of maintaining by replacement, arranging a service call, or by taking an instrument to a service centre. At present there is little direct external economic discipline on Telecom regarding the mode or cost of maintenance service provided within the annual access rental charge. Customers' expectations of the level of service that should be provided by Telecom are not qualified by their having to bear the related costs directly.

5.84 Nonetheless, some concern has been expressed that without a guaranteed end-to-end service as presently supplied by Telecom or a simple and cheap means of fault diagnosis from the exterior of the premises, confusion may ensue over maintenance responsibilities, and the concept of in-house service would disappear. Moreover, in rural areas where maintenance is now probably cross-subsidised there is concern that in a competitive market Telecom might reduce the present extent of service for commercial reasons, and private sector maintenance firms may not fill the gap.

(iii) Supplementary Exchange Lines

5.85 Continued mandatory provision of the first telephone may be an unnecessary cost where customers wish to install a second exchange line for purposes such as home computer use, facsimile, or other equipment. At present such customers pay for a service which includes a telephone instrument for which they may have no use. This can be particularly relevant where, increasingly, very small businesses and domestic customers wish to use the telecommunications network for more than basic voice telephony. It should be possible for Telecom to offer an exchange line without a telephone for any additional lines provided to an existing customer.

Structural Adjustment

5.86 The possible benefits to domestic and business users outlined above have, of course, to be weighed carefully against the costs. These include structural adjustment issues for the communications equipment manufacturing industry and the effects on employment in Telecom as well as in the manufacturing industry. These are mainly addressed in the following paragraphs covering market growth, manufacturing industry, and the effects on Telecom (revenue, market share, staff losses).

Market Growth

5.87 On the basis of overseas experience, widened competition in CPE for business and domestic users could be expected to lead to some increase in market demand. In the United Kingdom the market for PABX and Key Systems (SBS) has grown 45% since 1981, most of this since liberalisation of CPE in 1983/84. The most significant growth has been in the 2 to 6 extension product sector, which showed 75% growth in that period. Since liberalisation in 1987, the demand for telephone instruments has nearly doubled.

5.88 Differences between the United Kingdom and Australian situations naturally heavily qualify the extent to which trends are transferable. However, the increase of market demand seen in the United Kingdom accords with general market demand trends in other industries, and in Australia where competition has been widened. This gives substance to the expectation that such a trend would apply to CPE. This has particular relevance for the effect of competition upon Telecom's market share, discussed below.

5.89 In Japan since CPE liberalisation the production of telephone sets has increased by almost 50% while prices have fallen. In the special "home telephone" market segment sales increased 130% between 1985 and 1986. In the United States, demand for CPE also grew significantly during the period 1978 to 1984. The range and

variety of CPE for voice, data, video and image communications has increased and prices have fallen. However much of that demand in the United States was met from imports, and caused a decline in the United States balance of trade in telecommunications products. (That effect needs to be viewed in the context of the overall United States trade performance that was then hampered by the high level of the United States dollar and its declining competitiveness in the manufacturing sector.) Overall, structural adjustment in the United States has placed pressure on a high cost manufacturing sector in order to promote growth in the more lucrative and faster growing services sector. The decline in domestic telephone handset production was held to 2.5% in 1986. In the same period United States PABX production increased 6%. During the next five years the decline in overall CPE production in the United States itself is expected to be held to about 3% per annum, and the trade balance to be assisted by the repatriated profits of offshore manufacturers.

5.90 On the basis of overseas experience, the overall expectation for Australia would be for growth in market demand. The extent to which local industry would be able to meet that demand would depend upon its own developing cost effectiveness, and any transition arrangements associated with policy change.

Manufacturing Industry

5.91 The key issue for the manufacturing industry in any liberalisation of CPE lies in the extent of its current dependence on Telecom's industry support measures in the approval of CPE - particularly PABX, SBS, standard telephones and mobile telephones. These support measures presently sustain the base production load for a nationally important high technology industry. It has been estimated that those industry support measures, which now supplement the standard industry policy measure of tariffs and the Information Industry Strategy, amount to protection levels of between 50% and 250%. Clearly, this level of protection is inconsistent with present industry policy and practice. However,

aligning it with general industry levels could not be done quickly without severe risks of destabilising the wider industry, including its vital supply role to Telecom network functions, and eliminating its capability to undertake orderly structural adjustment and export enhancement.

5.92 There is therefore a clear need to ensure the stability of the manufacturing industry, but without removing the pressure for appropriate structural adjustment. Industry sources have suggested that present arrangements should continue for 3 to 5 years, to permit this adjustment to take place. However, these are relatively long periods in what should be a dynamic industry with decreasing product life-cycles. Widening the scope for competition among Australian suppliers could be achieved in the first instance by removing regulatory responsibility from Telecom and lowering remaining entry barriers. Appropriate industry development arrangements that facilitate expansion and restructuring could then be instituted.

5.93 Whatever arrangements are put in place, there is need to recognise that telecommunications users meet the costs of protection. These costs may adversely affect business growth and international competitiveness, with consequent effect upon the performance of the economy generally and, hence, ultimately standards of living. Costs therefore need to be minimised. The industry has, quite naturally, pointed to the benefits of liberalisation - both in reducing protection and in reducing regulation - for the wider information economy.

5.94 The effects on specific manufacturers would depend on their success in improving efficiency, on market growth and on the market share taken by imports. The manufacturers have suggested that the new Touchfone 200 could position them to compete both in Australia and overseas, once they have recovered their development costs. Differing firms would face varying degrees of difficulty in structural adjustment. Some are already showing significant preparedness to change.

Consequences for Telecom

(i) Revenue

5.95 The consequences of possible liberalisation of specific CPE areas on Telecom's profits would depend on the revenue lost through reduced market share and the attendant savings in costs through reduced loss-making CPE activities. The net effect would largely depend on the ability of Telecom to reduce costs in the face of competition for market share. Reduction of loss-making activities would contribute to profitability. The effective displacement of any surplus staff would clearly be a critical factor influencing the actual outcome.

5.96 Reduction of market share from competition in any liberalised regime would reduce revenue and variable costs but could be offset by an increase in total market size. Efficiency gains would further reduce costs and overhead. The overall effect of liberalisation on Telecom's profit and loss account would be subject to a number of variables including the extent of efficiency gains.

(ii) Market Share

5.97 Telecom has estimated that 12 months after any full liberalisation its market shares in domestic wiring would drop from 100% to approximately 75%; first telephones from 100% to 70%; additional telephones from 50% to 30%; SBS from 80% to between 40% and 45%; PABX supply from 30% to 25% and PABX maintenance from 100% to between 80% and 50%.

5.98 However, it is not clear that Telecom would necessarily lose market share to this degree, especially in markets that are already competitive - PABX supply, and additional telephones; and particularly if liberalisation were to be accompanied by some continued manufacturing industry development measures. Potential

competitors have suggested that they would expect Telecom to retain a higher market share in PABX maintenance, SBS and telephones. They expect that Telecom would benefit from economies of scale with network installation for large-scale domestic wiring work (housing developments) and from its unsurpassed marketing advantage as the network service provider. Consumer conservatism argues for a higher proportion of existing customers being retained than Telecom has estimated. Telecom is already positioning itself with a range of equipment and service packages to meet widened competition.

5.99 There may also be potential over time for Telecom to further develop marketing/pricing strategies and change work practices to defend market share. It is worth noting that in the United Kingdom, since CPE liberalisation in 1983, British Telecom has successfully entered markets in which it was previously not active. It has at least a two-thirds share of most markets, despite aggressive competition from the private sector, and achieves good levels of profit.

5.100 Growth in overall market demand would - to some extent - offset effects flowing from a fall in market share. It is possible, at least in some areas of CPE, that market growth could result in a net gain to Telecom, in line with the experience of liberalisation of the radio paging service market, which led to subsequent strong market growth and overall gains to Telecom.

(iii) Telecom Estimate of Staff Displacement

5.101 Increased competition in the CPE market would have an effect on Telecom staff numbers. Telecom has estimated that approximately 8,800 of its present staff numbers could be displaced by a full liberalisation process; this comprises 4,400 field staff and the same number of attributed clerical/overhead staff. However this number would be reduced to the extent that any CPE elements were not liberalised at this stage. For example, if Telecom retains the sole provider role in respect of the first telephone, the

Telecom estimate of staff displacement due to liberalisation then translates to about 3,500.

5.102 Clearly to the extent that improved efficiency leads to a reduced need for staff, then it is appropriate for this reduction to take place, subject to satisfactory arrangements for displacement or redundancy. Similarly, to the extent that total volume of work declined, due to loss of market share greater than increased market size, then employment displacement will need to occur.

5.103 The difficulty already experienced by Telecom in retaining some more highly trained staff needs to be recognised when estimating employment displacement. Technicians involved in PABX and SBS maintenance are being lost to private sector employers in the wider electronic and computing industries. Even if that area was not liberalised, the drain on these staff could be expected to continue, with consequent impact on Telecom's efficiency and costs to users.

5.104 Telecom technicians are now in demand in the electrical and electronics industry as well as in the rapidly expanding information industries. Their skills are generally comparable to those of people in the engineering support occupations in these industries. Shortages of skilled labour in the engineering support occupations are currently reported by employers and migration, under the Occupational Share System (OSS), has been a significant source of these skills in the past. However some retraining will probably be necessary, and this is currently available from appropriate tertiary institutions.

5.105 Lines staff may experience greater difficulty in securing alternative employment, although they have skills in common with requirements in the construction industry, especially operating earth-moving and similar construction equipment. The numbers affected in this grouping is not large. Provided lines staff from regional areas are prepared to move to more favourable labour markets, the difficulties experienced will be minimised.

5.106 There is at least some scope for Telecom's current level of natural wastage to help to accommodate the necessary staff displacement, by reducing future staff intake levels. In 1987/88 Telecom expects a gross separation rate of about 2,400 staff in the field-staff categories (technicians and lines staff) and about 4,100 staff in other areas. Given progressive liberalisation of CPE, it seems reasonable for Telecom to seek to make the necessary adjustments with the minimum of involuntary displacement.

5.107 Concentrations of Telecom employees exist in some regional areas where relocation to other areas may cause some problems. However, Telecom is already required to facilitate placement of excess employees in alternative work within the organisation by offering, inter alia, payment of relocation expenses. Given that Telecom employment generally accounts for a small proportion of the total labour force of non-metropolitan regions, it is not likely that these regions would be substantially adversely affected overall. However, the wider effects on small communities need to be considered.

5.108 Overall, the Government is very conscious of the important skill base which Telecom has developed and is keen to see the necessary changes introduced with the minimum of disruption to Telecom staff.

Boundary Between CPE and the Network

5.109 A simple definition of the boundary between CPE and Telecom's network monopoly to bring domestic and smaller business premises into line with the concept already applied to larger commercial buildings would simplify regulatory arrangements and provide scope for efficiency gains within Telecom.

5.110 The alternatives for the boundary as it relates to premises other than "high-rise" commercial buildings with a main distribution frame are:

- including the first instrument (the present situation);
- the first socket within the customer's premises; and
- the external wall of the customer's premises.

5.111 The first two alternatives continue the inefficiencies for Telecom of being dependent upon entry to the customer's premises, unless a remote test capability could be developed. On the other hand, the third alternative could ultimately entail alteration to the wiring of all existing premises (over 6 million).

5.112 It is not yet safe to assume that a practicable and cost effective remote test capability could be developed within an appropriate time-frame for inclusion in an external network termination point. At the same time, there may be economies of scale in the lead-in cabling from the street being continued through into the premises to the first telephone socket. Nonetheless, this is an area where Telecom has suggested that there is room for efficiency improvement and where they have been working with the relevant unions to achieve this. The Government expects that the maximum efficiency improvement will continue to be pursued in this area, notwithstanding its retention within the network monopoly area. This includes increasingly realising the benefits of flexibility and cost savings available from commercially re-balancing workloads between Telecom's own-account labour force and commercial contractors, as well as franchising and other commercial avenues.

THE NEW CPE ENVIRONMENT

5.113 Consideration of all the foregoing factors has led the Government to decide on new regulatory arrangements for the future provision of customer premises equipment. Basically, the new arrangements are designed to ensure that the maximum benefits are obtained from liberalisation (especially to business users) without an increase in other costs or a decline in service standards: they are designed to increase the scope for efficiency

gains to Telecom. At the same time the Government is not prepared to jeopardise the ability of the Australian communications equipment manufacturing industry to adjust to change by exposing it to full import competition ahead of its ability to respond to the stimulus of structural adjustment pressures. There is also a need to avoid excessive adjustment costs being borne by Telecom's workforce.

5.114 The Government's policy will therefore be to implement reform by liberalising the supply and maintenance of CPE consistently with the Government's industry policy and with Telecom's capacity to respond to the changes. This will include ensuring that regulatory and industry policy arrangements allow Telecom to compete on an equal basis with other suppliers.

5.115 As the basis of the Government's approach it has been decided that:

Telecom's regulatory responsibility for approving equipment for attachment to the telecommunications system will be transferred to an independent authority.

5.116 The Government's industry policy objective for communications equipment manufacturers, as set out in the Information Industries Strategy, is to build a dynamic, export-oriented industry that is effectively integrated into opportunities presented by world markets.

5.117 In view of the major prospects for ongoing expansion in world market growth noted in Section 2 and the pace with which other industrialised countries are positioning to compete for that growth, there is a need to ensure that development of business strategies by this industry is not restricted to traditional products or industry boundaries. Rather, a strong viable industry capable of standing on its own feet internationally requires to build upon areas of comparative advantage. To this end, the Information Industries Strategy envisages that the present orientation of the industry will change because research and

development, technology transfer, the changing focus of international market demand, and the opportunities from Australia's own economic growth will produce new opportunities.

5.118 The pace of, and mechanisms by which industry development is facilitated call for careful consideration. The Government recognises the importance of a strong domestic industry as a base for export development and the consequent need to avoid undue impact of sudden change in policy upon capital investment and the skills based upon which successful adjustment depends. However, the Government also sees the danger of such arguments leading to a squandering of adjustment time. In particular, it is noted that almost two years have elapsed since the Communications Equipment Strategy was announced and almost three years since the process commenced of reducing tariffs to a common level of 20%. Although some change is taking place and a tentative increase in exports is evident, it is also apparent that uncertainty has prevailed about future industry protection arrangements related to CPE and has impeded a full-blooded industry commitment to the Information Industries Strategy.

5.119 In developing the new CPE industry development arrangement, it will be necessary to avoid undue discontinuity between the existing arrangements and the new arrangement. This applies particularly to Telecom's local content requirements in first telephone, SBS and mobile cellular radio instruments. It also applies to Telecom's policy "PABX Systems: Endorsement and Listing Conditions", which requires, inter alia, prospective suppliers to reach a certain level of performance across a number of industry development criteria (including local content).

5.120 An exclusive focus on local content is unable to provide the stimulus to an international orientation now seen to be essential for the industry. The performance approach of the PABX policy is somewhat more wide-ranging in the scope of criteria set. However, insofar as it still demands specific performance against a set of formal criteria before approval, it may reduce some of the

flexibility and stimulus to innovation essential to performance in international markets.

5.121 The Government has therefore decided:

The present Australian preference arrangements administered by Telecom and relating to approval of supply of PABX, SBS, cellular mobile telephones and standard telephones will be replaced by a new industry development arrangements. This will be established by 31 December 1988 in consultation with the manufacturing industry, unions, users and Telecom, and will be consistent with the Information Industries Strategy, and with other industry policy decisions announced in the May Economic Statement. The objective of the arrangements will be to build a dynamic, export oriented industry which is effectively integrated into opportunities presented by world markets. In seeking an enhanced capability for the information industries to realise growing opportunities, the Government recognises the need for an adequate transition period for companies to assess and respond to new opportunities by the adoption of appropriate business strategies.

5.122 The Government accepts that import of equipment is likely to increase in a liberalised environment. This could arise not only from increased demand for present categories of equipment, as noted earlier in this Section (paragraphs 5.87 to 5.90), but also to satisfy the needs of growth in VAS and network demand envisaged to flow from the decisions set out in Section 4, oriented toward development of new business opportunities and efficiencies. To the extent that this has a short-term effect on the balance of trade in specific equipment, that cost is judged to be acceptable in the interest of ensuring higher longer-term economic growth overall than would be the case with the status quo.

5.123 With regard to the Government's telecommunications services policy, approval for equipment to be attached to the network will only be given to suppliers who meet the Government's industry policy requirements. The new independent regulatory authority will administer the approvals process. The Government has decided that:

Regulatory approval for the supply of PABX, SBS and cellular mobile telephones for connection to the telecommunications system will be opened to all suppliers complying with the new industry development arrangements.

5.124 PABX and SBS regulatory arrangements will be aligned and PABX and SBS maintenance will be fully liberalised. Domestic wiring work for any wiring beyond the first socket will be fully liberalised and arrangements for the first telephone will be consistent with the new industry development arrangement, but will require supply to remain a sole Telecom responsibility, at least for three years, in view of the existing market for additional telephones. Telecom will retain maintenance responsibility for the instruments it provides under this arrangement.

5.125 In order to guarantee that first telephones attached to each relevant service are supplied within the new industry development arrangements and because the existing independent availability of imported telephones in the additional telephone market would make any other arrangement unworkable, the Government has decided that:

Telecom will be permitted to continue its role as sole provider of the first telephone for three years through an appropriate exemption from the operation of the Trade Practices Act 1974, terminating on 30 June 1991.

Telecom will be required to obtain its range of standard telephones from suppliers complying with the new industry development arrangements.

5.126 Telecom will also be expected to use the adjustment period provided by this confirmation of its monopoly to achieve significant gains in levels of customer service and in efficiency. It will be expected to work closely with the unions in continuing to develop improved work practices and dispute settlement procedures. Its success in these areas will be subject to close scrutiny. Specifically, the Government has decided as follows:

As a condition of its retention of its role as sole provider of the first telephone Telecom will be

required to improve its efficiency, introduce a cheaper alternative for first telephones, and address the provision of supplementary exchange lines for non-telephone use outside this reservation.

At least six months prior to the termination of the Trade Practices Act exemption in respect of the first telephone, there will be a review to determine whether there is then a case for its continuation.

5.127 These, and related changes, will require phasing to ensure orderly development. The Government has therefore decided as follows:

Revised regulatory arrangements will be introduced in accordance with the following timetable:

(1) An immediate exemption will be provided from the application of the Trade Practices Act for Telecom's requirement that a Telecom-supplied telephone be provided with residential exchange lines, but this exemption will be subject to a sunset clause taking effect on 30 June 1991.

(2) From 1 January 1989 PABX maintenance will be open to all service providers.

(3) From 1 January 1989 requirements precluding competitive supply of standard feature telephones for second and subsequent telephones will be removed.

(4) From 1 January 1989 the boundary between the monopoly network and CPE will be either the first telephone socket in the customer's premises, or the building main distribution frame, whichever is applicable, and supply, installation and maintenance of premises wiring/cabling and attachment points beyond this network boundary will be open to all service providers with appropriate qualifications.

(5) By 1 January 1989 Telecom will be required to report on the introduction of a cheaper alternative for first telephones, and on providing supplementary exchange lines to existing customers for non-telephone use, without including telephones.

(6) From 1 July 1989 regulatory provisions relating to SBS supply and installation will be aligned with provisions for PABX, and will be open to all authorised providers (and therefore SBS maintenance will also be open to all service providers).

(7) From 1 July 1989 regulatory approval to supply PABX, SBS, standard telephones and cellular mobile telephones will be conditional upon the supplier complying with the new industry development arrangements.

(8) The regulatory requirements on all other CPE (except those noted above), beyond type approval for safety and network integrity, will be removed by 1 July 1989.

(9) By 31 December 1990 the review of the continuing exemption of the first telephone monopoly from the Trade Practices Act will have been completed.

(10) By 30 June 1991, consideration will have been given to the need for renewal of the Trade Practices Act exemption for the first telephone monopoly.

5.128 In implementing the new approach to CPE the Government has decided:

The new regulatory provisions will be administered by the independent regulatory authority upon its establishment. Pending its establishment Telecom will continue to administer regulations under specific Ministerial direction to ensure that non-discriminatory administration is seen to be in place as soon as possible.

6: A NEW INDEPENDENT REGULATOR

THE NEED FOR NEW ARRANGEMENTS

6.1 Telecommunications in Australia is presently subject to a diverse and largely uncoordinated set of regulatory arrangements. Telecom has the primary regulatory functions, being charged under section 13 of the Telecommunications Act 1975 with the authority to approve all equipment for attachment to telecommunications networks and to approve the operation and interconnection of private telecommunications networks. OTC and AUSSAT have no regulatory functions or obligations explicitly assigned to them by legislation.

6.2 Australia has accepted a number of obligations to regulate telecommunications, through its membership of the International Telecommunication Union (ITU), the specialised agency of the United Nations responsible for world telecommuncations, and also under the international conventions establishing the INTELSAT and INMARSAT communications satellite systems. Except in the radio communications area, the Government has relied mainly on Telecom, OTC and AUSSAT to ensure that Australia's international telecommunications obligations are fulfilled. Both OTC and Aussat have some statutory obligations to conduct their operations with regard for Australia's international obligations. But in the case of Telecom there has been no specific formal mechanism in place to support or authorise this reliance, despite its havings a central regulatory role to which such obligations are relevant.

6.3 The regulatory obligations placed on Telecom are now inconsistent with the increasingly commercial nature of the telecommunications industry. It is now inappropriate - and potentially inimical to fair and efficient business operations - for Telecom to have regulatory authority in areas where it is a commercial service

provider. This is particularly so where Telecom also has to regulate its competitors, as in the value added services (VAS) market described in Section 4 and in the customer premises equipment (CPE) market described in Section 5. This view is held both by Telecom and by its competitors.

6.4 Telecommunications as an industry, and the carriers as enterprises, are also formally subject to the provisions of the Trade Practices Act 1974 concerned with restrictive business practices and consumer protection. The practical effect of this separate legislation has so far been slight and is, as yet, untested at law. But it is of increasing relevance as the scope for competition in the industry increases through technological change and business evolution. It will become more so as the policy changes outlined in the preceding sections are introduced. Already there are indications of possible inconsistency between the regulatory obligations placed on Telecom by its current legislation (and by government policy) on the one hand, and the provisions of the Trade Practices Act (TPA) on the other.

6.5 In recent years Ministerial regulation and control of the telecommunications enterprises has principally been directed more at ensuring prescribed processes are followed than at securing specific outcomes. Price control has mainly been exercised in the context of input cost changes and perceived community interest, leading to the risk of the enterprises developing into "cost-plus" business operations, with little externally imposed incentive for efficiency improvement in the absence of competition. Notwithstanding the roles of the Prices Surveillance Authority and the Ombudsman, together with the application of administrative law and review provisions, there has been considerable community concern that Telecom may, in practice, be insufficiently accountable for much of its monopoly activity.

6.6 One consequence is that there has been only minimal regulation of the operation of monopoly power in telecommunications - as it

affects competition, as it affects consumers, or as it affects overall efficiency. These have largely been left to the enterprises, within an increasingly inadequate framework of accountability for results.

6.7 Meanwhile, the result of this review of telecommunications regulatory arrangements, as noted in the preceding sections, has indicated the need to retain some significant monopoly areas for the publicly-owned carriers while increasing the scope for competition in others. These needs, coupled to the need for the carriers to operate commercially, require a considerable degree of continued, but revised, regulation.

6.8 This, then, is an exercise in reshaping the regulatory framework, not deregulation. Indeed, by making regulation more specific, rather than much of it being implicit as at present, the amount of formal regulation probably needs to be increased.

6.9 The Government has examined a variety of arrangements for telecommunications regulatory administration that have been adopted overseas. These arrangements provide experience upon which to draw in establishing specific solutions to meet Australia's circumstances. No overseas arrangement is a wholly suitable model to be adopted here. Nor does the Government believe that it is sufficient to rely solely on existing general competition policy and administrative law arrangements for the administration of telecommunications policy and regulation. Telecommunications is a dynamic industry subject to accelerating and complex technological and market changes and forces. The generalised administration of agencies such as the Trade Practices Commission, the Prices Surveillance Authority, the Ombudsman, and the mechanisms of administrative law may not be sufficient for the specific regulatory needs of telecommunications, especially during the introduction of new, more price-competitive policies in value added services and customer premises equipment markets.

6.10 The Government has considered the role of courts and other judicial tribunals in telecommunications regulation. It has concluded that relying solely on courts and judicial processes would be inappropriate for first-level regulatory administration, directed at providing an environment of certainty and confidence for decision-making in a dynamic changing industry.

6.11 These considerations have led to the Government's decision to formalise future regulatory arrangements for telecommunications within, so far as practicable, a single specialised authority, independent of the carriers and answerable to government. Accordingly:

An independent regulatory authority - to be called the Australian Telecommunications Authority (AUSTEL) - will be established. It will be administratively responsible to the Minister for Transport and Communications.

6.12 Some of the reasons for - and proposed functions to be incorporated in - these arrangements have been referred to in Sections 3, 4 and 5. This Section now outlines the proposed arrangements overall.

FUNCTIONS OF THE REGULATORY AGENCY

6.13 AUSTEL will be an independent statutory agency, separate from organisations conducting telecommunications business or providing telecommunications services, and separate also from the Department of Transport and Communications. It will, so far as practicable, undertake all relevant regulatory tasks associated with telecommunications. The agency will be established under legislation and will be administratively responsible to the Minister for Transport and Communications. The role of the agency will be to administer specific regulations set down as part of the Government's telecommunications policy, and to ensure that goals relating to customer services, monopoly enterprise efficiency and accountability, technical compatibility and inter-operability, fair and efficient competition, and consumer protection are achieved. It will also have

a general responsibility to monitor developments in telecommunications that are relevant to its regulatory functions, and to report to the Minister for Transport and Communications. AUSTEL will, however, have no role in monitoring the Government's separate shareholder interests in the overall commercial performance of the publicly-owned enterprises.

6.14 AUSTEL will have five specific major functions:

(a) technical regulation: AUSTEL will have statutory responsibility for ensuring that quality and safety are protected and that inter-operability is maintained throughout the public network;

(b) protecting the carriers' monopoly: AUSTEL will have the authority to administer the provisions which define the boundaries of the monopoly over specific facilities and services;

(c) protecting competitors from unfair carrier practices: where competition is permitted AUSTEL will promote fair and efficient market conduct, including administration of the requirements for separate accounting arrangements for carriers' competitive activities and identifying possible breaches of the Trade Practices Act provisions, insofar as they relate to telecommuncations, and referring them to the Trade Practices Commission;

(d) protecting consumers against misuse of the carriers' monopoly powers: AUSTEL will administer monopoly price control arrangements and specific universal service provision conditions, and will monitor enterprise efficiency. It will also provide a specialised avenue for monitoring consumer complaints concerning the monopoly telecommunications service providers; and

(e) promotion of efficiency: AUSTEL will monitor and report on the efficiency and adequacy of monopoly operations by Telecom, OTC and AUSSAT, in particular with respect to Telecom's fulfilment of its community service obligations.

TECHNICAL REGULATION

6.15 A need for technical regulation exists to set standards where different carriers and service providers interconnect, to avoid harm to the network and to protect the safety of users and those engaged in maintenance and operation of equipment. The regulatory environment should encourage co-operation, support innovation, facilitate economic efficiency and, to the extent practicable, minimise the requirements for demonstrating compliance with mandatory standards.

6.16 Technical regulatory functions are currently performed by Telecom. The Government will transfer this responsibility to AUSTEL. The existing arrangement has not been a source of significant complaints, and Telecom is generally viewed as being efficient in this area although there have been questions over the need for some of its specific technical requirements and the scope for these functions to be used to damage competitors. The increasing degree of competition in the CPE market, and Telecom's continued role as a supplier of equipment, makes this arrangement inappropriate for the future.

6.17 The major stages involved in technical regulation are national standards development and specification preparation, and conformance testing and product certification. (A technical standard provides a basis of comparison and defines agreed properties for products, manufactured goods, procedures and the like, whereas a specification is a more detailed description of operating procedures, work skill levels or components usually used in procurement processes. A specification will include reference to standards.) AUSTEL will take charge of all these areas with the view to developing a streamlined system to facilitate both mandatory and voluntary standards definition and conformance. It will include arrangements for: the determination of mandatory standards that need to be imposed on the industry; approval of mandatory standards that are agreed within the industry; and facilitating the adoption of any voluntary standards that are agreed within the industry. The Government has decided that:

AUSTEL will be responsible for the development of national standards and specifications for telecommunications equipment, and for arrangements for approving equipment for attachment to the telecommunications network, subject to compliance with these technical requirements and with the provisions of the new industry development arrangements.

6.18 Technical regulation by AUSTEL will be directed at maintaining safety, integrity, inter-operability and quality.

Maintaining Safety and Integrity

6.19 AUSTEL will be charged with the task of continuing technical regulation to maintain the safety of the network and of individuals working on the network. Regulatory arrangements are needed to ensure that attachments to the public network (eg telephones, facsimile machines, computer terminals) do not introduce dangerous or damaging electrical currents into the network. Such equipment must also not generate illegal or damaging telecommunications signals (ie signals that corrupt the network intelligence system of the public network, including charging mechanisms or systems). AUSTEL will be required to consider consumer safety in all of its technical regulatory activities, but to work with existing Federal and State bodies which are already established in the safety field.

Maintaining Inter-operability and Quality

6.20 Australia has a high quality, modern telecommunications network infrastructure by world standards. The Government intends that the growing competitiveness in telecommunications, and the increased number of equipment suppliers and service providers involved, should be accommodated while maintaining an appropriate quality of end-to-end telecommunications service.

6.21 AUSTEL will be responsible for ensuring, through the setting of standards and specifications for equipment and apparatus connecting to public networks, that quality is maintained. The agency will

encourage the appropriate adoption of the internationally recognised standards of the ITU, the International Standards Organisation (ISO), and the International Electro-Technical Commission.

6.22 Where services and equipment are offered by multiple providers, the physical and electrical characteristics at a point of interconnection must be set out to permit inter-operability of components and to allocate responsibility for transmission signalling and switching among the providers of the end-to-end transmission path. Within these parameters providers of CPE, private networks and value added services will each be responsible for the quality of their own equipment and services. The level of quality above that mandated to maintain an appropriate quality of end-to-end telecommunications service would be a matter for determination between the parties involved as a matter of consumer choice and contract law.

Setting Standards and Specifications

6.23 Mandatory specifications will be limited to those matters necessary for safety, for inter-operability, for minimum quality and for network interfacing. Performance characteristics unrelated to these matters will not be included in mandatory specifications, being matters better left to the competitive market place. However, AUSTEL will be empowered to facilitate standardisation in these areas where this may be appropriate.

6.24 Technological pressures for change make it unlikely that all technical capability and capacity can be encompassed by AUSTEL. Accordingly, the primary responsibility for standards formulation will be placed with the industry having regard to international standards and other regulatory requirements. AUSTEL will have authority to seek required standards from the industry, to rule on and to endorse standards.

6.25 Innovation will be enhanced by standards determination being an independent responsibility of any industry participant while still involving the industry in standards formulation.

6.26 The independent technical regulatory arrangements will include the following features:

- a regime of both mandatory and voluntary standards that will allow AUSTEL to control essential requirements for safety whilst freeing the responsibility for wider ranging performance standards for industry self-determination;

- a regulatory body that does not prepare standards, but has the authority to act as mediator, approver of mandatory standards, monitor of industry trends in technical requirements (particularly on compatibility with internationally recognised standards), and implementer of any government policy as required on telecommunications technical standards;

- a regulator with residual power to establish standards in the absence of such industry initiatives;

- a process of self-certification by industry where possible;

- reliance on established bodies and agencies to provide for the voluntary formulation of standards by industry;

- a program of laboratory accreditation on the advice of the National Association of Testing Authorities (NATA);

- strong consultative processes with major industry participants (including Telecom, OTC and AUSSAT) for the development of Australian specifications; and

- a regulator with powers to review the interface standards adopted by the carriers.

6.27 Where it is necessary that standards be adopted within a fixed time frame, particularly in the case of mandatory safety standards, AUSTEL will have authority to resolve conflicts in the industry standards

writing process and thereby avoid the potential for deadlocks associated with a consensus process. Voluntary procedures would be encouraged for non-mandatory standards.

6.28 Adherence to international standards in telecommunications is an important element in the widening of co-operation in world-wide communications and in extending markets for telecommunications equipment. Within a framework in which the Government will set relevant policy directions, AUSTEL will co-ordinate Australia's future involvement in the establishment of international standards. Some of the implications for Australia in the growing importance of adherence to international standards are as follows.

- Australia should actively participate in the process of international standards formulation to ensure that its views are considered and that allowance is made to accommodate any specific needs of the Australian environment;

- Participation in standards formulation at the international level also ensures the Australian manufacturing sector is kept up-to-date with latest information. This is important for the planning of products to be competitive in the international market;

- The adoption of international standards where appropriate in Australia will enhance the attractiveness of its products overseas. Where there is a need to modify those standards due to local variances (e.g. the average local loop distance for a telephone subscriber is higher than the world average), then a balance should be drawn between national needs and the requirements for competitiveness in CPE; and

- If Australia is to take advantage of the international market for value added services, private networks and the growth generally in international traffic, then standards should be chosen that make entry into those markets as easy as possible.

Conformance Testing and Certification

6.29 At present the testing and certification of equipment for conformance with standards and specification is carried out principally by specialised Telecom laboratories. Some suppliers are authorised to undertake self-certification, and some overseas laboratories have also been authorised to conduct conformance tests to Australian standards.

6.30 The new arrangements envisage no major changes in these areas, other than in the transfer of formal laboratory accreditation, and the authority to approve self-certification, from Telecom to AUSTEL. It is expected that Telecom's specialised laboratories will continue to be the predominant conformance testing house. The new arrangements will provide for testing to be done on a commercial basis. Equipment manufacturers will arrange, and pay directly for, necessary laboratory testing, rather than such testing being arranged by the regulatory authority and the costs included in the certification fees as at present. Private sector or other appropriate laboratories will be able to seek accreditation, and undertake appropriate testing, but this is not expected to lead to a significant loss of support for Telecom's testing facilities.

6.31 AUSTEL will have the responsibility for accrediting existing (and any new) testing laboratories, and monitoring their adherence to standards. It will exercise this function with the advice of the National Association of Testing Authorities. It will also be required to promote the maximum appropriate application of approved self-certification schemes for accredited manufacturers and the reciprocal international recognition of both certification and laboratory accreditation.

POLICING THE BOUNDARIES OF THE MONOPOLY

6.32 The boundaries of the monopoly were set out in Section 3. Policing the boundaries of the monopoly services is primarily required:

- to ensure that the carriers do not extend the effective market scope of their monopolies or reserved services beyond the charter given by government policy and legislation; and

- to ensure that other suppliers of telecommunications equipment and services, and users of those products, do not infringe the monopoly services and thereby undermine the ability of organisations such as Telecom to meet their specified community service and other obligations.

6.33 The Government will determine the boundaries of monopoly, and make regulations defining those boundaries. AUSTEL will administer that boundary policy.

6.34 The monopoly carriers and other parties will be able to appeal against regulatory decisions made by AUSTEL. Appeals will be to the Federal Court, if questions of procedural law are raised, or to the Administrative Appeals Tribunal if a decision is claimed to be flawed in terms of the basic merits. The regulatory arrangements will, in other words, be integrated into the established machinery of the Commonwealth for administrative law.

6.35 Two important areas where ongoing policing will need to be undertaken are value added services and private networks. In the area of customer premises equipment, the role of the regulatory agency in determining what equipment may be connected to the network and by whom, will be limited by the transition periods for competition in some CPE areas and by the other arrangements outlined in Section 5. In the longer term, the roles of AUSTEL in customer premises equipment markets will be in the area of technical regulation for all CPE, and in the application of the Australian industry development measures that will be developed as outlined in Section 5.

Value Added Services

6.36 The role of AUSTEL in the competitive value added service market will be two-fold. First, it will ensure that such services are genuinely value-added, and not merely proxies for the reserved services detailed in Section 3. Its orientation will be to encourage innovation and growth in value added services consistent with avoiding direct competition that could damage the capacity to sustain essential cross-subsidies or to provide specialised reserved nationwide services. Secondly, it will ensure that the introduction of genuine value-added services is not unreasonably inhibited by the activities of the monopoly carriers. (This latter point is dealt with later in this Section.)

6.37 In the area of value added and similar services, the legislation and regulations will set out those network services that are reserved; all others will be open to general competitive entry. The regulatory agency will be responsible for administering this policy in the circumstances of individual service proposals. The Government has decided that:

> **AUSTEL will administer value-added services and private network licensing arrangements to safeguard the boundaries of the reserved facilities and services.**

6.38 The Government has considered the various ways in which AUSTEL might best undertake its policing of the boundary between monopoly services and value-added services. AUSTEL will implement a process to screen proposals to provide value added services by using a class licence mechanism. This will involve setting out a precise definition of those services which may only be offered by Telecom, OTC and/or AUSSAT, with competition being allowed only for services outside that definition. However, in order to safeguard fully the boundaries of the monopoly, there will be a minimal regulatory procedure for value added service introduction. Unless challenged within a fixed period, notification will automatically confer a right to provide the nominated service; the licence will define procedures in case of infringement of the licence conditions and notify penalties.

6.39 Telecom's ability to meet its acknowledged CSOs may be undermined if VAS providers engage in significant voice traffic diversion, thereby reducing the profitability of the trunk network and the funds available to cover the costs of non-economic services, or if VAS providers impinge on other reserved network services. It will be AUSTEL's responsibility to ensure that the source of cross-subsidy is not jeopardised and that reserved network services are protected. Any VAS providers carrying reserved traffic will face financial penalties and the risk of licence cancellation.

Private Networks

6.40 Private networks were discussed in Sections 3 and 4. They are an arrangement by which a user operates facilities which it has provided on its own account or obtained from an infrastructure provider for its own internal communications needs.

6.41 Under present arrangements, Telecom regulates private networks:

- through its pricing of leased circuits;
- by imposing restrictions on the use of these circuits (who may use them and for what purposes); and
- by charging for the interconnection of Telecom and AUSSAT leased circuits to the PSTN (privately provided facilities, e.g. microwave, may not at present be interconnected to the PSTN other than in exceptional circumstances).

6.42 Telecom's regulations are also the benchmark for restrictions on the use of private networks supplied by OTC and AUSSAT. These regulations reflect a concern that private networks may undermine Telecom's monopoly on reserved traffic and erode its capacity to meet its CSOs from profits made on switched-voice trunk traffic.

6.43 The scope for private networks to affect Telecom's cross-subsidy revenues lies in the capacity for traffic to enter from the PSTN at one point, traverse the private network - bypass the public network

and thereby avoid its charges - and then be switched back out into the PSTN at a remote point. At present this is prohibited, except for value added services (VAS) where the traffic is altered in form, content, delivery time or otherwise between entering and leaving the private network.

6.44 The prohibition provides that traffic which originates within the PSTN may be switched into and within a private network without restriction (but not back out again). Traffic which originates in the private network may be switched within it, and out into the PSTN at any interconnect point. These arrangements will continue.

6.45 A key regulatory issue is the definition of an authorised user: that is, the determination of whether a legal entity or collection of such entities may jointly operate such facilities without being considered as engaging in resale or shared use, which is to remain prohibited. An unduly broad definition of authorised user could result in significant switched traffic (voice, data and text) being diverted to private networks, and that may affect the source of cross-subsidy, given the present pricing structure for leased circuits. Too narrow a definition would deny bona fide access to the benefits of private networks.

6.46 Such determinations are currently made by Telecom, both in supplying its own circuits and in authorising inter-connection of private networks (and of AUSSAT and OTC leased circuits) to the PSTN. The transfer of these responsibilities to AUSTEL will be undertaken without change to the current regulations relating to shared use, inter-connection, or resale. However, AUSTEL will be directed to re-examine closed user group concepts so that the allowable arrangements for such groups may subsequently be more clearly established by the Government, while still recognising the need to maintain cross-subsidy arrangements. In this regard the Government has decided that:

AUSTEL will review present arrangements for allowing joint use of private networks by closed user groups and will report to the Government.

6.47 A specific private network licence will be defined. Licences will be granted on the basis of notification in situations where the network is to be used by a single entity. Approval will depend on specific review where several users may be involved. Limitations on third-party use, restrictions on the transfer of licences and technical standards comprise the main conditions of a licence.

PROMOTING AND SAFEGUARDING COMPETITION

6.48 Telecom, AUSSAT and OTC all have significant market power in the present telecommunications markets (as do some of the existing equipment suppliers to a degree). Removing regulatory authority from Telecom to AUSTEL will eliminate the potential for this market power to be misused - or to appear to be misused - under the guise of regulatory actions. But significant market power unrelated to Telecom's regulatory functions will remain. In those areas where the new policy arrangements allow for competition, it will be important that the standard provisions of competition policy apply - and be seen to apply effectively - in order to allow the pressures of a competitive market to arise. While the Trade Practices Act 1974 has not to date had any impact, there is now an increasing appreciation of its possible role in this respect.

6.49 Reserving specific traffic to Telecom and OTC may give them a significant competitive advantage in other market areas. There appears to be scope for them to misuse market power in four main ways:

- by using profits from their monopoly operations to sustain predatory pricing in a competitive activity;
- by using their role as the providers of infrastructure associated with reserved services to favour VAS provision by their own competitive operations relative to those of competitors;
- by Telecom using its influence as a large purchaser of telecommunications equipment to influence other markets (eg by

discriminating against those of its suppliers who also compete as suppliers to the CPE market); and

- by controlling complex technical characteristics of the public-network architecture, infrastructure and related services to favour attachments or services which they market in the competitive areas.

6.50 The application of standard restrictive business practices legislation will be important in guarding against the possibility of such misuse of its market power. The Government will eliminate any doubts that may exist about the way in which the telecommunications legislation and the Trade Practices Act operate together. This matter will be resolved by providing an immediate exemption from the Trade Practices Act, at least for three years, for Telecom's requirement that a Telecom-supplied telephone be provided with residential exchange lines, and by clarifying the position in the further implementation of the overall policy package covered by this statement.

6.51 The new arrangements will therefore provide the necessary protection of the monopoly areas from possible challenge under the TPA. On the other hand, it will also be clear, to the extent that it is not already, that the exercise of the market power that arises from such monopolies will be subject to the TPA provision concerning the use of market power to damage competition or to lessen competition in any other market.

6.52 However, in the face of established market arrangements and the continuing monopoly areas, these provisions may at the outset be seen to be insufficient to facilitate the emergence of optimal levels of permitted CPE and VAS competition. AUSTEL will have a role in this area. Specifically, in respect of the separate accounting arrangements required for the carriers' competitive acitivites (see para 4.42) the Goverment has decided that:

> **AUSTEL will be responsible for approving the separate accounting arrangements adopted by the carriers to**

> **ensure that their competitive activities are conducted fairly with respect to their monopoly position.**

In addition, AUSTEL will have a general responsibility for encouraging appropriate competition through its administration of the separate accounting provision, the prohibition of price discrimination that might affect competition and the development of technical standards that facilitate competition.

6.53 In view of the inter-action between telecommunications-specific provisions affecting competition and the related Trade Practices Act provisions, there will be an integrated approach to their administration in the telecommunications sector. The Government has decided as follows:

> **AUSTEL will have an appropriate number of its statutory office holders concurrently appointed as part-time Associate Members of the Trade Practices Commission (TPC). Telecommunications matters will be considered by a Division of the TPC comprising up to two AUSTEL members and two other members, one of whom - usually the TPC Chairperson - shall preside. Subject to existing quorum provisions, absence of any particular Member from the division would not prevent a decision being made.**
>
> **Arrangements will be developed which ensure a complementary relationship between the Trade Practices Commission and AUSTEL. AUSTEL will have the authority to refer appropriate telecommunications matters requiring resolution to the TPC, to attend TPC conferences held pursuant to notifications and authorisations under the Trade Practices Act and involving telecommunications matters, and to participate with the TPC in the preparation of relevant guidance material for the telecommunications industry. Similarly, the TPC will be able to refer or delegate matters, as appropriate, to AUSTEL.**

6.54 The operation of these arrangements will apply in three main market areas: customer premises equipment; value added services; and private networks.

Customer Premises Equipment

6.55 As supply, installation and maintenance for PABX and SBS progressively become exposed to competition, trade practices issues may arise from participation in the CPE market of carriers (ie. Telecom) benefiting from a network monopoly and hence in a position to subsidise competitive operations from monopoly revenues, or misuse market power in other ways. These issues could be dealt with by:

- allowing free participation and relying solely on the competitive safeguards provided by trade practices legislation;
- prohibiting or restricting such participation; or
- allowing participation but subject to special restrictions.

6.56 Three major concerns would be raised by sole reliance on Part IV of the Trade Practices Act, particularly during the transitional phase to increased competition. These are:

- the exceptionally large market power which Telecom and OTC would possess;
- Telecom's position as the sole purchaser of network equipment from firms with which it is competing in the market for attachments; and
- the difficulties involved in providing positive proof of unfair practices in a complex technological environment where a firm operates both in competitive and monopoly market segments.

6.57 Technological considerations may also provide scope for a major player to manipulate the market. These may work to discourage competitive entry and/or give rise to lengthy and costly litigation. Therefore, this approach is not considered adequately to promote fair and efficient competition.

6.58 Prohibiting or restricting carrier participation in the CPE market might involve either outright prohibition, or participation subject to "structural separation" requirements. Structural separation would require Telecom to operate in the competitive CPE market only through

separate subsidiaries, operating independently (at "arm's length") from monopoly services. While this option has the advantage of neatness, it may involve the loss of economies of scope - that is, of any efficiency gains which could arise from joint provision of monopoly and competitive services. The Government considers that it is preferable to leave it to Telecom and OTC to decide commercially on the appropriate degree and form of their participation in liberalised markets on the basis of commercial criteria, with competitive safeguards being provided by other means.

6.59 The most effective safeguard in these circumstances is to apply provisions designed to increase the transparency of carrier participation in the more liberalised CPE market, making the normal provisions of the Trade Practices Act easier to enforce. These provisions will require, inter alia, that a carrier:

- maintains accounting for the production, purchase and distribution of competitive CPE separate from that maintained for other activities;
- in no way requires that the provision of monopoly services be tied to the competitive supply of CPE by Telecom (eg by granting preferential access to monopoly services for purchasers of CPE); and
- not "bundle" the price or charge for competitive CPE with that for network services. (Bundling <u>within</u> monopoly services - eg. rental and call fees - will be allowable.)

Value Added Services

6.60 Licensing arrangements for entry into the VAS market were outlined earlier in this Section. Effective competition in the market for VAS requires that suppliers:

(a) can obtain the circuits needed to provide VAS; and

(b) are not subject to "unfair" competition in the supply of those services by the provider(s) of monopoly services.

6.61 The first of these conditions reflects the "bottleneck" power of the monopoly provider to determine whether, and in what order, basic network facilities will be provided. The second reflects the scope to cross-subsidise competitive activities from monopoly revenues and to have technical standards that favour a carrier's services.

6.62 Bottleneck problems may arise because of Telecom being the monopoly or dominant provider of leased circuits to VAS providers in a market where it is also a competing VAS provider (by delaying supply of circuits Telecom could inhibit a competitor's service). The situation is complicated by the problem of distinguishing possible misuse of market power from a genuine lack of capacity due to capital constraints associated with public ownership.

6.63 This latter problem may be overcome in some cases by Telecom entering into a commercial arrangement with VAS providers whereby the necessary capital is made available to Telecom in return for some form of future right over the specified use of the relevant facilities. (This is equivalent to the sale of future usage rights in place of the traditional rental arrangement.)

6.64 The extent of Telecom's bottleneck power could also be reduced if the legislative provisions that currently inhibit the use of AUSSAT circuits for the provision of value added services were to be changed. As indicated in Section 4, the Government has decided to extend the relevant legislation explicitly to permit the use of AUSSAT satellite facilities by authorised value added providers. This will also facilitate greater rationality in VAS supplier choice between terrestrial and satellite facilities. Nonetheless, the current distribution of capacity, and the likely evolution of costs, assure Telecom of continued dominance in the supply of leased circuits, hence maintaining scope for the apparent misuse of market power.

6.65 These problems could be avoided by outright prohibition of Telecom's participation in this activity, or by only allowing participation subject to structural separation. However, there are significant economies of scope between provision of certain types of VAS and of the basic network and services; to exclude joint provision would entail economic costs. The United States experience is strongly contrary to enforcing a requirement that monopoly carriers provide VAS solely through fully separate subsidiaries. Such requirements led to major delays in the availability of value added network-based services in the USA, and have since been abandoned.

6.66 Given these considerations, it is desirable to impose specific regulatory requirements on monopoly providers when operating in the VAS market, so as to support effective implementation of trade practices safeguards. These would include:

- fully separate accounting for VAS provision;
- no discrimination in the provision of reserved services to VAS suppliers and those supplier's customers (including internal transfer prices and conditions within the monopoly), and prices and conditions to independent entities;
- interconnection of dedicated circuits to local exchanges specified by the customer to be provided on a similar basis for all VAS suppliers, excluding differences due to cost or technical characteristics of services;
- advanced notification of any changes in network technical specifications which may effect interconnection and no discrimination in access to the telephone numbering plan; and
- unbundling of pricing of VAS from that for monopoly services.

6.67 Monitoring and enforcement of these requirements will be vested in AUSTEL. Specific AUSTEL functions in the VAS market will include:

- complementing the licensing procedure outlined above with a requirement that Telecom provide leased circuits as needed to licensed suppliers;
- examination of instances of apparent discrimination; and

- approval of appropriate accounting standards for apportionment of joint and common costs, and surveillance of procedures for auditing implementation of those standards.

Private Networks

6.68 Users will largely be free to choose between private and public network options. But there is a concern to ensure that public-network operators do not misuse their monopoly powers to inappropriately control private network usage and deprive customers of the savings that may properly be realisable from use of dedicated facilities. The key issues here are the pricing and availability of leased circuits and the conditions and charges for interconnection of private networks to the PSTN.

6.69 As far as pricing and availability of leased circuits are concerned, AUSTEL will monitor the conduct of Telecom in the supply of leased circuits so as to prevent the indirect undermining of regulations for private networks. (Such monitoring will take into account the carriers' adjustments in leased circuit supply in line with specific demand trends and broader changes in pricing policy.) This will also assist transparency in Telecom's inter-connection of services using OTC or AUSSAT circuits.

6.70 Given the substantial cross-subsidies operating within the Australian network, and the substantial distortions from costs in Telecom tariffs, the Government considers that the continued payment of appropriate charges for the inter-connection of private and leased networks with public-switched networks is warranted, in principle, where inter-connections without such a charge would otherwise limit or undermine Telecom's ability to meet the community service and other obligations which the Government has placed upon it.

6.71 Telecom has recently revised its charging policy for inter-connection and a transfer of regulatory responsibilities can be made without a further change in policy, though the policy will be subject to future review by AUSTEL. That review will examine whether the charges and

other conditions are necessary and reasonable, both in structure and level, to protect Telecom's ability to continue to discharge its prescribed community service obligations and to prevent competition undermining reserved services.

CONSUMER PROTECTION

6.72 There is considerable community concern that Telecom in particular is insufficiently accountable for its conduct in respect of its customers, particularly in such areas as billing, provision of new service connections, service termination, service maintenance and restoration and charges. To some extent these may be problems of perception associated with the sheer size of Telecom. With over 6 million customers and almost 90,000 employees, a very small incidence of error can result in a large number of complainants.

6.73 Nonetheless the complexity and scale of Telecom's operations is such that Ministerial oversight alone can no longer provide the level of support for consumer interests that is necessary and increasingly expected within the continued monopoly arrangements. The Government is determined to ensure that Telecom is - and is seen to be - an efficient customer-oriented organisation that is fully responsive to consumer needs. For these reasons AUSTEL will be given explicit legislative authority to oversee the relationships of the monopoly telecommunications service providers with their customers. This will be a general authority, applying to Telecom, OTC and AUSSAT alike, but with the principal focus, at least initially, being on Telecom.

6.74 In carrying out these functions AUSTEL will be required to establish consultative arrangements with representative consumer groups and other relevant interest groups.

6.75 The general oversight authority will be augmented with specific functions in respect of price control, customer service standards and consumer complaints.

Pricing Control

6.76 At present Telecom and OTC prices for standard or basic services are subject to Ministerial approval following Prices Surveillance Authority (PSA) consideration. Other monopoly service or facility prices are not subject to external control, although some are subject to PSA scrutiny. The drawbacks to this arrangement were mentioned in Section 3.

6.77 Where services or facilities face real competition, there should be no need for explicit price control to ensure that prices are fair and reflect efficient provision costs. However, the continuing concentration of market power in telecommunications for the foreseeable future means that there will be a need to retain the scope to apply appropriate prices surveillance and price control arrangements.

6.78 In the monopoly area there is a specific need to subject prices to external control to create pressures on efficiency in the absence of competition, to ensure that inter-connect charges are appropriate and to ensure that undue profits are not extracted by exploitation of a monopoly position.

6.79 As alternatives to the current arrangements for case-by-case consideration of price increases, there are two main approaches to systematic monopoly price control. The first is the long-established United States regulatory practice of regulating prices by placing a limit on the rate of return earned by shareholders. This is now generally recognised as having drawbacks, since while it avoids excessive profits, it creates no incentive in itself to improve efficiency to the benefit of the customer.

6.80 The second is the "price-capping" model adopted in the United Kingdom for telecommunications price control. It is a direct control on the increase in the average price of monopoly services (ie, a bundle of services) established by reference to the general increase in prices throughout the economy and an assessment of the productivity gain

that is available in the industry. Prices are controlled by requiring them to fall in real terms at a specified rate. This is done by limiting price changes to a fixed percentage below the change in the consumer price index. This is the so-called "CPI-X" formula.

6.81 A system of this latter type would allow Telecom the freedom to adjust prices on individual services in line with costs, so long as the overall criterion is met for prices of a specified basket of services. It may be desirable to specify additional constraints on some individual items, eg residential rentals, to ensure a socially acceptable rate of rebalancing; but the need to provide the enterprise with some reasonable pricing flexibility argues against imposing specific constraints on too many individual prices or price-bundles.

6.82 A price control arrangement of this sort will be put in place. However, the Government will establish separate CPI-X price-cap arrangements for business and residential subscribers to ensure that the benefits of efficiency changes are equitably shared among customer groups.

6.83 The price-cap arrangements will be set by the Minister for Transport and Communications for a period of 3 years. They will be considered in the context of the corporate plans to be provided routinely by Telecom, and on the advice of AUSTEL.

6.84 The price-cap arrangements provide an aggregate, external incentive for efficiency, and the Government will devote considerable effort to ensure appropriate values are set. To safeguard the public interest, there will be periodic studies of Telecom's performance, undertaken by appropriate independent specialists. These studies will include comparisons of the efficiency of the enterprise against its most efficient counterpart organisations elsewhere in the world. One use of these studies will be to provide a basis for setting the required productivity gains that will be reflected in the CPI-X price formula.

6.85 Telecom is currently undergoing a major process of reorganisation, and it is not appropriate to conduct a performance study at this time. Nonetheless, AUSTEL will have the responsibility for arranging such studies when appropriate, although it need not carry them out itself.

6.86 In the case of OTC, fixed price-cap arrangements are less easy to apply due to the influence of foreign currency exchange rate variations. However, because of the remaining monopoly, continued price control arrangements are still appropriate. The central principle will be that, on average, basic prices will be regulated to fall in real terms in line with available productivity improvements, after allowing for exchange rate variations. Pending the development of a satisfactory exchange rate adjusted price-cap formula, the Minister will determine policy guidelines for OTC price control. OTC will notify relevant price changes to AUSTEL, which will advise the Minister where these changes fall outside the guidelines, or where the guidelines appear to need revision in view of a changed environment. The Minister will be empowered to disapprove price changes which fall outside the guideline. To give effect to these arrangements the Government has decided that:

> **Telecom and OTC prices for standard services will be regulated by formulas determined by the Minister for Transport and Communications, limiting average price rises to a minimum annual percentage below the rate of inflation, with provision to ensure that the benefits are shared equitably among customers and that there are no adverse implications for provision of community service obligations.**
>
> **There will be separate price control formulas for residential and business customers. The residential formula will limit both the increase in the average price of all standard services and the change in price of standard access charges.**
>
> **AUSTEL will monitor the carriers' compliance with the price control formulas and report to the Minister for Transport and Communications on prices and efficiency generally.**

6.87 In addition to specific advice on - and monitoring of - price-cap arrangements, AUSTEL will also be given general oversight responsibilities for prices charged by the monopoly carriers. It will have investigative and information gathering powers, with responsibility to report to the Minister concerning the need to vary price control arrangements.

6.88 Prices for other than standard services will be a matter for commercial determination by Telecom or OTC in the first instance. However, the Minister will retain a power to declare specific services for the purposes of price control, whereupon price changes will become notifiable to AUSTEL and subject to disallowance by the Minister on public interest grounds following an AUSTEL report. The Government has decided that:

> **Monopoly prices for non-standard services not covered by the formulas will normally be a matter for determination by the carriers. The Minister will retain an authority to apply price control to specific services in the public interest, whereupon price changes will be notifiable to AUSTEL and subject to disallowance by the Minister after receipt of a report by AUSTEL.**
>
> **The price control arrangements for monopoly services set out above will replace present provisions for consideration by the Prices Surveillance Authority.**

6.89 In putting these new, more stringent price control arrangements in place for telecommunications, the Government has also reaffirmed its commitment to price restraint generally. The administration of the new arrangements for telecommunications will fully embrace the wider principles of prices surveillance and will continue to apply them to telecommunications. These include: consideration of the maintenance of investment and employment; the need to discourage the inappropriate use of market power in setting prices; and the need to discourage cost increases arising from changes in wages and conditions that are inconsistent with national wages policies.

Customer Service Standards

6.90 Telecom's continuing privileged position in markets for monopoly services cannot be unconditional. One important condition of its charter will be the achievement of customer services standards which match community expectations.

6.91 It is desirable, therefore, that broad targets be established for delivery of monopoly services (including public call-box services) to ensure that services are provided efficiently and effectively. These targets will be set by government following advice from AUSTEL after consultation with the service providers and user groups.

6.92 The Government is considering setting targets of the following types for the public switched telephone network:

- percentage of new services installed within x working days;
- percentage of faults cleared within y hours;
- percentage of successful calls; and
- for operator assisted call services (both domestic and international), percentage of calls answered within z seconds.

Data on these items are already routinely collected and analysed by Telecom.

6.93 In setting such targets for customer service standards, consideration will be given to the relationship between standards set and the costs of achieving them, eg a reduction in response time for manual services could require the employment of more operators. The desirability of establishing differential targets for business and non-business users of services and for users in metropolitan and non-metropolitan areas will also be examined. Consistent with its aim to ensure that Telecom becomes fully responsive to consumer needs, the Government will require adherence to the performance guidelines established by these targets. This will be part of the new accountability aspects for Telecom, described further in Section 7.

Consumer Complaints

6.94 For the purposes of the Ombudsman Act 1976, Telecom and OTC are prescribed authorities and therefore subject to the provisions of the Act. In 1986/87 there were 1430 oral and 549 written representations to the Commonwealth Ombudsman regarding Telecom: these represent 11.8% and 16.8% respectively of total representations of this type for that year.

6.95 The Government has considered the role of the Commonwealth Ombudsman and the normal legal channels available to aggrieved parties in relation to Telecom and OTC following the introduction of AUSTEL and the partial liberalisation of Telecom's monopoly.

6.96 Where services are fully competitive (see Sections 3,4, and 5) then normal commercial conditions should apply and Telecom and OTC would be directly and legally accountable to their customers, and be subject to other relevant Acts which control trading and consumer protection (eg Part V of the Trade Practices Act 1974).

6.97 Where Telecom or OTC retains a monopoly or any form of legal indemnity, then some formal channel needs to be available for aggrieved parties to have complaints investigated. Legal channels will continue to be available for appropriate issues. Ombudsman reviews are also available and have been an important channel for redress of grievances which would otherwise go unresolved.

6.98 It is anticipated that, because of its regulatory role, AUSTEL will also receive complaints and representations concerning the carriers. This requires the establishment of arrangements for the proper handling of such complaints while ensuring that their regulatory implications are properly appreciated.

6.99 In respect of such consumer complaints, the Government has decided that:

> **AUSTEL will have authority to investigate complaints received that fall within its range of responsibilities. AUSTEL will have a capacity to refer to the Ombudsman complaints it receives which are more appropriately dealt with by the Ombudsman. As a general principle, the Ombudsman will deal with matters affecting individuals while AUSTEL will be concerned with complaints which raise wider regulatory policy considerations. Arrangements will be developed between the Ombudsman and AUSTEL to avoid duplication of effort and to minimise confusion over responsibility for responding to complaints. Arrangements will also be developed between the Ombudsman and AUSTEL to ensure that, subject to confidentiality provisions, AUSTEL is advised of complaints that may raise regulatory implications. AUSTEL will report to the Minister on the overall regulatory implications of consumer complaints.**

6.100 This arrangement will augment the important role already played by the Ombudsman, and will assist AUSTEL in developing and policing consumer service standards as well as advising the Minister on the continued appropriateness of the boundaries of the monopoly.

6.101 The Ombudsman will retain all existing powers, including the power to investigate allegations of maladministration on the part of AUSTEL itself, and to receive and investigate complaints against Telecom both directly and on referral from AUSTEL.

COMMUNITY SERVICE OBLIGATIONS AND MONOPOLY SERVICES

6.102 The CSOs bearing on Telecom will be more clearly specified as a matter of Government policy. In the context of the development of Telecom's future corporate plans action will be taken:

(a) to specify the precise objectives of a non-commercial character which the Government ascribes to the monopoly service;

(b) to indicate the means by which they are to be pursued; and

(c) to instruct Telecom to maintain accounts so that the costs associated with pursuing these objectives can be identified.

6.103 Since the responsibility for standard telephone service provision will rest with Telecom, cost control and reporting on the costs of CSOs should also rest with that body. Regulation will be introduced to require Telecom to report on CSO costs annually to accounting standards approved by AUSTEL. These data can be used in monitoring and periodically reporting on whether Telecom has fulfilled its specified non-commercial obligations in an efficient manner and whether the Australian public has received value for money from the arrangements. This responsibility will be vested in AUSTEL.

6.104 Cost separation and soundly-based allocation methods will need to be established to allow CSO costs to be identified and documented. These procedures should form a normal part of Telecom's responsibilities in guarding against undue cross-subsidisation of competitive from monopoly activities. AUSTEL will be given the task of scrutinising the cost figures prepared by Telecom and approving the appropriateness of the allocation procedures used.

6.105 The Government sees the clear identification of CSOs and measurement of their costs as important ingredients for any reform of Telecom into a more commercially-oriented enterprise. Without this cost information it would be difficult to consider the merits of levels of funding of CSOs or to determine appropriate adjustments to any financial targets established for Telecom as part of a total reform package. In this regard Telecom will be required to obtain the approval of the Minister for Transport and Communications for its plans to meet its community service obligations and for the associated levels of costs and cross-subsidy. The approved plans will then form one of the bases of the overall Telecom corporate plan. The Government has decided that:

> **AUSTEL will be responsible for approving the accounting arrangements adopted by Telecom in**

reporting the costs of meeting community service obligations.

6.106 The obligation on Telecom to provide universal service will be subject to arbitration by AUSTEL. Where Telecom does not provide a standard telephone service when and where a customer requires it and in accordance with approved standard charges, AUSTEL will be empowered to review a customer's appeal. It will be empowered to determine the reasonable terms and conditions on which Telecom will be obliged to provide the service, having regard to all the circumstances. Where it is impractical or uneconomic for Telecom to provide a service, AUSTEL may authorise private provision (eg, of a particularly long exchange access line), subject to that provision not undermining Telecom's capacity to meet its community service obligations, and to compliance with required technical standards.

6.107 For public telephones, AUSTEL will be required to develop and recommend guidelines for the provision, maintenance and removal of public telephones. These will then be subject to Ministerial approval. AUSTEL will then monitor Telecom's adherence to these guidelines and report to the Minister. It will arbitrate on disputed provision arrangements. It will also monitor Telecom's costs in providing public telephones, and approve accounting arrangements for recording those costs. In this respect the Government has decided that:

AUSTEL will be responsible for determining specific disputes over Telecom's meeting its community service obligations in respect of standard telephone connections to the network and of provision of public telephones. It will be responsible for reporting on Telecom's efficient fulfilment of its community service obligations overall.

AUSTEL STRUCTURE AND FUNDING

6.108 AUSTEL will be a statutory authority, established under law as a body corporate. It will comprise a full-time chairperson and two full or part-time members, who will be selected from people who are

appropriately experienced or qualified in law, economics, business, public administration, consumer affairs, or technology. Provision will be made for the appointment of an appropriate number of AUSTEL members - probably two in the first instance - as part-time members of the Trade Practices Commission. AUSTEL is expected to be operational by mid 1989. In the interim, Telecom will continue to administer regulations under specific Ministerial direction. In this respect the Government has decided:

AUSTEL will be a non-business Commonwealth statutory authority, established in line with the Government's 1987 Policy Guidelines for Commonwealth Statutory Authorities and Business Enterprises. It will be headed by a Chairperson and two other full or part time statutory office holders.

6.109 It is estimated that its initial staffing level will be up to about 70, with authority to use seconded or contracted specialists to undertake specific investigative or analytical work associated with the regulatory functions. AUSTEL would have internal divisions covering aspects such as carrier affairs (financial analysis, services and practice, consumer affairs), technical regulation (standards, licensing and enforcement), policy (both domestic and international) and legal matters.

6.110 AUSTEL will be funded from the Commonwealth Budget in the usual way, but with its appropriations being wholly separate from those of other Transport and Communications portfolio agencies. Annual operating costs are likely to be around $5 million. Cost recovery arrangements will, however, apply for AUSTEL's technical regulatory role and its licensing role in the value added services market. AUSTEL will have no direct commercial or business role.

6.111 AUSTEL will have independent statutory authority in the exercise of its regulatory powers. It will undertake consultation with consumers and other interest groups in the conduct of its duties. Where it has discretionary powers and responsibilities, it will be required to have regard for government policy as advised by the Minister, either in general or in respect of specific issues or cases.

POLICY ADVISORY ARRANGEMENTS

6.112 In addition to the establishment of AUSTEL and its associated consultation arrangements, the Government will extend the policy development arrangements that have evolved during this review process. The policy functions of the Department of Transport and Communications will be strengthened, independently of AUSTEL. This will assist the Government to respond to and facilitate changing technological and commercial pressures and opportunities, as well as to monitor the accountability and business performance of the telecommunications enterprises. In view of the increasing globalisation of the telecommunications industry, international developments will be monitored closely and there will be strengthened policy oversight of the activities of Telecom, OTC and AUSSAT in relevant international forums and agencies such as the International Telecommunications Union INTELSAT and INMARSAT. The Department will continue to consult closely, in its policy advisory role, with all relevant parties in industry, the unions, telecommunications service users (both business and residential) and with the carriers and with value added service providers.

7: FREEING THE CARRIERS FROM GOVERNMENT CONSTRAINTS

7.1 The picture that emerges from the previous sections is one of fundamental change in the environment within which Telecom, OTC and AUSSAT operate. The days of staid, relative certainty in telecommunications have long gone. The future will be characterised by convergence of telecommunications technologies with other fast evolving technologies in fields as diverse as computing, entertainment and broadcasting. Internationally the telecommunications industry is becoming fiercely competitive and has some very big players.

7.2 The carriers will, in future, increasingly have only specified service delivery and commercial roles. Their previous regulatory and policy roles will be subsumed by the Australian Telecommunications Authority (AUSTEL) and by government directly. They will increasingly carry out their important community service obligations as direct agents for government, rather than being required to do so at their own discretion. The scope and costs of providing community service obligations (CSOs) will be determined by government in an overall national resource allocation context.

7.3 The Government has recognised that these developments must influence its current fundamental re-examination of its shareholder and commercial control relationships with its telecommunications enterprises, Telecom, OTC and AUSSAT. Consequently, the Government has decided on a reform package to be implemented for each enterprise. The emphasis is on an aim for the highest possible level of operational efficiency in achieving specific objectives, the minimisation, as far as practicable, of government controls and allowing enterprise managers the opportunity to respond to the opportunities - essentially letting managers manage. This approach to ensuring satisfactory performance can be characterised as making the enterprises as

efficient as possible in their operations, commercially oriented where appropriate, and facilitating a management style and accountability similar to the best that is found in the private sector (albeit with additional community service responsibilities not comparable to the private sector).

THE NEED FOR COMMERCIAL PERFORMANCE

7.4 The telecommunications enterprises are very big businesses, borrowing and investing very large sums of money on behalf of government and the Australian community. They presently deploy fixed assets of about $13,700 million. New investment currently approaches $3,000 million each year, and Telecom alone expects to increase its investment program to $4,000 million in the next few years. These are investments that are primarily of an economic nature, while also serving some important social goals. Increasingly they will be directed towards facilitating the business use of telecommunications that will be central to future economic development. Decisions on investment programs of this scale are complex and enormously difficult. They are made more so in the telecommunications enterprises due to the traditional relationships among government as shareholder, the boards and commissions as the controlling bodies, and enterprise managements. The implicit government backing for the enterprises' borrowings eliminates the borrower's risk, so the program managers gain less useful guidance than do their private sector counterparts from the usual scrutiny by the capital markets of competing investments. Yet if overall national resource allocation is not to be unduly distorted or misdirected, it is essential that these large telecommunications enterprise investments are directed and managed to achieve performance that is at least comparable to that of investment elsewhere in the economy. This is the essential case for ensuring commercial performance.

7.5 In its "Policy Guidelines for Commonwealth Statutory Authorities and Government Business Enterprises" (the Policy Guidelines)

tabled in the Senate on 4 November 1987, the Government made clear its commitment to achieving the highest levels of operational and financial efficiency in Commonwealth business enterprises, recognising their role as an important business sector, and as substantial investors. The three telecommunications government business enterprises (GBEs) - Telecom, AUSSAT and OTC - represent a very significant proportion of that Commonwealth business sector.

7.6 Concurrently with reviewing the regulatory framework for the telecommunications sector, as set out in previous sections, the Government has developed packages to reshape the telecommunications GBEs during the process of improving the efficiency of all GBEs, as part of the Government's micro-economic reforms. These packages have been formulated after considerable scrutiny of the financial structure and commercial performance of each enterprise, and the need for detailed controls and accountability.

7.7 From the previous sections, it is clear that the changed regulatory environment, together with the pressures and opportunities facing the industry, will place new and different demands on the management of the enterprises.

7.8 The introduction of additional competition, coupled with the establishment of new independent regulatory arrangements, requires the establishment of fair and efficient arrangements for all competitors. Since Telecom, in particular, is to continue to play a major role in the market, while needing to meet the new market challenges and enhancing its commercial performance, it will need to be able to undergo significant change. Where appropriate, Telecom must be freed from controls and constraints that may inhibit its ability to meet social and commercial objectives set by government, or that may obscure Telecom's accountability for its performance. Where it is required to face competition, it must be allowed to do so on a basis that is comparable to that of its competitors - the "level playing field" needs to be established.

7.9 Up until now, the boards of these three enterprises have been hampered to varying degrees: by a confusion of unclear objectives - both social and commercial; by a high level of ministerial and bureaucratic involvement in day-to-day management conduct; and by an absence of any real externally-monitored accountability framework covering both conduct and results.

7.10 The Government's solution is to fundamentally change its arrangements for these three GBEs, largely through replacing detailed controls with accountability provisions. In essence what the Government has decided to do is focus mainly on the "bottom line" performance or output of these enterprises rather than continuing with centralised controls on the input stages of business decision making.

7.11 A full account of the GBE reform process is contained in the Ministerial Statement of 25 May 1988, "Reshaping the Transport and Communications Government Business Enterprises", which contains details of the individual reform packages for Telecom, OTC and AUSSAT, as well as the other GBEs within the Transport and Communications portfolio (Australia Post, Qantas, Australian Airlines, Australian National Line and Australian National).

REPLACING DETAILED CONTROLS WITH ACCOUNTABILITY PROVISIONS

7.12 At present the telecommunications enterprises, like other GBEs, are subject to precise detailed operational controls in some areas, while being provided with little in the way of strategic guidance or accountability in others. For example, statutory office holders are obliged to seek ministerial approval for leave and for specific business travel outside Australia; Telecom and OTC require government approval for individual borrowings, yet are given no formal long term guidance on what aggregate borrowing levels they should plan for; they are required to use the services of government departments for some operational activities, yet theoretically remain accountable for the efficiency of those

activities; they require ministerial approval of individual contracts above $6 million, yet are expected to accept full responsibility for all expenditures. The list of such controls is extensive.

7.13 At the same time Telecom has major CSOs that have been imposed by government, but never spelled out in detail. Neither Telecom nor OTC has a statutory mandate to aim to earn profits that represent a reasonable rate of return on the assets they deploy. Their capability to do so is constrained by detailed controls over procedure and a lack of guidance on expected outcomes.

7.14 Reforms to GBEs are part of a major overhaul of Commonwealth public sector administration arising from the 1983 statement "Labor and Quality of Government." As with other reforms to the machinery of government, reforms to GBEs are based on two major principles - devolution of responsibility and accountability.

7.15 The aims are to clarify the extent of responsibility - as between ministers, boards and management - to ensure that managers are free to manage, without undue day-to-day intervention, in accordance with corporate plans and with identified financial targets, to require full accountability and to hold boards and management responsible for performance and conduct.

7.16 Thus the emphasis will no longer rest on scrutiny and approvals of the processes of running an organisation, but on the extent to which it is successful in meeting its goals. Constant oversight of individual transactions - for example ministerial approval of contracts - does not ensure that an organisation will be successful in meeting its goals, diverts resources from more productive activities, and obscures the accountability for the decisions that are involved.

7.17 On the other hand, the development of corporate plans and financial targets, and accounting for performance against the goals and targets, provides an environment within which boards and managers can deal with more detailed issues in a cohesive manner.

7.18 Another essential ingredient of the new arrangements is the separate identification and costing of CSOs and other non-commercial objectives which may have a bearing on the financial performance of an enterprise. Clearly, under the new regulatory arrangements, Telecom will be required to continue undertaking important CSOs. The progressive separate identification and detailed costing of CSOs is a necessary process so that government can make it clear what it expects of Telecom. Further, it allows for a clearer understanding of the extent to which social and other non-commercial objectives are being met and also enables the costs of such obligations to be taken into account in determining financial targets. However, all the carriers will still be expected to continue to operate to the highest standards of corporate conduct as a normal part of their commercial operations, including appropriate sensitivity to their community responsibilities as major "corporate citizens".

7.19 At the same time it has to be recognised that government will continue to have wider policy interests in its ownership of these enterprises, other than their individual commercial performance. Each enterprise forms part of an overall "portfolio" of government business enterprises, and government will have the usual "parent company" interest in the performance of this overall portfolio. Each enterprise - and certainly the total portfolio of enterprises - could be significant in the overall economy, and government may validly wish to effect aspects of its wider management of the economy through its ownership relationship with the enterprises.

7.20 In the new environment, what is important is that these wider interests be as clear as possible, be made as explicit as possible and be fully reflected in the accountability framework and in the performance targets that are set.

CORPORATE STRUCTURE

7.21 There are two aspects to the question of corporate structure. The first is the issue of structural relationship among the three

enterprises. The relationship between Telecom, OTC and AUSSAT was addressed in Section 3. The Government has decided that:

> **There will be no changes in the present ownership arrangements or structural relationships among the three carriers (Telecom, OTC and AUSSAT) at this time, but these will be subject to review after the main elements of the reform package embodied in this statement have been put in place.**

7.22 In coming to this view, the Government is not persuaded that the effort and dislocation that would be involved in any major structural change involving the relationship among these three enterprises would be warranted at this time. The more immediate problems and issues of addressing efficiency and market dynamics are now more pressing, and more demanding of relevant senior management attention. However the Government remains concerned that these structural arrangements should still be directed towards the overall national interest. It will expect the carriers to work together to foster appropriate Australian participation in global markets. It will require that the limited competition among them is directed constructively.

7.23 The second issue is the corporate structure appropriate to each individual enterprise. The key factor in determining the future structure of each of the three enterprises has been to establish clear accountability and responsibility links between government as regulator and shareholder/owner, the board as accountable to government for overall enterprise achievement and conduct, and enterprise management as accountable to the board for the detailed operation of the enterprise. At the same time, arrangements have recognised the need to distance routine enterprise management from government in order to emphasise the formal accountability links.

7.24 Linked to the need to establish this separation and accountability framework has been the need to create or retain appropriate commercial financial structures, as well as to recognise the wider objectives inherent in continued government ownership of the enterprises.

Telecom

7.25 The Whitlam Government's decision to establish Telecom as an entity separate from the Public Service in 1975 was a brave step. The intervening years have proved the correctness of that decision, which has since been followed in many other countries. However, since then significant changes have occurred in community and government expectations and in the nature of the markets within which Telecom operates. But Telecom's enabling legislation has not been adapted to meet these changed circumstances. Telecom's reform needs to have regard to the requirements for the flexibility and responsiveness that new technologies and market opportunities and imperatives demand.

7.26 In view of its significant CSOs over and above its commercial obligations, but also because of the accountability requirements of its continuing monopoly:

> **Telecom will continue as a corporation established by statute. But it will be provided with a new enabling Act, tailored to the new environment, embodying the reduced direct controls and increased accountability arrangements.**

7.27 The Government's decision to establish an independent regulatory agency, AUSTEL, was discussed in Section 6. This means that Telecom's Act need now only focus on operational matters, and not be confused with regulatory issues. In recognition of this, and to reflect the Government's expectation of a more commercial approach:

> **Telecom will be re-named the Australian Telecommunications Corporation.**

A Board of Directors will be appointed to replace the pre-existing Commission. In framing Telecom's new Act, the Government will ensure that attention is paid to the detailed overhaul of Telecom's charter to ensure that the Government's social and non-commercial objectives for Telecom are clarified and that arrangements are put in place for government control of their scope, with appropriate adjustment to financial targets.

7.28 At present, Telecom Commissioners, including the Managing Director (an ex-officio Commissioner) are appointed by the Governor-General. The Telecommunications Act 1975 provides that the Commissioners should include a union representative and a departmental officer.

> **The directors of the Telecom Board will be appointed by the Governor-General and be subject to removal by the Governor-General on grounds which shall be expanded to include ongoing underperformance. The Telecom Chief Executive Officer (CEO) will be appointed by the Minister after receiving a recommendation from the Telecom Board and be subject to removal by the Board. The CEO will be an ex-officio member of the Board. The statutory position of the Chief General Manager will be abolished.**

7.29 On establishment in 1975, the Government provided no funding contribution for its equity interest in Telecom. Telecom's liability for funds provided by the Commonwealth as at establishment was determined by the Treasurer under the Telecommmunications Act at $3,894.2 million. This represented the difference between the historical cost of assets and liabilities. This funding arrangement is no longer appropriate to a commercial enterprise, particularly one which is now among Australia's largest business enterprises.

> **The new financial structure for Telecom will involve the conversion of 25% of Commonwealth loans (which totalled $4,352.2m at 30 June 1987) to equity, revaluation of assets according to prevailing commercial practice and retiring remaining Commonwealth loans progressively over the next 10 years and their replacement as appropriate with private sector borrowing.**
>
> **Following revaluation of assets, the Government will determine an appropriate debt: equity ratio and overall financial structure on a basis comparable to leading telecommunications companies in other parts of the world.**

7.30 In conjunction with establishing the new financial structure for Telecom, the Government has also decided to progressively require Telecom to meet the tax liabilities that are faced both by its direct competitors and by other commercial enterprises that are

also competing for capital, labour and material inputs within the economy. Continuation of unequal taxation liabilities would perpetuate a degree of inefficient competition in these areas. Telecom has been liable to pay customs duties and sales taxes since 1987. The Government has therefore decided that:

Telecom's subsidiaries and joint ventures will be subject to all taxes;

Telecom will be liable to meet State payroll taxes from 1 July 1988;

Telecom will become liable for other State and local government taxes and charges from 1 July 1989; and

Telecom will become liable for income tax from the 1990/91 income year.

Overseas Telecommunications Commission

7.31 The Overseas Telecommunications Commission was established in 1946 as a statutory corporation. It is a first-rate government business enterprise that has consistently provided good service quality to the community at decreasing real costs and produced good financial returns to its owners. OTC is not required to undertake any explicit CSOs and has been progressively undergoing commercialisation for a long time. Unlike Telecom, OTC already has a commercially-based financial structure.

7.32 The need for OTC to be a statutory authority in order to provide a public service is now outmoded. This arrangement does not allow it to emphasise sufficiently commercial criteria in its operations and does not provide the maximum flexibility needed to cope with rapidly changing technology and industry development in the commercial and competitive international environment in which it operates. It is against this background that the Government has decided that:

OTC be established as a 100% Commonwealth-owned company and renamed the Overseas Telecommunications Corporation.

7.33 This step is warranted in view of the fact that OTC is already a fully commercial organisation with a commercial financial structure, pays all Commonwealth taxes and charges and State payroll taxes. OTC pays substantial dividends. Incorporation places OTC's corporate structure on the same basis as AUSSAT's. The regulatory legislation will provide that shareholdings in OTC be restricted to the Commonwealth.

7.34 At present the OTC Commissioners and Managing Director are appointed by the Governor-General.

The OTC Board will be appointed by the Minister and will be subject to removal by the Minister on grounds to be expanded to include ongoing underperformance.

The Chief Executive Officer will be appointed by the Minister after receiving a recommendation from the Board and be subject to removal by the Board.

AUSSAT

7.35 The Satellite Communications Act 1984 ascribes to AUSSAT the primary objective of "carrying on the business, in accordance with sound commercial principles, of providing:

(a) a telecommunications system for Australia by the use of space satellites; and

(b) space satellite facilities for use in telecommunications systems for neighbouring regions."

7.36 AUSSAT Pty Ltd was incorporated in November 1981. Unlike Telecom and OTC, AUSSAT's current corporate structure is entirely appropriate for this objective. It already has a suitable organisational form (incorporation under the Companies Act), and an entrepreneurially-orientated Board. AUSSAT did not begin earning revenue until after the launch of the first satellite in

August 1985. AUSSAT expects to become profitable in 1989/90 and to begin paying dividends to the shareholders in due course. It is liable for all Commonwealth, State and local government taxes and charges.

7.37 AUSSAT will remain a company, incorporated under the Companies Act. The present legislative restrictions on its shareholding will also be retained and its financial structure remain as at present, limited to $100 million of shareholders' funds that have already been subscribed. This recognises that the high risk nature of AUSSAT's capital investment program is underwritten by the Commonwealth support for the high borrowing levels, that is implicit in its ownership, and by explicit acceptance by the shareholders of the consequential commercial risks.

7.38 At present, the AUSSAT Board is appointed by the Minister who may remove directors from office. The Chief Executive officer is appointed by the Board and subsequently appointed as a director by the Minister.

The members of the Board of AUSSAT will be appointed by the Minister and subject to removal by the Minister on grounds which shall be expanded to include ongoing underperformance.

The Chief Executive will be appointed by the Minister after receiving a recommendation from the Board and be subject to removal by the Board.

CONTROLS

7.39 Two sets of controls presently apply to GBEs.

7.40 The first are major strategic controls of a macro-economic or broad policy nature, covering:

- borrowings through the Loan Council;
- superannuation arrangements;
- industrial relations co-ordination; and
- executive remuneration.

7.41 The second set of controls covers a wide range of approvals for day-to-day operations, and controls which represent restrictions on routine commercial activities.

Strategic Controls

7.42 The Government is significantly altering the nature and degree to which those controls of a macro-economic or broad policy nature are to be applied.

(i) Borrowing

7.43 The annual borrowing programs of all GBEs have long been subject to specific approval in the context of annual Loan Council considerations. These Loan Council controls serve important macro-economic objectives. They have been a significant factor in Australia's improved economic position, through the restraints placed on total public sector borrowings within this mechanism. While these controls have served their macro-economic objectives, their method of administration has not necessarily also served the specific objectives or needs of the enterprises. Applications for borrowing approval have been made and considered in highly aggregated terms, with "bids" being based on expected approval levels driven by macro-economic policy, rather than being based on assessed needs from each enterprise's commercial perspective. This in turn has minimised the scope for any government scrutiny of proposed borrowings in the Loan Council context to act as a useful proxy for the reduced scrutiny by the capital markets that necessarily accompanies government backing of those borrowings. Especially where enterprises such as Telecom are concurrently investing in non-commercial, but socially essential, infrastructure as well as in commercial projects with very high rates of return, the overall efficiency of both the size and the direction of investment programs is at risk.

7.44 The previous sections, especially Section 3 on provision of the basic network, pointed to the need for increasing investment in telecommunications, as well as increasing certainty about medium term investments in order to plan infrastructure programs efficiently. At the same time the policy of continuing to reserve basic facility and service provision to Telecom, OTC and AUSSAT necessarily excludes the option of increasing investment through direct, competing, private sector involvement (while keeping open the option of joint venture enterprises).

7.45 These considerations pointed to the need for some review of both government overview of the enterprises' borrowing programs, as well as in the enterprises' associated investment planning procedures. Consequently the Government has decided that:

The Loan Council processes presently applying to Telecom will be developed to:

- **take into consideration the on-going and longer term nature of capital expenditure proposals by adopting a three year rolling borrowing program (subject to annual review by government) which would allow Telecom and its subsidiaries and joint venture companies to proceed with major investments without the uncertainty inherent in annual borrowing allocations;**

- **ensure sufficient flexibility to enable additional borrowings to be considered in a year where new commercial opportunities for Telecom, its subsidiaries or joint ventures are identified; and**

- **allow Telecom to increase its market borrowings to convert part of Commonwealth loans to private sector loans, in the context of its capital restructuring.**

The appropriate Loan Council treatment of private sector involvement in joint ventures and subsidiaries will be considered further.

OTC and AUSSAT will remain within current Loan Council processes given that their investment programs can be accommodated within current levels of retained earnings or the existing Loan Council mechanisms.

7.46 Telecom will be required to identify its investment programs in terms of the estimated economic benefits, rather than focusing mainly on the expected costs that have previously formed the main basis of Loan Council scrutiny, because of its primary emphasis on macro-economic considerations. This approach will enable Telecom and its subsidiaries and joint venture companies to proceed with major investments without the uncertainty inherent in annual borrowing allocations. Mechanisms will also be developed that will enable mid-term consideration of any additional borrowings that may be needed in order to meet business opportunities that arise.

7.47 OTC generates sufficient funds internally to meet its investment needs and AUSSAT's needs for borrowings are for replacement satellites which can be programmed well in advanced and accommodated in the Loan Council process.

(ii) Superannuation Arrangements

7.48 Established Commonwealth policy on public sector superannuation is that all Commonwealth employees should have the same rights. As well as a wish to achieve equity among government employees, the issues of workforce mobility within the public sector and administrative efficiency have also been relevant.

7.49 Superannuation for Telecom employees must be provided through the Commonwealth Superannuation Scheme (CSS). In the case of OTC, government, through the Minister for Finance, exercises control over superannuation arrangements and about 1,800 of the 2,100 OTC employees have become members of the CSS. In contrast, AUSSAT already has its own superannuation schemes formed following approval from the Minister for Finance.

7.50 The costs of superannuation schemes form an important component of labour input costs, particularly for Telecom and OTC. At the same time, it has become clear that a scheme designed principally for

white-collar public servants does not necessarily provide attractive benefits for many employment categories within Telecom and OTC. It inhibits job mobility across the commercial sector in the interests of what is now increasingly less relevant job mobility within the public sector. It has required contribution rates that are high relative to those paid by private enterprise, without there being offsetting saving in other wage-related costs. However, the history of these superannuation arrangements carries with it problems that cannot lightly be set aside. Telecom employees in particular represent a large proportion of the membership of the CSS. Their accrued entitlements and future contributions and benefit payouts are integral to the present overall scheme management and performance. Changes cannot be introduced without regard for these considerations, as well as for overall Commonwealth policy on public sector superannuation and on superannuation in the community as a whole.

7.51 In line with the emphasis in the Policy Guidelines on increased GBE efficiency, the Government has decided that:

Subject to guidelines to be developed within the course of the review of the Commonwealth Superannuation Scheme (due by March 1989), Telecom and OTC will be permitted to establish their own superannuation schemes, with any subsequent movement beyond the guidelines subject to approval by the Minister for Finance.

Any additional costs borne by Telecom or OTC due to remaining CSS members will be taken into account in setting their financial targets.

AUSSAT's future superannuation arrangements will be consistent with guidelines to be agreed from time to time between the Ministers for Finance and Transport and Communications, with any proposed movement beyond the guidelines subject to approval by the Minister for Finance.

(iii) Industrial Relations Co-ordination

7.52 Industrial relations co-ordination arrangements have applied since 1948. The detail and form of the arrangements have undergone a number of changes, but a constant feature of these arrangements

has been the requirement for all government authorities and enterprises to consult with the Department of Industrial Relations (DIR) on pay and conditions matters. In 1975 the Co-ordination Committee was established - this Committee, chaired by DIR is responsible for the operation of the co-ordination arrangements with agencies to be invited to attend meetings and to participate according to the issues being considered by the Committee.

7.53 Under the current industrial relations co-ordination arrangements, the enterprises are required to consult with DIR on a wide spectrum of industrial relations issues from major wages and conditions matters to initiatives on occupational health and safety and industrial democracy. The Department can oppose initiatives and proposals which it believes do not accord with government policy. The consideration of these matters inevitably involves greater delays than if the enterprises could settle them without the requirement to consult.

7.54 The current industrial relations co-ordination arrangements have been criticised as:

- imposing an additional level of approval and response time of GBEs which does not apply to private enterprise competitors;
- diminishing the negotiating status of GBE management and restricting the ability of GBE management to respond directly to industrial issues as they arise; and
- acting as a disincentive for GBE managers to tackle labour issues concerning work practices, productivity and efficiency to ensure cost control.

7.55 The Government has decided that:

The present industrial relations co-ordination arrangements will be substantially altered by devolving to the enterprises greatly increased

responsibility and autonomy to develop wages and employment conditions proposals.

Standard guidelines on government wages and industrial relations policy will be established by the Minister for Industrial Relations in consultation with the enterprises and the Minister for Transport and Communications. Enterprises will be free to manage their industrial relations within the scope of these broad guidelines without being required to refer matters to the Department of Industrial Relations.

7.56 The fundamental difference between the current arrangements and the Industrial Relations Monitoring arrangements proposed is that the enterprises will only be required to submit proposals for clearance to DIR in an extremely limited number of circumstances.

(iv) Executive Remuneration

7.57 Under current arrangements, the Remuneration Tribunal determines the salaries and allowances of full-time and part-time statutory office holders in Telecom and OTC. AUSSAT is not subject to this requirement. This arrangement has led to a broad but inappropriate alignment of senior executive salaries within the enterprises to those within the Australian Public Service, rather than to those within the commercial sector. Business commentators and others have long pointed to the lack of flexibility this practice creates when commercial senior executive positions need to be filled, especially at the important chief executive officer level.

7.58 The effect of unrealistic capping of the chief executives' salaries restrains and distorts the salaries of other executives to a non-competitive level, and affects the recruitment, retention and movement of such staff. It also does not allow the enterprise boards to reward and motivate key executive management.

7.59 The emphasis in the reform packages on achieving bottom line results makes it imperative that important public enterprises such

as Telecom and OTC can attract and retain chief executive officers of a appropriate calibre and other highly skilled staff. The enterprises have been fortunate so far in attracting and retaining chief executives of a high calibre, but increasingly this will prove difficult under current arrangements. The future necessitates provisions for competitive remuneration.

7.60 The Remuneration Tribunal has been concerned for some time at the perceived inadequacies of the salaries of the senior public office holders. The members of the Tribunal outlined their concerns on this matter in an appendix to the Tribunal's 1984 Review. In its 1986 Review, the Tribunal reiterated its concern but pointed out that remedial action was dependent upon relaxation of the wage principles or special legislation.

7.61 In view of the Tribunal's concerns and the perceived difficulties in the recruitment of individuals of the appropriate calibre to some offices at current salary rates, the individual members of the Tribunal were requested by the Minister for Employment and Industrial Relations in December 1985 to conduct an inquiry into remuneration for selected senior statutory office holders. In their March 1986 report, they concluded that there were significant disparities between the remuneration of the top executives of certain nominated Commonwealth agencies and their private sector counterparts. They recommended a performance-based remuneration system involving significantly higher levels of remuneration and the foregoing of security of tenure.

7.62 The Government has now decided that:

For the Chief Executive Officers of Telecom, OTC and AUSSAT:

- **the boards will be given the responsibility for determining remuneration;**
- **the boards will be required to consult with the Remuneration Tribunal prior to negotation on remuneration packages and advise the Tribunal of the terms of the packages once they have been concluded;**

- the Remuneration Tribunal will be required to advise government in circumstances where it considers a proposal inappropriate, having regard to the particular commercial environment in which the enterprise concerned is operating;

- the Remuneration Tribunal will be required to report annually to government on the general operation of the arrangements;

- the new arrangements will be introduced only where the present incumbent agrees to vacate the position or where the position otherwise becomes vacant;

- vacant positions will be widely advertised in Australia and internationally; and

- future appointees will not have security of tenure.

Chief executives will be members of the relevant boards.

Boards will be able to determine remuneration of all senior executives consistent with the arrangements for fixing remuneration of statutory positions and having regard to existing award coverage, there being no security of tenure for those to whom the new arrangements apply.

The remuneration of members of boards will continue to be determined by the Remuneration Tribunal.

Day-to-Day Controls

7.63 The Government will remove virtually all of its remaining direct controls on the day-to-day operations of the three enterprises, replacing them where appropriate with strategic controls and oversight of corporate plans and performance targets in the context of the new regulatory arrangements outlined in Section 6. Details of the changes for each of the three telecommunications enterprises are listed below.

(i) Telecom

7.64 Currently Telecom needs the approval of the Minister for Transport and Communications before entering into contracts above $6 million.

The requirement that Telecom obtain ministerial approval to enter into contracts will be removed.

7.65 Currently Telecom needs to seek the Treasurer's approval to the terms and conditions of individual borrowings, notwithstanding the existence of Loan Council controls.

Telecom will no longer be required to obtain approval from the Treasurer to the terms and conditions of individual borrowings.

7.66 At present Telecom needs the Treasurer's approval to open new bank accounts or invest short term funds.

Telecom will be free to enter into banking arrangements and to make investments without gaining approval from the Treasurer.

7.67 Under present controls Telecom can only create subsidiaries, enter into joint ventures or purchase a major shareholding in another company, after receiving the approval of the Minister for Transport and Communications.

Ministerial control over establishment of subsidiaries, joint ventures, and share purchases will be removed subject to the provision of prior advice to the Minister on any proposals and Telecom will be obliged to report in a special section of its annual report on the establishment of subsidiaries and joint ventures.

7.68 Under the Telecommunications Act the Auditor-General inspects and audits the accounts and financial transactions and records relating to assets of Telecom. The Auditor-General, in addition to normal commercial auditing functions, is also required to provide information to ensure accountability to the Parliament.

The costs of any additional auditing incurred as a consequence of Commonwealth ownership will be taken into account in setting financial targets.

7.69 Currently Telecom can only purchase land through the Department of Administrative Services in accordance with the Lands Acquisition Act 1955.

Telecom will no longer required to comply with the Lands Acquisition Act 1955, except where land is compulsorily acquired in the public interest when the Department of Administrative Services will make acquisitions on Telecom's behalf.

7.70 Telecom is currently required to use the services of the Construction Group of the Department of Administrative Services for building construction and maintenance programs.

Telecom will be no longer required to use the Construction Group of the Department of Administrative Services for building construction and maintenance programs.

7.71 Currently Telecom is required to submit buildings and other public works proposals to the Standing Parliamentary Committee on Public Works.

Telecom will be exempt from compliance with the Public Works Committee Act 1969.

7.72 At present the Minister approves charges for basic Telecom services. Arrangements for charges are discussed in section 5.

7.73 Telecom is currently required to comply with the Government's policy on offsets for purchases over $2.5 million.

Continued application of the offsets policy to Telecom's competitive activities will be reviewed prior to the end of 1990 (in conjunction with the review for the aviation industry), by the Minister for Industry, Technology and Commerce and the Minister for Transport and Communications, with the intention of exempting Telecom for its competitive activities, to the extent that Telecom's competitors are exempt from offsets policy.

7.74 Telecom is currently subject to the National Preference Agreement (NPA) by government decision, although the Telecommunications Act prohibits the automatic application of preference in purchasing decisions. In practice, preference is able to be applied in contracts requiring ministerial approval.

The review of the National Preference Agreement (to be completed by 1 June 1989) will examine whether Telecom's competitive activities will remain subject to the NPA.

7.75 Telecom's purchasing practices closely align with government policy as applied to departmental purchasing, including the requirement that contracts shall not be entered into nor orders placed for supplies and services where the estimated cost exceeds $20,000, unless tenders have been publicly invited.

Telecom will adopt normal commercial purchasing practices, the key elements of which will be set out in the corporate plan.

7.76 Telecom is currently required to apply public service employment conditions and cannot tailor flexible remuneration packages for commercially competitive areas.

The Telecommunications Act 1975 will be amended to remove the current employment conditions provisions and the Telecom Board, in consultation with relevant unions and in accordance with normal commercial practices, will determine employment conditions.

7.77 Apart from the matters specified above:

Telecom will not be subject to other personnel, general or administrative policies, unless a specific decision is made by government that a policy should apply. Where this occurs, the additional costs of complying with a policy designed to achieve non-commercial objectives will be taken into account in setting Telecom's financial target.

7.78 Details of new procedures to ensure proper accountability for Telecom are set out in paragraph 7.102.

(ii) Overseas Telecommunications Commission

7.79 At present OTC is obliged to obtain approval from the Minister for Transport and Communications for any contracts above $6 million.

Contract controls will be removed.

7.80 Under existing arrangements OTC is required to obtain the

Treasurer's approval for short-term borrowings and to the terms and conditions of individual loans in addition to Loan Council controls.

OTC will be exempted from the requirement to obtain the approval of the Treasurer for short-term borrowings and the requirement for the Treasurer's approval of specific borrowings will be removed.

7.81 Under present controls, OTC needs the Treasurer's approval for investment and banking decisions.

OTC will no longer be required to seek approval for its investment and banking arrangements.

7.82 OTC is, at present, required to obtain the Minister's approval before establishing subsidiaries, entering into joint ventures, for dealings in shares in certain telecommunications companies and for telecommunications activities in or for foreign countries.

Ministerial control over establishment of subsidiaries, joint ventures, and telecommunications activities in or for foreign countries will be removed, subject to provision of prior advice to the Minister on any proposals to create or acquire subsidiaries or to purchase a major shareholding in another company.

7.83 The Minister's approval is currently required for:

- changes in rates;
- cessation of services;
- introduction of services;
- extensions or alterations to the OTC network.

Ministerial approval will no longer be required for: cessation of existing services; introduction of new services; or substantial additions, extensions or alterations to any part of the telecommunications system operated by OTC.

7.84 OTC is required to comply with government policy on offsets. Presently some 30% of OTC's business is in competive areas and the proportion of competitive business is rising. Private sector competitors to OTC are not subject to offsets policy.

Continued application of the offsets policy to OTC's competitive activities will be reviewed,

prior to the end of 1990 (in conjunction with the review for the aviation industry) by the Minister for Industry, Technology and Commerce and the Minister for Transport and Communications with the intention of exempting OTC for its competitive activities, to the extent that OTC's competitors are exempt from the offsets policy.

7.85 OTC is currently subject to the National Preference Agreement (NPA).

The review of the National Preference Agreement (to be completed by 1 June 1989) will examine whether competitive activities of OTC will remain subject to the NPA.

7.86 Under the Lands Acquisition Act 1955, OTC is required to pursue the acquisition of interests in property through the Department of Administrative Services.

OTC will be exempt from compliance with the Lands Acquisition Act 1955, except where land is compulsorily acquired in the public interest when the Department of Administrative Services will make acquisitions on OTC's behalf.

7.87 OTC is currently required to refer any building works over $6 million to the Parliamentary Standing Committee on Public Works.

OTC will be exempt from compliance with the Public Works Committee Act 1969.

7.88 OTC is required to use the services of the Auditor-General both for normal commercial auditing and for the additional auditing required to account to Parliament.

OTC will be empowered to recommend an auditor of its choice and will not be confined to the Auditor-General as at present. The costs of any additional auditing incurred as a consequence of Commonwealth ownership will be taken into account in setting financial targets.

7.89 At present, the Minister for Transport and Communications approves basic tariffs. Details of new arrangements are discussed in Section 5.

7.90 As with Telecom, apart from the matters listed above:

OTC will no longer be subject to other personnel, general or administrative policies unless a specific decision is made by government that a policy should apply. Where this occurs the additional costs of complying with a policy designed to achieve non-commercial objectives will be taken into account in setting OTC's financial target.

7.91 Details of procedures to ensure OTC's accountability are set out in paragraph 7.103.

(iii) AUSSAT

7.92 AUSSAT is already free of a number of the controls which have applied to Telecom and OTC.

7.93 AUSSAT is at present required to seek the approval of the Minister for Transport and Communications before entering into contracts above $6 million

AUSSAT will no longer be required to obtain ministerial approval to enter into contracts

7.94 As well as Loan Council oversight AUSSAT is, under existing controls, obliged to obtain the Treasurer's approval for individual borrowings.

AUSSAT will no longer be required to obtain the Treasurer's approval to the terms and conditions of individual borrowings. Major borrowings, as for satellite replacements, will remain subject to scrutiny within the Loan Council process.

7.95 Currently all public works above $6 million are subject to scrutiny by the Parliamentary Standing Committee on Public Works.

AUSSAT will be exempt from compliance with the Public Works Committee Act 1969.

7.96 AUSSAT's audits are currently carried out by the Auditor-General.

AUSSAT will be empowered to recommend an auditor of its choice and will not be confined to the Auditor-General as at present. The cost of any additional auditing incurred as a consequence of Commonwealth ownership will be taken into account in setting financial targets.

7.97 AUSSAT, at present, is expected to have regard to the offsets policy.

The continued application of the offsets policy to AUSSAT's competitive activities will be reviewed, prior to the end of 1990 (in conjunction with the review for the aviation industry), by the Minister for Industry, Technology and Commerce and the Minister for Transport and Communications with the intention of exempting AUSSAT for its competitive activities, to the extent that AUSSAT's competitors are exempt from the offsets policy.

7.98 Currently, AUSSAT is expected to have regard to the terms of the National Preference Agreement.

The review of the National Preference Agreement (to be completed by 1 June 1989) will examine whether competitive activities of AUSSAT will remain subject to the NPA.

7.99 As with Telecom and OTC:

AUSSAT will not be required to comply with any personnel, general or administrative policies unless a specific decision is made by the Government that a policy should apply. Where this occurs, the costs of complying with a policy designed to achieve non-commercial objectives will be taken into account in setting AUSSAT's financial target.

ACCOUNTABILITY

7.100 A key element of the enterprise reforms lies in the arrangements for accountability which are detailed in the Government's Policy Guidelines involving corporate plans, financial targets, new dividend policies and improved reporting. The particular arrangements that will apply to each of Telecom, OTC and AUSSAT are set out in paragraphs 7.102, 7.103 and 7.104, respectively.

7.101 In developing these accountability arrangements the Government has given consideration to the need to retain the power of ministerial direction that has traditionally applied to statutory authorities. While the majority of its detailed controls on the

operations of the carriers will be relinquished in favour of the new emphasis on accountability for results, a reserve power of intervention should still be maintained as an ultimate safeguard. The Government has decided that:

> **The ministerial power of direction should be retained as an ultimate safeguard.**

For Telecom as a statutory corporation, the retention of the direct power of ministerial direction serves this purpose. For OTC and AUSSAT as companies, the government will be able to use its role as shareholder in a general company meeting to achieve this purpose. It is not expected that these powers will be used, other than in the most exceptional circumstances.

Telecom

7.102 In addition to accountability for commercial performance, Telecom will be accountable for its efficiency in meeting community service obligations and in meeting performance targets established in the corporate plan. The general accountability arrangements for Telecom are:

(1) In accordance with the Policy Guidelines of October 1987, Telecom is to provide the Minister for Transport and Communications with, at not less than 3 yearly intervals, a strategic corporate plan for consideration and response.

(2) Telecom will be required to obtain the approval of the Minister for Transport and Communications for its plans to meet its community service obligations, including the associated levels of costs and cross subsidies that will be involved. The approved plan will then be set out explicitly in Telecom's corporate plans.

(3) The Minister will provide the Prime Minister, Treasurer and the Minister for Finance with information from the corporate plan on matters for which they are responsible or where consideration by government may be necessary, and in particular information on the overall investment strategy and associated borrowing

intentions.

(4) The Minister will be advised of any matter which significantly affects the outlook as established in the corporate plan as soon as possible after such matters become known to the Corporation.

(5) Telecom will work towards an overall financial target agreed in advance by the Minister for Transport and Communications.

(6) The Board will ensure that revaluation of Telecom's assets, in accordance with prevailing commercial practice and as agreed between the Minister for Finance and the Minister for Transport and Communications will be carried out at least once every five years.

(7) Telecom Board will recommend, after consultation with the Minister on the dividend proposed, a dividend payment and this may be accepted or varied by the Minister. Consistent with the objectives of the GBE reforms, Telecom should aim to achieve a level of profitability comparable with those of the leading telecommunications companies in other parts of the world.

(8) Telecom's Annual Report will give an account of performance against previously established goals, including financial and operational targets and the performance of comparable telecommunications companies to the extent practicable, together with assessments of the cost of meeting community service obligations and observing residual non-commercial controls which adversely affect profitability.

Overseas Telecommunications Commission

7.103 The accountability arrangements for OTC are:

(1) In accordance with the Policy Guidelines of October 1987, OTC is to provide the Minister for Transport and Communications with, at not less than 3 yearly intervals, a strategic corporate plan for his consideration and response.

(2) The Minister will provide the Prime Minister, Treasurer and the Minister for Finance with information from the corporate plan on matters for which they are responsible or where consideration by government may be necessary, and in particular information on the overall investment strategy and associated borrowing

intentions.

(3) The Minister will be advised of any matter which significantly affects the outlook as established in the corporate plan as soon as possible after such matters become known to the Company.

(4) OTC will work towards an overall financial target agreed in advance by the Minister for Transport and Communications.

(5) The OTC Board will ensure that a revaluation of OTC's assets, in accordance with normal commercial practice and as agreed between the Minister for Transport and Communications and the Minister for Finance, takes place at least once every five years.

(6) The OTC Board will, after consultation with the Minister on the dividend proposed, recommend a dividend and the Company at a general meeting may accept the recommendation or declare a higher or lower amount.

(7) OTC's Annual Report will provide an account of performance against previously established goals, including financial and operating targets, together with assessments of the cost of observing residual non-commercial controls which adversely affect OTC's profitability.

AUSSAT

7.104 The accountability arrangements for AUSSAT are:

(1) In accordance with the Policy Guidelines of October 1987, AUSSAT is to provide the Minister for Transport and Communications with, at not less than 3 yearly intervals, a strategic corporate plan for his consideration and response.

(2) The Minister will provide the Prime Minister, Treasurer and the Minister for Finance with information from the corporate plan on matters for which they are responsible or where consideration by government may be necessary, and in particular information on the overall investment strategy and associated borrowing intentions.

(3) The Minister will be advised of any matter which significantly affects the outlook as established in the corporate plan as soon as possible after such matters become known to the Company.

(4) Consistent with the Policy Guidelines, AUSSAT

will work towards an overall financial target agreed in advance by the Minister for Transport and Communications.

(5) The Board will ensure that revaluation of the Company's assets takes place in accordance with normal commercial practice and as agreed between the Minister for Transport and Communications and the Minister for Finance.

(6) The AUSSAT Board will, after consultation with the Minister on the dividend proposed, recommend a dividend and the Company at a general meeting may accept the recommendation or declare a different amount which does not exceed the amount recommended by the Directors.

(7) The Annual Reports of AUSSAT will provide an account of performance against previously established goals, including financial and operating targets, together with an assessment of the cost of observing any residual non-commercial controls which adversely affect AUSSAT's profitability.

8: CONCLUDING SUMMARY

BACKGROUND AND INTRODUCTION

8.1 In 1975 Australia took what was then a pioneering step in telecommunications by separating its public service postal and telecommunications administrations and establishing each as an independent statutory authority. This step worked well in the succeeding years. In 1981/82 the Davidson Inquiry reviewed these arrangements for telecommunications and made recommendations for further development. However, these recommendations failed to give sufficient weight to the central social importance of telecommunications and were judged to risk leading to an unacceptable degree of instability in social policies relevant to telecommunications. Since the Davidson Report recommendations were set aside in 1983 it has become increasingly apparent that, while the 1975 arrangements have served Australia well, they have been overtaken by events. There is a need to introduce considered change to enable the industry to continue to respond to changing technological and market imperatives, and provide the full range of telecommunications services required in the latter years of the 20th century.

8.2 The Government has therefore decided to restructure the regulatory environment of the telecommunications services industry to provide for:

- continuing authority for the existing carriers to be the sole providers of basic network facilities and services, subject to greater commercial and external regulatory discipline;
- full scope for competition in the provision and operation of value added services;
- increased scope for competition in the provision of network terminal equipment for connection within customers' premises;

- establishment of regulatory arrangements that are independent of the carriers and directed towards ensuring maintenance of minimum necessary standards, fair and efficient competition beyond the monopoly boundaries, and improved efficiency and accountability for the monopoly carriers; and
- an improved environment of government control and accountability for the traditional monopoly carriers, including strengthened corporate and financial structures, clear lines of accountability, firm performance targets and increased commercial scope and management freedom.

OBJECTIVES AND ISSUES

8.3 Australian telcommunications services are presently provided principally on the networks operated by the three fully Commonwealth Government-owned instrumentalities, Telecom, OTC and AUSSAT (the carriers).

8.4 The principal policy objective that has been pursued in delivering telecommunications services in Australia has been the provision of telephone services throughout Australia on a non-discriminatory, uniform basis at affordable prices. This objective has generally served Australia well over past years. While the traditional objective remains important, it is no longer sufficient, by itself, to meet Australia's future needs for telecommunications services.

8.5 The definition of a wider range of telecommunications policy objectives is required to meet new pressures on the existing monopoly and regulatory arrangements. The three major factors creating pressures on the telecommunications system are technology, business community needs and the changing world economy.

8.6 Technological developments are revolutionising the telecommunications industry in terms of the number and quality of services available and are leading to an integration of computer

and communications technologies. The current regulatory arrangements, devised mainly for a single-product, voice-telephone industry, cannot cope effectively with these new developments. The needs of business increasingly require full access to the growing information economy. If firms are to secure and maintain a competitive advantage, they must cope with rapidly increasing needs in terms of information processing and, in turn, of telecommunications. International competitiveness will depend increasingly on the efficiency of information access and use. This in turn depends on the relative efficiency of telecommunications serving Australia compared to its competitors and its trading partners, as well as the efficiency with which telecommunications links Australia to its global markets and global competitors. Therefore, how we provide and regulate our services must be influenced to some extent by how such services are provided and regulated globally.

8.7 In response to these pressures the Government has decided that policies should be developed against a background of the following newly articulated objectives.

[D1] The objectives of Government telecommunications policy are:

(1) to ensure universal access to standard telephone services throughout Australia on an equitable basis and at affordable prices, in recognition of the social importance of these services;

(2) to maximise the efficiency of the publicly-owned telecommunications enterprises - Telecom, OTC, AUSSAT - in meeting their objectives, including fulfilment of specific community service obligations and the generation of appropriate returns on investment;

(3) to ensure the highest possible levels of accountability and responsiveness to customer and community needs on the part of the telecommunications enterprises;

(4) to provide the capacity to achieve optimal rates of expansion and modernisation of the telecommunications system, including the introduction of new and diverse services;

(5) to enable all elements of the Australian telecommunications industry (manufacturing, services, information provision) to participate effectively in the rapidly growing Australian and world telecommunications markets; and

(6) to promote the development of other sectors of the economy through the commercial provision of a full range of modern telecommunications services at the lowest possible prices.

[1.12]*

8.8 These new national policy objectives for telecommunications have been developed after full consideration of the increasing economic importance of efficient services, the linkage between telecommunications and the growing information industry sector, and the importance of achieving appropriate structural adjustment. At the same time, the Government recognises its continuing responsibility to ensure that appropriate equity in the provision of essential telecommunications services is maintained.

8.9 Some fundamental constraints need to be recognised and addressed in developing policies to meet the new objectives for telecommunications. These include the heavy capital requirements of many telecommunications activities, the established pricing structure and community service obligations (CSOs) and the management and operating structures of Telecom, OTC and AUSSAT.

8.10 Capital funding of the telecommunications sector is already substantial, but will need to continue to increase significantly to provide Australia with the advantages that emerging technology can offer in global markets. (Telecom alone anticipates its annual capital program will increase to around $4,000 million by 1990/91.) At the same time, the risks involved in introducing new services are much greater than in the past, which could discourage the necessary investment, unless appropriate policies are in place.

* These references are to paragraphs in the text of the earlier sections. The letter D at the beginning of the bold type stands for Decision.

8.11 A second constraint on policy change is the established pricing pattern for telephone services that has evolved partly because of the national objectives that telecommunications carriers have been required to meet. To encourage a wide customer base - for both commercial and social reasons - customers have been provided with access at prices which are often below the direct costs of provision, with an offsetting increase in the price of usage of the network. The pressures for adjustment of prices to reflect costs better are real ones, but there are also far-reaching social concerns regarding such changes, and these will not disappear in the years to come. It is important that policy responses to the rapidly changing telecommunications environment do not undermine the legitimate community service obligations, or inadvertently place them at risk.

8.12 The third major constraint in responding to pressures for change lies in the present corporate environment of Telecom, OTC and AUSSAT. This telecommunications policy review, and the Government's concurrent development of a management reform program for its government business enterprises generally, have provided an opportunity to make the enterprises more commercially oriented and less constrained by unnecessary government controls. In addressing these changes, the Government will retain all its rights and obligations as the ultimate owner of Telecom, OTC and AUSSAT, and will ensure that they operate consistently with the long term national interest.

8.13 The Government recognises that reform of the basic structural and regulatory framework for telecommunications is required if Australia is to meet the challenges and to take advantage of the opportunities created by recent developments. The Government's aim is to establish a framework in which appropriate adjustments can take place without undue government intervention, while ensuring that the new overall policy objectives meet both efficiency and equity criteria.

8.14 Therefore, this policy statement has been directed to resolving the following five fundamental structural questions:

- the extent to which existing monopoly arrangements for the provision of the basic network facilities and services need to be maintained;
- how the boundary lines between monopoly and competition should be drawn in the provision of value added services;
- how the boundary lines between monopoly and competition should be drawn in the supply and installation of customer premises equipment;
- the need for a new independent regulator to carry out necessary new economic and technical regulatory functions; and
- the need for the telecommunications carriers to be significantly relieved from government managerial constraints to enable them to perform more effectively.

THE BASIC NETWORK

8.15 The basic network essentially comprises the links from customers' premises to local exchanges, together with the inter-exchange network and related switching and network intelligence facilities within the various levels of exchanges. A key question addressed is the extent to which the basic network infrastructure is best provided on a reserved or monopoly basis by a single carrier, or by a designated group of carriers.

8.16 There are two fundamental considerations in answering this question. First, the infrastructure itself, or parts of it, may possess natural monopoly elements such that competing providers could introduce overall inefficiencies. Second, competitive provision of certain services may be inconsistent with the Government's goal of maintaining and extending universal services.

8.17 The natural monopoly element of particular network components has been the rationale for continued monopoly provision of the basic

infrastructure. Where economies of scale to particular network components are very large, or there are widespread economies of scope between the facilities needed to provide different services, the market may not be large enough to sustain more than one supplier in the long term. Current and emerging technology still exhibit economies of scale and scope, as well as high sunk costs.

8.18 The existing monopoly has permitted pricing structures to embody the internal cross-subsidies that have been used to sustain the important general policy of providing universal access to standard telephone services at uniform affordable prices. It is still not possible sufficiently to disentangle the current accounting arrangements to enable a reliable calculation of the costs or levels of these cross-subsidies or to enable proper consideration of possible alternative service-delivery arrangements in these areas.

8.19 Nonetheless, given the importance of the community service obligations (CSOs) that are reflected in the first of the new policy objectives set out above, and the related importance of cross subsidies, the Government has recognised a need to ensure that CSOs are met to standards that are subject to government scrutiny, within cost parameters that are determined by government in a national resource allocation context. It has therefore decided as follows:

[D2] Telecom will be required to obtain the approval of the Minister for Transport and Communications for its plans to meet its community service obligations, including the associated levels of costs and cross-subsidy that will be involved. The approved plans will then be set out explicitly in Telecom's corporate plans.

[3.42]

8.20 In order that work can proceed quickly on this important issue the Government has decided that an immediate study will be commenced in the context of preparation for Telecom's corporate plan.

[D3] The Bureau of Transport and Communications Economics with appropriate assistance from consultants and in conjunction with Telecom, will prepare a report on the costs and cross-subsidies associated with meeting identifiable community service obligations now met by Telecom. The report will be available for consideration in the context of developing Telecom's corporate plan for 1989/90 and beyond.

[3.43]

8.21 Following from these considerations the Government has decided that the regulatory regime for the basic network will be as follows:

[D4] The monopoly provision of the basic public switched voice network by Telecom within Australia and by OTC internationally will continue.

[3.52]

[D5] The shared use and resale of simple carriage of all traffic over private networks will continue to be restricted. This restriction will apply both to facilities leased from Telecom and OTC and to services obtained from AUSSAT.

[3.61]

[D6] Telecom and OTC will be provided with continued regulatory protection of their monopolies in specific services where opening them to competition at this time would impose excessive adjustment burdens on the carriers or their customers. These services are:

- **public switched data;**
- **public switched text and video;**
- **public switched Integrated Services Digital Networks (ISDN)**
- **leased circuits; and**
- **mobile telephones.**

[3.63]

8.22 Where "non-core" services are provided that use the basic network but do not compete with it, there may be scope to permit competition in their provision. This has applied successfully since 1981 in the provision of radio paging services, which have developed from basic alarm systems into one-way information services carrying text messages. It has been suggested that a logical extension of this development may be to permit competition

in the provision of cellular mobile telephone services. There is, of course, already competition in the supply of terminal equipment for this service. Further competition would mean permitting an additional operator to provide associated switched services for interconnection to Telecom's public switched network. While this would not appear likely to affect Telecom's capacity to fund its community service obligations by cross-subsidy, because the services in fact provide additional traffic to the basic network through interconnection, it would require careful consideration of a range of factors. These include how to continue to ensure maximum geographic coverage and full mobility; the need for possible changes to radio frequency spectrum planning and allocation; the avoidance of inappropriate bypass of the basic network; and the implications of other related developing technology (eg. digital cellular radio, possible land mobile satellite radio services). In view of these present uncertainties the Government has decided that:

[D7] On its establishment the new independent regulatory authority will be required to report on the implications of licensing an additional operator of cellular mobile telephone services with rights of interconnection to Telecom's public switched telephone network, having regard for the implications that such services may have for the orderly and efficient development of the national telecommunications system, and for the continued capacity of Telecom to provide the cross-subsidies required to meet its essential community service obligations. The Government will, after receiving that report, review the case for licensing such an additional operator.

[3.64-3.72]

8.23 The adequacy of Telecom's provision and maintenance of its 32,000 public telephones has been a source of considerable community concern. But public telephones are an essential component of Telecom's community service obligations (CSOs) and need to be provided in line with community need, with the costs of efficient provision being recognised in assessing enterprise performance. The Government has therefore decided as follows:

[D8] Telecom will continue to have the exclusive right to provide payphone services.

[3.76]

[D9] Telecom will be required to provide and maintain public telephones in line with community needs.

[3.77]

(The regulatory arrangements relating to public telephones are covered in paragraph 8.54 below.)

8.24 The continued regulation of these services will be accompanied by new mechanisms to protect consumers, to provide alternative incentives for efficiency and to ensure carrier accountability and responsiveness (see paragraphs 8.51 to 8.54 below). The Government will also continue to monitor the appropriateness of the boundaries of the monopoly.

8.25 During this review the Government has also considered the appropriate future relationship between its three carriers - Telecom, OTC and AUSSAT. The Government's aim is to ensure that the structural arrangements are clearly directed towards the national interest. Therefore, it will keep the question of structural arrangements under close consideration in monitoring the effects of other changes it has decided on in this policy review. Accordingly the Government has decided that:

[D10] There will be no changes in the present ownership arrangements or structural relationships among the three carriers (Telecom, OTC and AUSSAT) at this time, but these will be subject to review after the main elements of the reform package embodied in this statement have been put in place.

[3.99]

8.26 In respect of international telecommunication arrangements the Government has also decided:

[D11] OTC's monopoly on the provision of the basic international network facilities will continue.

[3.91]

8.27 The current prohibition on AUSSAT operating between countries, while being allowed to operate within other countries, is a regulatory barrier to the optimum use of the satellite technology that is in place, and proposed. As a consequence, some services that are provided directly by satellite within Australia and that could also be provided directly in other countries - eg New Zealand - may not be provided there at all under present arrangements. These would principally be private network and point-to-multipoint services. Since they would largely reflect new traffic, and would not carry public switched traffic, such services would not affect OTC's position other than marginally; they would complement OTC's monopoly facilities and services in much the same way as AUSSAT complements Telecom's facilities and services within Australia. Accordingly the Government has decided:

[D12] AUSSAT will be allowed to extend its provision of private network facilities internationally to the limits of its present satellite footprint.

[3.91]

VALUE ADDED SERVICES

8.28 Value added services (VAS) are a key growth area in the future role of telecommunications in the economy. A value added telecommunications service is one delivered or accessed by telecommunications means and involving the addition of significant value to the basic switching and transmission functions, in the form of information processing, delay, redirection or other intervention. Examples of present types of VAS are secretarial and personalised answering services, and information providing services such as recorded information, electronic mail and electronic databases. The full development and penetration of VAS by a range of public and private sector services is important for Australia's transition to an internationally competitive information society.

8.29 A key regulatory issue is how to continue to delineate the boundaries between VAS (which are currently open to competition) and basic switched-voice and other reserved services (which are to continue to have monopoly protection). Clear definitions are required so that the reserved services are not undermined and there is regulatory certainty. A related consideration is the method by which boundary delineation is to be effected. Other important issues relate to ensuring that regulation is not capable of being used to favour the monopoly network operator, and the promoting of active competition in VAS provision.

8.30 The Government recognises the need to simplify and clarify the current regulatory procedure, for the approval and introduction of VAS services. Accordingly, it will change the regulatory arrangements to provide a more competitive market environment, with the arrangements for reserved services being implemented within the regulatory regime for VAS services.

8.31 The Government has therefore decided as follows:

[D13] Value added services will be open to full competition.

[4.35]

[D14] There will be a licensing arrangement administered by an independent regulatory authority to ensure that value added services do not intrude on the monopoly services reserved to Telecom and OTC.

[4.37]

8.32 A new independent regulatory authority will be established to take responsibity for administering the precise definition of services that are reserved to the carriers. In addition, this regulator will be responsible for policing the boundary between monopoly services and VAS. Close monitoring is necessary to protect Telecom's ability to meet the acknowledged community service obligations and to ensure that competitors do not impinge on the various reserved services. (These matters are addressed further in paragraph 8.49.)

8.33 In order that VAS providers have the maximum commercial scope to determine the appropriate carrier for their services, consistent with the reservation of basic services to the carriers as outlined above, the Government has also decided that:

[D15] Restrictions on the use of AUSSAT facilities for the provision of publicly-offered value added services will be removed.

[4.48]

8.34 Telecom, OTC and AUSSAT are well placed to compete as efficient providers of value added services in conjunction with their reserved network and services role. However, a key role of the independent regulatory arrangements will be to establish fair competition between the public and private VAS providers, and to seek to prevent practices such as preferential access and predatory pricing. The Government has decided that:

[D16] Telecom, OTC and AUSSAT will be free to participate commercially in the value added services market.

[4.41]

[D17] Telecom, OTC and AUSSAT will be required to maintain separate accounting records for their value added services and their VAS charges will be required to reflect the standard tariffs for associated use of monopoly facilities and services.

[4.42]

8.35 The nature and characteristics of the VAS sector make it particularly suited to global service provision. The Government's actions will help to provide a favourable environment for Australia to exploit available opportunities. However, it is VAS providers who must take initiatives to lead market development.

CUSTOMER PREMISES EQUIPMENT (CPE)

8.36 The CPE market covers equipment that may be attached to the telecommunications system and includes such items as telephones, telex terminals, facsimile machines and cellular radio telephones. Installation, maintenance, alterations, enhancements and additions to CPE hardware and software all form part of this market.

8.37 The current regulatory arrangements give Telecom widespread powers to set the boundaries between CPE and the public switched telephone network and the authority to decide whether specific equipment may be attached to the system. Telecom's approach to these arrangements has developed from a position where in 1975 authorised attachments were almost exclusively provided by Telecom, to a position today where different degrees of competition are accepted for different items of equipment. Some questions have arisen over the consistency between these regulatory arrangements and the restrictive business practices provisions of the Trade Practices Act 1974.

8.38 The CPE markets in which no competition is currently allowed include first telephones, telex terminals, small business telephone systems (SBS), cabling and wiring of domestic and small business premises and lead-in wiring across property. Some degree of competition, ranging from limited to open, is permitted in the provision of additional telephones, modems and computer terminals, facsimile machines, cellular radio telephones (CRTs), supply of private automatic branch exchanges (PABX) and the cabling and wiring of large commercial premises. PABX maintenance is reserved to Telecom. These arrangements are used to provide a level of protection above that afforded by tariffs to the Australian communications equipment manufacturing industry in its manufacture of PABX, SBS, standard telephones and cellular mobile telephones.

8.39 Important customer-related objectives sought in reviewing CPE were to assist domestic and business users by minimising costs, ensuring adequate choice, encouraging innovation and providing for efficient maintenance arrangements and a customer-oriented approach to service. Other objectives included the need to facilitate continued structural adjustment by manufacturers consistent with the Information Industries Strategy, and the need to achieve efficiency gains within Telecom. However, the benefits of present arrangements, including assured quality of end-to-end services and clarity of maintenance responsibilities for standard residential telephone services also need to be recognised.

8.40 The Government, after examining the opportunities which exist for CPE markets and carefully weighing the experience of policy change in a number of countries, including reported benefits and costs, has decided to adopt a measured approach to future CPE regulation. The approach adopted is designed to:

- reduce CPE-associated costs for users;
- avoid increases in other costs or a decline in service standards;
- provide a carefully staged program of liberalisation and industry development support in CPE to assist industry restructuring to meet competition from imported products, while taking advantage of market growth and increased technological diversity;
- improve the capacity of Telecom to at least retain and possibly increase its market by a concurrent managerial reform package; and
- avoid uncertainty for customers.

8.41 Against this approach, it is apparent that separate regulatory regimes for PABX and SBS are now technologically and commercially inappropriate, as is a continuing reservation to Telecom of the maintenance of PABX equipment that is supplied competitively. However, any liberalisation of the supply of CPE must also have regard for the degree to which present regulatory arrangements provide support for the Australian communications equipment manufacturing industry, and the implications for structural adjustment. The supply and maintenance of CPE will be liberalised as far as is consistent with a framework of continued support for industry, and with Telecom's capacity to respond to the changes.

8.42 Telecom's present exclusive right to provide the first telephone with every exchange line raises particular issues. Given that the existing largely competitive market for additional telephones is already served by imports, it would be impractical to retain any Australian content provisions for the first telephone without

retaining Telecom as the sole provider. However there is scope to increase efficiency and diversity in this area, while avoiding unnecessary confusion and demarcation over maintenance responsibilities.

8.43 In view of these considerations the Government has decided as follows:

[D18] Telecom's regulatory responsibility for approving equipment for attachment to the telecommunications system will be transferred to an independent authority. [5.115]

[D19] The present Australian preference arrangements administered by Telecom and relating to approval of supply of PABXs, SBS, cellular mobile telephones and standard telephones will be replaced by new industry development arrangements. These will be established by 31 December 1988 in consultation with the manufacturing industry, unions, users and Telecom, and will be consistent with the Information Industries Strategy, and with other industry policy decisions announced in the May Economic Statement. The objective of the arrangements will be to build a dynamic, export oriented industry which is effectively integrated into opportunities presented by world markets. In seeking an enhanced capability for the information industries to realise growing opportunities, the Government recognises the need for an adequate transition period for companies to assess and respond to new opportunities by the adoption of appropriate business strategies. [5.121]

[D20] Regulatory approval for the supply of PABX, SBS and cellular mobile telephones for connection to the telecommunications system will be opened to all suppliers complying with the new industry development arrangements. [5.123]

[D21] Telecom will be permitted to continue its role as sole provider of the first telephone for three years through an appropriate exemption from the operation

of the Trade Practices Act 1974, terminating on 30 June 1991.

[5.125]

[D22] Telecom will be required to obtain its range of standard telephones from suppliers complying with the new industry development arrangements.

[5.125]

[D23] As a condition of its retention of its role as sole provider of the first telephone Telecom will be required to improve its efficiency, introduce a cheaper alternative for first telephones, and address the provision of supplementary exchange lines for non-telephone use outside this reservation.

[5.126]

[D24] At least six months prior to the termination of the Trade Practices Act exemption in respect of the first telephone, there will be a review to determine whether there is then a case for its continuation.

[5.126]

8.44 These, and related, changes will require phasing to ensure orderly development. The Government has therefore decided as follows:

[D25] Revised regulatory arrangements will be introduced in accordance with the following timetable:

(1) An immediate exemption will be provided from the application of the Trade Practices Act for Telecom's requirement that a Telecom-supplied telephone be provided with residential exchange lines, but this exemption will be subject to a sunset clause taking effect on 30 June 1991.

(2) From 1 January 1989 PABX maintenance will be open to all service providers.

(3) From 1 January 1989 requirements precluding competitive supply of standard feature telephones for second and subsequent telephones will be removed.

(4) From 1 January 1989 the boundary between the monopoly network and CPE will be either the first telephone socket in the customer's premises,

or the building main distribution frame, whichever is applicable, and supply, installation and maintenance of premises wiring/cabling and attachment points beyond this network boundary will be open to all service providers with appropriate qualifications.

(5) By 1 January 1989 Telecom will be required to report on the introduction of a cheaper alternative for first telephones, and on providing supplementary exchange lines to existing customers for non-telephone use, without including telephones.

(6) From 1 July 1989 regulatory provisions relating to SBS supply and installation will be aligned with provisions for PABX, and will be open to all authorised providers (and therefore SBS maintenance will also be open to all service providers).

(7) From 1 July 1989 regulatory approval to supply PABX, SBS, standard telephones and cellular mobile telephones will be conditional upon the supplier complying with the new industry development arrangements.

(8) The regulatory requirements on all other CPE (except those noted above), beyond type approval for safety and network integrity, will be removed by 1 July 1989.

(9) By 31 December 1990 the review of the continuing exemption of the first telephone monopoly from the Trade Practices Act will have been completed.

(10) By 30 June 1991, consideration will have been given to the need for renewal of the Trade Practices Act exemption for the first telephone monopoly.

[5.127]

[D26] The new regulatory provisions will be administered by the independent regulatory authority upon its establishment. Pending its establishment Telecom will continue to administer regulations under specific Ministerial

direction to ensure that non-discriminatory administration is seen to be in place as soon as possible.
[5.128]

A NEW INDEPENDENT REGULATOR

8.45 Telecommunications in Australia is presently subject to a diverse, largely uncoordinated set of regulatory arrangements. Telecom has the primary regulatory function, although no formal mechanism is in place to support or authorise this reliance other than the general provisions of the Telecommunications Act 1975 and related instruments.

8.46 The regulatory obligations placed on Telecom are now inappropriate in areas where Telecom itself is a commercial service provider, and are inconsistent with the increasingly commercial nature of the telecommunications industry. At the same time, this review has indicated a need to retain significant monopoly areas for the publicly-owned carriers, thus requiring a considerable degree of continued regulation.

8.47 The Government has examined a variety of arrangements for telecommunications regulatory administration, including existing adminstrative law, generalised administrative agencies, the role of the courts and methods adopted overseas. These considerations have led to the Government's decision to formalise future regulatory arrangements in telecommunications within a single specialised agency, independent of the carriers and answerable to the government.

[D27] An independent regulatory authority - to be called the Australian Telecommunications Authority (AUSTEL) - will be established. It will be administratively responsible to the Minister for Transport and Communications.
[6.11]

[D28] AUSTEL will have five major functions:

(1) technical regulation: AUSTEL will have statutory responsibility for ensuring that quality and safety are

protected and that inter-operability is maintained throughout the public network;

(2) protecting the carriers' monopoly: AUSTEL will have the authority to administer the provisions which define the boundaries of the monopoly over specific facilities and services;

(3) protecting competitors from unfair carrier practices: where competition is permitted AUSTEL will promote fair and efficient market conduct, including administration of the requirements for separate accounting arrangements for carriers' competitive activities and identifying possible breaches of the Trade Practices Act provisions, in so far as they relate to telecommunications, and referring them to the Trade Practices Commission;

(4) protecting consumers against misuse of the carriers' monopoly powers: AUSTEL will administer monopoly price control arrangements and specific universal service provision conditions. It will also provide a specialised avenue for monitoring consumer complaints concerning the monopoly telecommunications service providers; and

(5) promotion of efficiency: AUSTEL will monitor and report on the efficiency and adequacy of monopoly operations by Telecom, OTC and AUSSAT, in particular with respect to Telecom's fulfilment of its community service obligations.
[6.14]

[D29] AUSTEL will be a non-business Commonwealth Statutory Authority, established in line with the Government's 1987 Policy Guidelines for Commonwealth Statutory Authorities and Business Enterprises. It will be headed by a Chairperson and two other full or part time statutory office holders.
[6.108]

8.48 Technical regulatory functions are currently performed by Telecom, but this responsibility will be transferred to AUSTEL. A need for

technical regulation exists to set standards (both mandatory standards imposed on the industry and voluntary standards agreed within the industry) where different carriers and service providers interconnect, to avoid harm to the network and to protect the safety of users and those engaged in the maintenance and operation of equipment. There also needs to be a link between the industry development arrangements and supply of equipment. The Government has decided that:

[D30] AUSTEL will be responsible for the development of national standards and specifications for telecommunications equipment, and for arrangements for approving equipment for attachment to the telecommunications network, subject to compliance with these technical requirements and with the provisions of the new industry development arrangements.
[6.17]

8.49 Protecting the carriers' monopoly against intrusion, by policing the boundaries of the monopoly services, is required to ensure that other telecommunications suppliers and users do not infringe the monopoly services and thereby undermine the ability to meet community service and other obligations. AUSTEL will administer the boundary policy which has been determined by the Government.

[D31] AUSTEL will administer value added services and private network licensing arrangements to safeguard the boundaries of the reserved facilities and services.
[6.37]

[D32] AUSTEL will review present arrangements for allowing joint use of private networks by closed user groups and will report to the Government.
[6.46]

8.50 AUSTEL will have a specific duty to promote competition in areas outside the monopoly boundaries, which will involve AUSTEL in the administration of specific legislative or regulatory provisions, as well as liaison with the Trade Practices Commission in the application of Trade Practices Act provisions.

[D33] AUSTEL will be responsible for approving the separate accounting arrangements

adopted by the carriers to ensure that their competitive activities are conducted fairly with respect to their monopoly position.
[6.52]

[D34] AUSTEL will have an appropriate number of its statutory office holders concurrently appointed as part-time Associate Members of the Trade Practices Commission (TPC). Telecommunications matters will be considered by a Division of the TPC comprising up to two AUSTEL members and two other members, one of whom - usually the TPC Chairperson - shall preside. Subject to existing quorum provisions, absence of any particular member from the division would not prevent a decision being made.
[6.53]

[D35] Arrangements will be developed which ensure a complementary relationship between the Trade Practices Commission and AUSTEL. AUSTEL will have the authority to refer appropriate telecommunications matters requiring resolution to the TPC, to attend TPC conferences held pursuant to notifications and authorisations under the Trade Practices Act and involving telecommunications matters, and to participate with the TPC in the preparation of relevant guidance material for the telecommunications industry. Similarly, the TPC will be able to refer or delegate matters, as appropriate, to AUSTEL.
[6.53]

8.51 The complexity and scale of Telecom's operations is such that Ministerial oversight alone can no longer provide the level of support for consumer interests that is necessary within the continued monopoly arrangements. The Government is determined to ensure that Telecom is an efficient, customer oriented organisation fully responsive to customer needs. Telecom's corporate plan will include targets for the delivery of services and the Government will require adherence to these targets. Consequently, AUSTEL will be given explicit legislative authority to oversee the relationships of the monopoly telecommunications service providers with their customers. The general oversight

arrangements will be augumented with specific functions in respect of price control, customer service standards, and consumer complaints. In carrying out these functions AUSTEL will establish consultative links with consumer and other relevant interest groups.

8.52 In respect of consumer complaints the Government has decided that:

[D36] AUSTEL will have authority to investigate complaints received that fall within its range of responsibilities. AUSTEL will have a capacity to refer to the Ombudsman complaints it receives which are more appropriately dealt with by the Ombudsman. As a general principle, the Ombudsman will deal with matters affecting individuals while AUSTEL will be concerned with complaints which raise wider regulatory policy considerations. Arrangements will be developed between the Ombudsman and AUSTEL to avoid duplication of effort and to minimise confusion over responsibility for responding to complaints. Arrangements will also be developed between the Ombudsman and AUSTEL to ensure that, subject to confidentiality provisions, AUSTEL is advised of complaints that may raise regulatory implications. AUSTEL will report to the Minister on the overall regulatory implications of consumer complaints.

[6.99]

8.53 The price control arrangements will be designed to ensure that, in the absence of competition, Telecom and OTC will be subject to pressures to realise maximum efficiency gains and to pass these on to customers through continued reductions in average prices in real terms.

[D37] Telecom and OTC prices for standard services will be regulated by formulas determined by the Minister for Transport and Communications, limiting average price rises to a minimum annual percentage below the rate of inflation, with provision to ensure that the benefits are shared equitably among customers and that there are no adverse implications for provision of community service obligations.

[D38] There will be separate price control formulas for residential and business customers. The residential formula will limit both the increase in the average price of all standard services and the change in price of standard access charges.

[D39] AUSTEL will monitor the carriers' compliance with the price control formulas and report to the Minister for Transport and Communications on prices and efficiency generally.

[D40] Monopoly prices for non-standard services not covered by the formulas will normally be a matter for determination by the carriers. The Minister will retain an authority to apply price control to specific services in the public interest, whereupon price changes will be notifiable to AUSTEL and subject to disallowance by the Minister after receipt of a report by AUSTEL.

[D41] The price control arrangements for monopoly services set out above will replace present provisions for consideration by the Prices Surveillance Authority.

[6.86-6.88]

8.54 Telecom's community service obligations will be more clearly specified as a matter of government policy. Action will be taken to specify the precise objectives of a non-commercial character which the Government requires of the monopoly service providers, and to indicate the means by which they are to be pursued. In addition, Telecom will be instructed to maintain accounts so that the costs associated with pursuing these objectives can be identified. AUSTEL will be vested with the responsibility of monitoring CSO costs and assessing whether Telecom is fulfilling its non-commercial obligations in an efficient manner. AUSTEL will also be empowered with other functions, such as fulfilling the role of an arbitrator in disputes over Telecom's obligation to provide a universal service.

[D42] AUSTEL will be responsible for approving the accounting arrangements adopted by Telecom in reporting the costs of meeting community service obligations.

[D43] AUSTEL will be responsible for determining specific disputes over Telecom's meeting its community service obligations in respect of standard telephone connections to the network and of provision of public telephones. It will be responsible for reporting on Telecom's efficient fulfilment of its community service obligations overall. [6.105-6.107]

FREEING THE CARRIERS FROM GOVERNMENT CONSTRAINTS

8.55 From the foregoing discussion it is clear that fundamental changes have already taken place in the environment in which the telecommunications authorities operate, both domestically and internationally. Technological development and convergence with technologies in computing, entertainment and broadcasting mean that more rapid change is inevitable.

8.56 The carriers will, in future, increasingly have only specified service delivery and commercial roles, with their previous regulatory and de-facto policy roles subsumed by AUSTEL and by the government directly. They will increasingly carry out their important community service obligations as direct agents for government and these obligations will be given explicit expression.

8.57 These developments have stimulated a fundamental re-examination of the government's shareholder and commercial control relationships with Telecom, OTC and AUSSAT. The Government has decided on a reform package to be implemented for each enterprise, in line with the "Policy Guidelines for Commonwealth Statutory Authorities and Government Business Enterprises" tabled in the Senate on 4 November 1987.

8.58 Packages to reshape Telecom, OTC and AUSSAT have been developed during the process of improving the efficiency of all government business enterprises (GBEs), as part of the Government's micro-economic reform strategy. These packages have been formulated after considerable scrutiny of the financial structure and

commercial performance of each enterprise, and the need for detailed controls and accountability.

8.59 Up until now, the boards of these three enterprises have been hampered to varying degrees by a confusion of unclear objectives - both social and commercial; by a high level of ministerial and bureaucratic involvement in day-to-day management conduct; and by an absence of any real externally-monitored accountability framework covering both conduct and results.

8.60 The Government's solution is to fundamentally change its arrangements for these three GBEs, largely through replacing detailed controls with accountability provisions. In essence what the Government has decided to do is focus mainly on the "bottom line" performance or output of these enterprises rather than contine with centralised controls on the input stages of business decision-making - in essence to let the managers manage and to ensure that where the enterprises are required to face competition, they must be able to do so on a comparable basis to their competitors. A "level playing field" needs to be established.

8.61 A full account of the GBE reform process is contained in the Ministerial Statement of 25 May 1988, "Reshaping the Transport and Communications Business Enterprises", which contains details of the individual reform packages for Telecom, OTC and AUSSAT, as well as the other GBEs within the Transport and Communications portfolio (Australia Post, Qantas, Australian Airlines, Australian National Line and Australian National).

Revised Corporate and Financial Structures

8.62 The Government has addressed the important issue of structure: the structural relationship among the three enterprises; the appropriate corporate and financial structure for each of the enterprises; and the relationship of government, boards and chief executives. There will be no changes in the present ownership

arrangements or structural relationships among the three carriers (Telecom, OTC and AUSSAT) at this time, but these will be subject to review after the reform packages embodied in this statement have been put in place.

8.63 Since the Whitlam's Government's decision to establish Telecom as an entity separate from the Public Service in 1975, significant changes have occured in community and government expectations and in the nature of the markets within which Telecom operates, but Telecom's enabling legislation has not been adapted. However, in view of its significant community service obligations over and above its commercial obligations, but also because of the accountability requirements of its continuing monopoly:

[D44] Telecom will continue as a corporation established by statute. But it will be provided with a new enabling Act, tailored to the new environment, embodying the reduced direct controls and increased accountability arrangements, and re-named the Australian Telecommunications Corporation.
[7.26]

8.64 Telecom's Act need now only focus on operational matters, and not be confused with regulatory issues, and in recognition of this, and to reflect the Government's expectation of a more commercial approach. A Board of Directors will be appointed to replace the pre-existing Commission.

[D45] The directors of the Telecom Board will be appointed by the Governor-General and be subject to removal by the Governor-General on grounds which shall be expanded to include ongoing underperformance. The Telecom Chief Executive Officer (CEO) will be appointed by the Minister after receiving a recommendation from the Telecom Board and be subject to removal by the Board. The CEO will be an ex-officio member of the Board. The statutory position of the Chief General Manager will be abolished.
[7.28]

8.65 On establishment in 1975, Telecom's liability for funds provided by the Commonwealth as at establishment was determined by the

Treasurer under the Telecommmunications Act at $3,894.2m, representing the difference between the historical cost of assets and liabilities.

[D46] The new financial structure for Telecom will involve the conversion of 25% of Commonwealth loans (which totalled $4,352.2m at 30 June 1987) to equity, revaluation of assets according to prevailing commercial practice and retiring remaining Commonwealth loans progressively over the next 10 years and their replacement as appropriate with private sector borrowing.

Following revaluation of assets, the Government will determine an appropriate debt: equity ratio and overall financial structure on a basis comparable to leading telecommunications companies in other parts of the world.
[7.29]

8.66 The Government has also considered the appropriate future tax arrangements for Telecom. Recognising that Telecom as an increasingly commercially oriented enterprise should be subject, so far as possible, not only to the same freedoms but to the same disciplines as enterprises in the wider business community, the Government has decided that:

[D47] Telecom's subsidiaries and joint ventures will be subject to all taxes;

Telecom will be liable to meet State payroll taxes from 1 July 1988;

Telecom will become liable for other State and local government taxes and charges from 1 July 1989; and

Telecom will become liable for income tax from the 1990/91 income year.
[7.30]

8.67 The need for OTC to be a statutory authority in order to provide a public service does not allow it to emphasise sufficiently commercial criteria in its operations, and does not provide the maximum flexibility needed to cope with rapidly changing technology and industry development. The Government has decided that:

[D48] OTC be established as a 100% Commonwealth-owned company and renamed the Overseas Telecommunications Corporation.

[7.32]

[D49] The OTC Board will be appointed by the Minister and will be subject to removal by the Minister on grounds to be expanded to include ongoing underperformance.

The Chief Executive Officer will be appointed by the Minister after receiving a recommendation from the Board and be subject to removal by the Board.

[7.34]

8.68 AUSSAT will remain a company, incorporated under the Companies Act.

[D50] The members of the Board of AUSSAT will be appointed by the Minister and subject to removal by the Minister on grounds which shall be expanded to include ongoing underperformance.

The Chief Executive will be appointed by the Minister after receiving a recommendation from the Board and be subject to removal by the Board.

[7.38]

Modification of Major Strategic Controls

8.69 There are four major 'strategic' controls of a macro-economic management or broad policy nature that presently impact significantly upon the carriers' management: borrowing through the loan council; superannuation; industrial relations coordination; and executive remuneration. The Government has made a number of significant modifications to each of these controls.

8.70 The annual borrowing programs of all government business enterprises have long been subject to specific approval in the context of annual Loan Council considerations. These Loan Council controls serve important macro-economic objectives and have been a significant factor in Australia's improved economic position, through the restraints placed on total public sector borrowings within this mechanism. However their method of administration has

not necessarily also served the specific objectives or needs of Telecom and the Government has decided that:

[D51] 1. The Loan Council processes presently applying to Telecom will be developed to:

- take into consideration the on-going and longer term nature of capital expenditure proposals by adopting a three year rolling borrowing program (subject to annual review by government) which would allow Telecom and its subsidiaries and joint venture companies to proceed with major investments without the uncertainty inherent in annual borrowing allocations;
- ensure sufficient flexibility to enable additional borrowings to be considered in a year where new commercial opportunities for Telecom, its subsidiaries or joint ventures are identified; and
- allow Telecom to increase its market borrowings to convert part of Commonwealth loans to private sector loans, in the context of its capital restructuring.

2. The appropriate Loan Council treatment of private sector involvement in joint ventures and subsidiaries will be considered further.

3. OTC and AUSSAT will remain within current Loan Council processes given that their investment programs can be accommodated within current levels of retained earnings or the existing Loan Council mechanisms.

[7.45]

8.71 Superannuation for Telecom employees must be provided through the Commonwealth Superannuation Scheme (CSS) and about 1,800 of the 2,100 OTC employees have become members of the CSS. In contrast, AUSSAT already has its own superannuation schemes formed following approval from the Minister for Finance.

8.72 In line with the emphasis in the 1987 Policy Guidelines on increased GBE efficiency, the Government has decided that:

[D52] Subject to guidelines to be developed within the course of the review of the Commonwealth Superannuation Scheme (due by March 1989), Telecom and OTC will be permitted to establish their own superannuation schemes, with any subsequent movement beyond the guidelines subject to approval by the Minister for Finance.

Any additional costs borne by Telecom or OTC due to remaining CSS members will be taken into account in setting their financial targets.

AUSSAT's future superannuation arrangements will be consistent with guidelines to be agreed from time to time between the Ministers for Finance and Transport and Communications, with any proposed movement beyond the guidelines subject to approval by the Minister for Finance.

[7.51]

8.73 Industrial relations co-ordination arrangements have applied since 1948. The enterprises are required to consult with the Department of Industrial Relations on a wide spectrum of industrial relations issues from major wages and conditions matters to initiatives on occupational health and safety and industrial democracy. The Department can oppose initiatives and proposals which it believes do not accord with government policy. The consideration of these matters inevitably involves greater delays than if the enterprises could settle them without the requirement to consult, and has also been critisised for diminishing the negotiating status of GBE managers. The Government has decided that:

[D54] 1. The present industrial relations co-ordination arrangements will be substantially altered by devolving to the enterprises greatly increased responsibility and autonomy to develop wages and employment conditions proposals.

2. Standard guidelines on government wages and industrial relations policy will be established by the Minister for Industrial Relations in

consultation with the enterprises and the Minister for Transport and Communications. Enterprises will be free to manage their industrial relations within the scope of these broad guidelines without being required to refer matters to the Department of Industrial Relations.

[7.55]

8.74 Under current arrangements, the Remuneration Tribunal determines the salaries and allowances of full-time and part-time statutory office holders in Telecom and OTC. AUSSAT is not subject to this requirement.

8.75 The effect of unrealistic capping of chief executives' salaries restrains and distorts the salaries of other executives to a non-competitive level, and affects the recruitment, retention and movement of such staff. It also does not allow the enterprise boards to reward and motivate key executive management.

8.76 The Government has now decided that:

[D54] 1. For the Chief Executive Officers of Telecom, OTC and AUSSAT:

- the boards will be given the responsibility for determining remuneration;
- the boards will be required to consult with the Remuneration Tribunal prior to negotation on remuneration packages and advise the Tribunal of the terms of the packages once they have been concluded;
- the Remuneration Tribunal will be required to advise government in circumstances where it considers a proposal inappropriate, having regard to the particular commercial environment in which the enterprise concerned is operating;
- the Remuneration Tribunal will be required to report annually to government on the general operation of the arrangements;

- the new arrangements will be introduced only where the present incumbent agrees to vacate the position or where the position otherwise becomes vacant;
- vacant positions will be widely advertised in Australia and internationally; and
- future appointees will not have security of tenure.

2. Chief executives will be members of the relevant boards.
3. Boards will be able to determine remuneration of all senior executives consistent with the arrangements for fixing remuneration of statutory positions and having regard to existing award coverage, there being no security of tenure for those to whom the new arrangements apply.
4. The remuneration of members of boards will continue to be determined by the Remuneration Tribunal.

[7.62]

Removal of Day-to-Day Controls

8.77 The Government will remove virtually all of its remaining direct controls on the day-to-day operations of the three enterprises, replacing them where appropriate with strategic controls and oversight in the context of the new regulatory arrangements. The changes for Telecom are:

[D55]
1. The requirement that Telecom obtain ministerial approval to enter into contracts will be removed.
2. Telecom will no longer be required to obtain approval from the Treasurer to the terms and conditions of individual borrowings.
3. Telecom will be free to enter into banking arrangements and to make investments without gaining approval from the Treasurer.
4. Ministerial control over establishment of subsidiaries, joint ventures, and share purchases will be removed subject to the provision

of prior advice to the Minister on any proposals and Telecom will be obliged to report in a special section of its annual report on the establishment of subsidiaries and joint ventures.

5. The costs of any additional auditing incurred as a consequence of Commonwealth ownership will be taken into account in setting financial targets.
6. Telecom will no longer be required to comply with the Lands Acquisition Act 1955, except where land is compulsorily acquired in the public interest when the Department of Administrative Services will make acquisitions on Telecom's behalf.
7. Telecom will be no longer required to use the Construction Group of the Department of Administrative Services for building construction and maintenance programs.
8. Telecom will be exempt from compliance with the Public Works Committee Act 1969.
9. Continued application of the offsets policy to Telecom's competitive activities will be reviewed prior to the end of 1990 (in conjunction with the review for the aviation industry), by the Minister for Industry, Technology and Commerce and the Minister for Transport and Communications, with the intention of exempting Telecom for its competitive activities, to the extent that Telecom's competitors are exempt from offsets policy.
10. The review of the National Preference Agreement (to be completed by 1 June 1989) will examine whether Telecom's competitive activities will remain subject to the NPA.
11. Telecom will adopt normal commercial purchasing practices, the key elements of which will be set out in the corporate plan.
12. The Telecommunications Act 1975 will be amended to remove the current employment conditions provisions and

the Telecom Board, in consultation with relevant unions and in accordance with normal commercial practices, will determine employment conditions.

13. Telecom will not be subject to other personnel, general or administrative policies, unless a specific decision is made by government that a policy should apply. Where this occurs, the additional costs of complying with a policy designed to achieve non-commercial objectives will be taken into account in setting Telecom's financial target.

[7.64-7.77]

8.78 For OTC the controls removed are:

[D56]

1. Contract controls will be removed.
2. OTC will be exempted from the requirement to obtain the approval of the Treasurer for short-term borrowings and the requirement for the Treasurer's approval of specific borrowings will be removed.
3. OTC will no longer be required to seek approval for its investment and banking arrangements.
4. Ministerial control over establishment of subsidiaries, joint ventures, and telecommunications activities in or for foreign countries will be removed, subject to provision of prior advice to the Minister on any proposals to create or acquire subsidiaries or to purchase a major shareholding in another company.
5. Ministerial approval will no longer be required for: cessation of existing services; introduction of new services; or substantial additions, extensions or alterations to any part of the telecommunications system operated by OTC.
6. Continued application of the offsets policy to OTC competitive activities will be reviewed, prior to the end of 1990 (in conjunction with the review for the aviation industry) by the Minister for Industry,

Technology and Commerce and the Minister for Transport and Communications with the intention of exempting OTC for its competitive activities, to the extent that OTC's competitors are exempt from the offsets policy.

7. The review of the National Preference Agreement (to be completed by 1 June 1989) will examine whether competitive activities of OTC will remain subject to the NPA.
8. OTC will be exempt from compliance with the Lands Acquisition Act 1955, except where land is compulsorily acquired in the public interest when the Department of Administrative Services will make acquisitions on OTC's behalf.
9. OTC will be exempt from compliance with the Public Works Committee Act 1969.
10. OTC will be empowered to recommend an auditor of its choice and will not be confined to the Auditor-General as at present. The costs of any additional auditing incurred as a consequence of Commonwealth ownership will be taken into account in setting financial targets.
11. OTC will no longer be subject to other personnel, general or administrative policies unless a specific decision is made by government that a policy should apply. Where this occurs the additional costs of complying with a policy designed to achieve non-commercial objectives will be taken into account in setting OTC's financial target.

[7.79-7.90]

8.79 AUSSAT is already free of a number of the controls which have applied to Telecom and OTC. The changes for AUSSAT are:

[D57]

1. AUSSAT will no longer be required to obtain ministerial approval to enter into contracts.
2. AUSSAT will no longer be required to obtain the Treasurer's approval to

the terms and conditions of individual borrowings. Major borrowings, as for satellite replacements, will remain subject to scrutiny within the Loan Council process.

3. AUSSAT will be exempt from compliance with the Public Works Committee Act 1969.

4. AUSSAT will be empowered to recommend an auditor of its choice and will not be confined to the Auditor-General as at present. The cost of any additional auditing incurred as a consequence of Commonwealth ownership will be taken into account in setting financial targets.

5. The continued application of the offsets policy to AUSSAT's competitive activities will be reviewed, prior to the end of 1990 (in conjunction with the review for the aviation industry), by the Minister for Industry, Technology and Commerce and the Minister for Transport and Communications with the intention of exempting AUSSAT for its competitive activities, to the extent that AUSSAT's competitors are exempt from the offsets policy.

6. The review of the National Preference Agreement (to be completed by 1 June 1989) will examine whether competitive activities of AUSSAT will remain subject to the NPA.

7. AUSSAT will not be required to comply with any personnel, general or administrative policies unless a specific decision is made by government that a policy should apply. Where this occurs, the costs of complying with a policy designed to achieve non-commercial objectives will be taken into account in setting AUSSAT's financial target.
[7.93-7.99]

New Planning and Accountability Mechanisms

8.80 A key element of the enterprise reforms lies in the arrangements for accountability which are detailed in the Government's Policy Guidelines, involving corporate plans, financial targets, new dividend policies and improved reporting. The particular arrangements that will apply to each of Telecom, OTC and AUSSAT are set out in paragraphs 8.81, 8.82 and 8.83 below. They will be augmented by a retained power of ministerial direction as an ultimate safeguard, exercised directly in the case of Telecom and through the shareholder's role in the case of OTC and AUSSAT. This power is not expected to be used other than in the most exceptional circumstances.

[D58] The ministerial power of direction will be retained as an ultimate safeguard.
[7.101]

Telecom

8.81 In addition to accountability for commercial performance, Telecom will be accountable for its efficiency in meeting community service obligations and in meeting performance targets established in the corporate plan. The general accountability arrangements for Telecom are:

[D59] 1. In accordance with the Policy Guidelines of October 1987, Telecom is to provide the Minister for Transport and Communications with, at not less than 3 yearly intervals, a strategic corporate plan for consideration and response.

2. The Minister will provide the Prime Minister, Treasurer and the Minister for Finance with information from the corporate plan on matters for which they are responsible or where consideration by government may be necessary, and in particular information on the overall investment strategy and associated borrowing intentions.

3. The Minister will be advised of any matter which significantly affects the outlook as established in the corporate plan as soon as possible after such matters become known to

the Corporation.

4. Telecom will work towards an overall financial target agreed in advance by the Minister for Transport and Communications.

5. The Board will ensure that revaluation of Telecom's assets, in accordance with prevailing commercial practice and as agreed between the Minister for Finance and the Minister for Transport and Communications will be carried out at least once every five years.

6. Telecom Board will recommend, after consultation with the Minister on the dividend proposed, a dividend payment and this may be accepted or varied by the Minister. Consistent with the objectives of the GBE reforms, Telecom should aim to achieve a level of profitability comparable with those of the leading telecommunications companies in other parts of the world.

7. Telecom's Annual Report will give an account of performance against previously established goals, including financial and operational targets and the performance of comparable telecommunications companies to the extent practicable, together with assessments of the cost of meeting community service obligations and observing residual non-commercial controls which adversely affect profitability.

[7.102]

Overseas Telecommunications Commission

8.82 The accountability arrangements for OTC are:

[D60] 1. In accordance with the Policy Guidelines of October 1987, OTC is to provide the Minister for Transport and Communications with, at not less than 3 yearly intervals, a strategic corporate plan for consideration and response.

2. The Minister will provide the Prime Minister, Treasurer and the Minister for Finance with information from

the corporate plan on matters for which they are responsible or where consideration by government may be necessary, and in particular information on the overall investment strategy and associated borrowing intentions.

3. The Minister will be advised of any matter which significantly affects the outlook as established in the corporate plan as soon as possible after such matters become known to the Corporation.

4. OTC will work towards an overall financial target agreed in advance by the Minister for Transport and Communications.

5. The OTC Board will ensure that a revaluation of OTC's assets, in accordance with normal commercial practice and as agreed between the Minister for Transport and Communications and the Minister for Finance, takes place at least once every five years.

6. The OTC Board will, after consultation with the Minister on the dividend proposed, recommend a dividend and the Company at a general meeting may accept the recommendation or declare a higher or lower amount.

7. OTC's Annual Report will provide an account of performance against previously established goals, including financial and operating targets, together with assessments of the cost of observing residual non-commercial controls which adversely affect OTC's profitability.

[7.103]

AUSSAT

8.83 The accountability arrangements for AUSSAT are:

[D61] 1. In accordance with the Policy Guidelines of October 1987, AUSSAT is to provide the Minister for Transport and Communications with, at not less than 3 yearly intervals,

a strategic corporate plan for consideration and response.

2. The Minister will provide the Prime Minister, Treasurer and the Minister for Finance with information from the corporate plan on matters for which they are responsible or where consideration by government may be necessary, and in particular information on the overall investment strategy and associated borrowing intentions.

3. The Minister will be advised of any matter which significantly affects the outlook as established in the corporate plan as soon as possible after such matters become known to the Company.

4. AUSSAT will work towards an overall financial target agreed in advance by the Minister for Transport and Communications.

5. The Board will ensure that revaluation of the Company's assets takes place in accordance with normal commercial practice and as agreed between the Minister for Transport and Communications and the Minister for Finance.

6. The AUSSAT Board will, after consultation with the Minister on the dividend proposed, recommend a dividend and the Company at a general meeting may accept the recommendation or declare a different amount which does not exceed the amount recommended by the Directors.

7. The Annual Reports of AUSSAT will provide an account of performance against previously established goals, including financial and operating targets, together with an assessment of the cost of observing any residual non-commercial controls which adversely affect AUSSAT's profitability.

[7.104]