REVIEW OF THE RADIOCOMMUNICATIONS ACTS AND THE ROLE OF THE AUSTRALIAN COMMUNICATIONS AUTHORITY

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EXECUTIVE SUMMARY

There is a potential tension between the objectives of *The Radiocommunications Act 1992* (Cth) ("the Act") and the lack of express recognition of broadcasting as an activity regulated by both the Act and the *Broadcasting Services Act*. The Commission's paper addresses this issue by inviting comment on the advantages and disadvantages of excluding the allocation of broadcasting spectrum from the Australian Communication Authority's (ACA) broader role.

FACTS supports the retention of the current system of spectrum planning of the broadcasting services band being undertaken by the Australian Broadcasting Authority (ABA) while spectrum coordination internationally for all spectrum (including the broadcasting services band) is undertaken by the ACA.

This regime has worked well since it was created in 1992, with the enactment of the *Broadcasting Services Act*. As the ACA delegates its broadcasting planning functions to the ABA, the system of regulation has functioned very efficiently. Indeed, FACTS' submits that legislation should statutorily confer on the ABA all planning and licensing functions in relation to broadcasting spectrum. Further, this should be recognised through a specific broadcasting related objective in the Act.

Broadcasting is driven by public interest considerations which focus on content unlike planning considerations which underpin mobile telephony which are generally similar to those for other services, all of which focus principally on carriage of communications.

To ensure the public policy objective of broadcasting is delivered it is essential the broadcast spectrum and the broadcasting licence process continue to be coupled together. The body planning the broadcasting services bands needs to be in a position to handle both the particular planning issues which are raised by the public interest in the wide availability services and also in the implications for the content of those services, which flow from planning decisions.

FACTS considers that the setting of charges for apparatus licences should take a range of factors into account. This may vary from case to case. Broadcasters are large users of spectrum that provides linked streams of revenue for government. For example, free-to-air FTA television broadcasters pay considerable television licence fees for broadcasting spectrum calculated on revenue and, under current ACA arrangements pay additional fees for other apparatus licences used for ancillary broadcasting purposes (for example for outside broadcast transmission).

Broadcasters pay licence fees rather than spectrum charges. Broadcasters pay a percentage of their gross earnings on a sliding scale varying from 0.5% to 9%. For the 2000 financial year the broadcasters paid a total of $196.9 million in fees[1]. Licence fees are considerably higher than those paid elsewhere including counterparts in North America, and the Commonwealth has collected considerable amounts of revenue over a number of decades. Unlike spectrum licences where the cost has been paid up-front at auction, broadcasters make payment for spectrum on a continuing annual basis.

[1] ABA broadcasting industry financial figures 1999/2000

The appropriate duration of licences is affected by a range of factors, including the use to which the spectrum is put, the number of users of the spectrum (including recipients of services such as broadcasting audiences) and the capital investment required to create appropriate infrastructure for spectrum use. The licence term for apparatus licenses frequently fails to take this range of factors into account. Consequently, the term of a licence may be relatively short, such as one year, but the investment in infrastructure required very substantial. FACTS submits that the current maximum of 5 years should be extended.

Further, FACTS submits that licensees should be compensated if their licences are cancelled. At present, some television broadcasters have been required to surrender spectrum used for fixed links on two years' notice, without compensation, despite significant disruption and cost. Longer evacuation periods are required, with compensation; similar to the model applied by the FCC.

FACTS recognises the ACA's role within the ITU and the importance of this role in effective spectrum planning. The ACA performs this role through representation upon a range of broad international issues. FACTS' members devote a great deal of time and resources to its participation within Australian delegations to the ITU. FACTS stresses the importance of providing the ACA with adequate resources to address the management of international spectrum issues.

This submission addresses a number of other issues relating to broadcasters' use of spectrum.

INTRODUCTION

There is a potential tension between the objectives of the Act and the lack of express recognition of broadcasting as an activity regulated by both the Act and the *Broadcasting Services Act*. The Commission's paper addresses this issue by inviting comment on the advantages and disadvantages of excluding the allocation of broadcasting spectrum from the Australian Communication Authority's (ACA) broader role. This implicitly raises the fundamental policy question of whether or not Australia should have a FTA broadcasting sector.

The answer to this is unarguably "yes". There is no significant political party, interest group or section of the community, which does not support the promotion of a strong FTA broadcasting sector. Indeed, the recently enacted regime for migration of FTA broadcasting from analog to digital transmission reflects widespread community acceptance of the need for a strong FTA broadcasting sector. There is no Organisation for Economic Co-operation and Development (OECD) country anywhere in the world, which does not have a FTA broadcasting sector. A FTA broadcasting sector is a strong economic generator, through its direct and indirect employment, its use as an advertising medium to stimulate trade in a vast range of goods and services and as a major contributor to the Australian taxation system through payment of licence fees (as discussed further below). In addition to its economic function, FTA commercial broadcasting serves an important cultural function through its support of Australian content, most notably film and television drama. Finally, FTA commercial television is an important contributor to the health of Australia's democracy, a matter recognised by the public, the major political parties and the High Court of Australia in its "freedom of communication" doctrine [2].

From the unarguable premise that Australia should have a vigorous commercial FTA broadcasting sector, a number of consequences necessarily flow. First, it is necessary that the activity of broadcasting be undertaken in contiguous parts of the radiocommunications spectrum. If this were not the case, then FTA broadcasting as an activity would involve transmissions by broadcasters scattered throughout the spectrum. This would create difficulties in achieving standardisation of reception equipment, efficiencies of transmission and reception, and in achieving a common approach to interference issues. The need for contiguously planned parts of the spectrum dedicated to broadcasting is reflected in the International Telecommunications Union (ITU) convention and by practice in all OECD countries.

It flows from the proposition that the sector is important to Australia - economically, culturally and democratically - that there is a public interest in making broadcasting services widely available. The wide availability of broadcasting services is often seen in terms of addressing the needs of remote and rural Australia. However, the availability of broadcasting services also requires the availability of sufficient bandwidth to ensure a high degree of technical quality, consistency of delivery and a relative lack of interference. In the absence of such a regime, broadcasting services would not be uniformly received and the public interest in the wide availability of broadcasting services would be undermined.

[2] *Australian Capital Television Pty Ltd v Commonwealth (1992) 177 CLR 106*

It follows from this the planning needs of broadcasters are necessarily different from those of other services, as a result of the public interest in the wide availability of such services. Within the broadcasting services bands, planning must be undertaken on a consistent basis. Further, the problems and issues arising from spectrum management in the broadcasting services bands are unique to broadcasters, because of the need for delivery of broadband services which are interference free and of a consistently high quality.

The observations made above give rise to a further proposition, being that broadcasting planning is inextricably linked to the content of the relevant service. For example, a broadcasting service which is subject to continual interference necessarily has degraded content. This has little or no value to the audience, with the result that the public interest in the wide availability of broadcasting services will be undermined. Equally, the amount of bandwidth allocated to broadcasting affects both the quality of the service and the nature of the content delivered. This is amply demonstrated by the Australian Parliament's legislation requiring a digital migration to both standard definition and high definition digital television. Thus, a body planning broadcasting services bands needs to be alive not only to the particular planning issues which are raised by the public interest in the wide availability of broadcasting services, but also in the implications for the content of those services, which flow from planning decisions.

It follows from what is said above, that the particular public interest attached to broadcasting services is best served by a body which is equipped with the experience and skills necessary to ensure that broadcasting planning decisions further those public interests. This is a fundamentally different approach to planning than in relation to other parts of the spectrum, which do not involve the same public interest considerations. This is not to say, for example, that there is no public interest in having an efficient system of mobile telephony. Clearly, there is. However, the planning considerations which underpin mobile telephony are generally similar to those for other services, all of which focus principally on carriage of communications. On the other hand, broadcasting is driven by public interest considerations which focus on content. Planning decisions necessarily affect the nature of the services provided and as a result, their content.

Finally, while FACTS is an industry group that represents the interests of commercial broadcasters, it has a long history of involvement in public debate regarding broadcasting and related areas of policy. It is also a substantial contributor to the development of spectrum planning in Australia, having attended every set of ITU negotiations since 1979 as part of the Australian delegation. FACTS is delighted to have this opportunity to share its substantial body of experience with the Production Commission and to have the opportunity to assist the Commission in its deliberations.

1. WHAT PROBLEMS DOES THE LEGISLATION SEEK TO ADDRESS?

1.1 Synergies Between Content And Planning Regulation

In this submission, FACTS addresses a series of basic assumptions in order to analyse the underlying foundations for a separate planning and regulatory regime in respect of both broadcasting spectrum and content. This regime has worked well since it was created in 1992, with the enactment of the *Broadcasting Services Act*. As the ACA delegates its

broadcasting planning functions to the ABA, the system of regulation has functioned very efficiently. Indeed, it is FACTS' submission that the ABA should undertake all planning functions in relation to broadcasting spectrum. Further, this should be recognised through a specific broadcasting related objective in the Act.

To place this submission in context, it is worth noting that prior to 1992, regulation of content and planning for broadcasting were separated, with the former Australian Broadcasting Tribunal undertaking content regulation, while the Department of Transport and Communications (as it then was) undertook planning regulation. This gave rise to a number of inefficiencies. As a result, the *Broadcasting Services Act 1992* and the *Radiocommunications Act 1992* were enacted with the specific objective of bringing broadcasting planning and content regulation together, under the umbrella of the Australian Broadcasting Authority (ABA). At the time, this development was widely seen as a significant improvement in broadcast planning. Experience since 1992 has shown this to be the case. Any reversion of broadcast planning to the ACA would reintroduce the pre-1992 regime, in which planning and content regulation were separated. This would be a retrograde step.

Of course, these observations beg the question of whether or not a single body could undertake all planning (including broadcasting planning) and content regulation as well. The answer is that content regulation requires a specific set of skills which have nothing in common with general spectrum planning, but which for the reasons set out above are integrally related to the planning of broadcasting spectrum. For example the localism aspects of content provision have to be taken into account in the planning of the spectrum use for broadcast transmission. Consequently, the logical and most efficient form of broadcasting regulation is the current system, under which broadcasting planning and content regulation are undertaken by a separate body which specialises in these functions, rather than a general planning body which has a different set of experience and skills.

For these reasons, FACTS supports the current system of planning and would not support any reversion to a pre-1992 system. Furthermore, it is a logical development of the reforms introduced in 1992 that the ABA assumes even greater responsibility for the planning of the broadcasting services bands. In reality, this is done already through ACA delegation. The real inefficiency is in having to rely on ACA delegation, when the most appropriate structure would be a statutory recognition of the ABA's role, by providing it with all statutory functions under the Act, in relation to the broadcasting services bands.

1.2 Scope Of The Objectives Of The Act

A set of statutory objectives will necessarily be broad in scope. There are dangers in creating a set of objectives that are too narrow or prescriptive, as planning policy and decisions necessarily need to take into account a wide range of factors. At present, the objectives of the Act do not have sufficient regard to the separate requirements and needs of broadcasting services. The key omissions from the objectives are recognition of the needs of broadcasting planning and the interrelationship that the Act has with the *Broadcasting Services Act*

1.3 Priorities Of The Act

Over time, there has been an increasing emphasis on the economic rent that can be extracted from the radiocommunication spectrum. FACTS makes this observation, noting that broadcasting is the largest single contributor to licence fee payments for spectrum use (as discussed below). It supports the principle of payment for spectrum use, which ensures that national resources are efficiently utilised. However, while FACTS supports this objective, it is only one of a number of objectives listed in section 3 of the Act[2]. There will be many occasions when public interest factors temper any decision to extract the maximum economic rent from spectrum. Furthermore, this emphasis on economic efficiency has tended to give priority to new and emerging technologies that are unproven and may not be financially sustainable. While FACTS does not suggest that the ACA or the Government should undertake business case assessments of proposed new technologies, providing spectrum to those technologies without examining the needs of other users is necessarily disruptive. Additionally, it does not give sufficient weight to a wide range of policy objectives on which the Act is premised. As a simple example of this observation, a number of global satellite applications (including ICO[3]) have been developed for which spectrum is being allocated in Australia and other countries. As a result, incumbent users have been cleared from spectrum with considerable disruption, cost to the incumbents and the community and no compensation. At least some of those satellite applications are financially marginal and may not proceed.

1.4 Appropriateness Of The Objectives Of The Act

It is necessarily the case that policy objectives compete with each other, when a variety of public and economic interests are being weighed up. This is in the nature of any policy making process and is reflected in the objectives of the Act.

1.5 Trade-Offs Between Competing Uses Which Govern Spectrum Management

Greater weight needs to be given to the public interests that underpin various uses of the spectrum. The emphasis on maximisation of economic rent, while desirable as a general goal, must be balanced with other considerations. The re-allocation of spectrum for marginal or questionable satellite applications, without compensation to incumbent users of spectrum is but one example of the need to give great weight to a variety of considerations. The ACA would be assisted in achieving this balance by amendments to the Act across a number of areas. One of the issues this submission focuses on is amendments to the re-allocation provisions, to include greater notice and a compensation model similar to that adopted by the US Federal Communications Commission (FCC), one of the areas of direct experience by FACTS members.

[2] Radiocommunications Act 1992.

[3] In 1999 discussions commenced between the United Kingdom and Australia for the introduction of the ICO system into Australian radiofrequency bands then held by amongst others, Australian commercial television broadcasters.

2. ALLOCATION OF SPECTRUM

2.1 Government Approaches To Efficient And Effective Use Of The Spectrum Within Australia

The ACA should remain responsible for spectrum allocation. The private sector should not play a principal role in spectrum allocation for three major reasons.

First, spectrum management is inextricably linked to spectrum planning and should be addressed by government, due to the substantial overlap between international issues and domestic issues dealt with in spectrum management. The ACA currently plays a very important role representing Australia on spectrum management issues in the international arena. The ACA has a detailed understanding of and expertise in, international spectrum management issues.

Secondly, spectrum planning requires a continuity of resources which consider policy and public interest considerations for the long term. Spectrum planning operational issues cannot be divorced from policy and public interest considerations. Specifically, broadcast spectrum planning needs to take into account the effect of interference issues on mass audience applications.

Thirdly, spectrum allocation and management requires administration by a body impartial to commercial interests possessing a high level of technical expertise. The ACA meets these criteria. It would be difficult for a private sector manager to meet this criteria. However, broadcasting industry experience has identified that the ACA's resources to deal with spectrum allocation and management issues should be increased.

In relation to the broadcasting services bands, the current split of responsibility and function between the ACA and ABA should remain. FACTS supports the retention of spectrum planning within Australia for the broadcasting services band with the ABA while spectrum coordination internationally for the broadcasting services band is undertaken by the ACA. However, FACTS has identified a number of interference management issues that arise from the shared responsibility in the broadcasting bands. FACTS proposes that the ABA should administratively handle all licenses for any services in the broadcasting services bands.

FACTS recognises the ACA's role within the ITU and the importance of this role in effective spectrum planning. The ACA performs this role through representation upon a range of broad international issues. FACTS' members devote a great deal of time and resources to its participation within Australian delegations to the ITU. FACTS stresses the importance of providing the ACA with adequate resources to address the management of international spectrum issues.

2.2 Advantages And Disadvantages Of The Current Approach To Spectrum Planning

As identified in the Issues Paper[4], an underlying element of spectrum planning and management is the need to have an understanding of the international treaties and agreements on broad spectrum designations, and the ITU Convention and Radio Regulations[5] that set out the international obligations. These international agreements on spectrum use are continuously evolving but usually have longer-term implementation, sometimes taking a decade to come into force. For example, international allocations for mobile satellites made in 1992 only came into force in Regions 1 and 3 in 2000 and parts will not be available in Region 2 until 2005[6].

The spectrum allocations and regulations are developed as treaty level agreements between nations. It is therefore necessary that the Government maintain direct control and that it maintains the full technical competence to undertake the international negotiations. To ensure a true reflection of Australian interests and to gain detailed information it is essential to ensure consultation with potentially affected parties.

However, it may prove appropriate for coordination and management of radiofrequency spectrum for some apparatus types to be undertaken by non-government organisations.

Alignment with international spectrum designations has advantages in:

(i) limiting interference between countries;
(ii) improving the availability of economical equipment developed for specific applications; and
(iii) enhancing the trade in equipment and technology between countries.

There are some disadvantages that arise from the current approach to spectrum planning.

The longer time scales often encountered in international implementation can lead to delays in introducing some technologies. The fact that the ITU allocations are not all world-wide but divided into different regional allocations across three regions leads to planning complications for Australia. Much of the technology used in Australia comes from the developed countries of Europe and North America, both of which lie in different ITU regions; Europe in Region 1, North America in Region 2, while Australia is in Region 3. The differences are identified in the Regional allocations detailed in the Australian Spectrum Plan[7].

FACTS supports the retention of spectrum planning within Australia for the broadcasting services band with the ABA while spectrum coordination internationally for the broadcasting services band is undertaken by the ACA.

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[4] *Review of the Role of the Radiocommunications Acts and the Role of the Australian Communications Authority – Issues Paper*, Productivity Commission, August 2001.
[5] *Radio Regulations*, International Telecommunications Union, 1994 (Revised).
[6] *Extracts from the Final Acts, WRC 2000*, International Telecommunications Union, 2000.
[7] *Australian Radiofrequency Spectrum Plan*, Australian Communications Authority, 1999.

It may prove appropriate for coordination and management of radiofrequency spectrum for some apparatus types to be undertaken by non-government organisations (as discussed in the examples at paragraph 2.5 below)

2.3 Planning Approaches In Other Countries

Most other countries provide spectrum management at the macro level by government or government agency. Some, such as New Zealand, have sold spectrum management rights for some spectrum segments but for limited time. In FACTS' view the results have not worked for broadcasters. It also reduces the negotiating position for that administration in the international developments for spectrum.

In New Zealand this approach has not worked for broadcasting. One FACTS member which, also operates in New Zealand, advised its experience as follows:

Since 1989, spectrum allocation in New Zealand has operated under the auspices of the Radiocommunications Act 1989.

This Act was introduced with the aim to "maximize the value of spectrum to New Zealand society". In essence this has meant that the Government's preferred method of allocating spectrum to its most valuable uses has been allocating spectrum to those who are prepared to pay the highest price. A two step process is used to allocate spectrum. First, a Management Right (MR) is created. This is a nationwide right for a 20-year term over a specific band of frequencies. The MR owner is then free to create Spectrum Licences (SL) for a specific frequency in a specific location. The MR owner is responsible for all management issues with the SL's including any interference issues. No conditions or restrictions are imposed on the spectrum allocated.

MR nationwide licences have been sold for all "telecommunications" bands including cellular, LMDS and 3G. This means that each operator has full ownership of their "band" and thus the ability to issue themselves with spectrum licences on frequencies within the band and at locations to meet their varying business models. This approach gives the MR owner full control in managing his spectrum allocation process to suit his needs. It works very well.

There are examples of many separate licences for television services that have been sold as far back as December 1989 that have not yet been brought into service. MDS management rights were sold in the July 1990 tender but have not yet been used; also the LMDS 28 GHz band was sold in January 1998 and again services are yet to begin.

This approach does not work in the broadcast bands where frequencies are used again and again at differing locations by differing operators. In this case the Government has created these "over-arching" management rights but these rights have remained with Government. Broadcast operators have, at any opportunity, objected to any thought of the sale of these management rights for broadcast spectrum. This is on the basis that, as the Act imposes no restrictions or controls whatsoever on a MR manager, a private manager of broadcast spectrum could act in an anti-competitive manner in the issue, or non-issue, of spectrum licences. To date the government has not shown any intention to sell the management rights

for broadcast spectrum. There are no pluses in any private sector involvement in the allocation of broadcast licences[8].

2.4 Consultation Processes Within Australia Prior To ITU Meetings.

The ACA has provided open consultation processes for the development of Australian positions for ITU meetings. FACTS has been a consistent participant in the consultation arrangements in recent years with the ACA and its predecessor the Spectrum Management Agency (SMA). Before the SMA, the ITU preparations were a function of the Department of Communications, Information Technology and the Arts (DoCITA), and FACTS was active in its preparatory committees. FACTS representatives have participated in Australian delegations to nearly all World Radiocommunications Conferences (WRC) since 1979.

While there is always room for improvement, in general the current consultation structure established is satisfactory. There are significant cost and time demands for industry in meeting the consultation requirements and for smaller radiocommunications users this can be difficult. The ACA needs to ensure that the concerns of the smaller users and their needs are taken into account.

Recently the ACA has investigated the balancing of their consultation processes and addressed the increased involvement of global communications companies. At this stage FACTS is comfortable with the arrangements.

2.5 Private Sector Role In Managing The Spectrum Allocation Process

At the level of individual assignments there is already a significant involvement by private industry which has taken some of the specific micro planning work from the ACA. Also, for bands that have been spectrum licensed, the licensee takes responsibility for the band segments they have licensed. Because of the sensitive nature of Defence use of spectrum, the Department of Defence maintains its own spectrum management for its use of spectrum.

In the ACA's 2001 – 2004 Corporate Plan, the ACA Chair outlines the new regulatory environment into which the ACA entered in 1997 where barriers were removed to all aspects of the telecommunications market. He notes the ACA has sought to develop "a communications environment in which competition can flourish, while at the same time protecting consumers". This is to be achieved through " the development of dynamic and efficient markets for radiocommunications and telecommunications products and services to maximise benefits to the Australian community". The priorities to achieve these goals are through Self-regulation, Compliance and Spectrum efficiency while taking into account the interests of stakeholders.

The ACA's regulatory role focuses on the detail of radiocommunications and telecommunications products and services. The ACA's technical expertise enhances and strengthens the advice provided to government in conjunction with other agencies at a

[8] Comment by G. Smith, General Manager Engineering – Corporate, Prime Television Limited, Sydney.

macro level on matters relating to the products and services carried on radiocommunications and telecommunications platforms.

It may prove appropriate for coordination and management of radiofrequency spectrum at a micro level to be undertaken by non-government organisations.

The Act provides for some of the functions related to the detailed spectrum management to be delegated to other certified bodies. These include the establishment of standards, testing of and approval of equipment, certification of operator proficiency and suitability of systems for which licence applications are sought. The increased complexity of finding suitable spectrum for a particular application together with ACA accreditation of other persons or bodies has led to the growth of a significant body of spectrum consultants. FACTS members, in common with many other bodies, have found the expertise available from consultants to be important in finding specific solutions to communication requirements. As an example, where a specific communication link is required from point A to point B, a consultant is able to examine the ACA database of licences, work out a possible radiocommunication system solution to the requirement and carry out a complete interference analysis. Armed with this information the licence application and approval can be expedited whilst minimising the administrative work of the ACA.

With respect to the macro level spectrum allocation, we see little alternative to the management being the responsibility of Government agencies. This ensures that the general management takes account of the following factors:

(i) recognition of international obligations including coordination with proposed new satellite;
(ii) implementation of Government policies;
(iii) impartial assessment of conflicting spectrum demands;
(iv) encouragement of more efficient and flexible use of spectrum; and
(v) longer term planning to take account of future changes in spectrum demand.

FACTS is concerned that any further moves to reduce the ACA resources addressing radiocommunications areas could lead to difficulties. With the growing demands for satellite systems in particular, it is important that the ACA has full competence to ensure Australian uses of the spectrum identified by satellite operators is not unduly constrained.

3. LICENSING

Licensing is the most appropriate method of ensuring orderly management of radiofrequency spectrum and interference into that spectrum.

The three-tiered categorisation of licences is appropriate. As discussed below, apparatus licence holders require greater security of tenure.

While the ACA currently administers all licensing, FACTS considers the licensing of all services within the broadcasting services band should be statutorily conferred on the ABA. Broadcasting apparatus licences within this band should continue to be “stapled” with the relevant broadcast licence.

3.1 Factors Influencing The Duration Of Licences

The appropriate duration of licences is affected by a range of factors, including the use to which the spectrum is put, the number of users of the spectrum (including recipients of services such as broadcasting audiences) and the capital investment required to create appropriate infrastructure for spectrum use. The licence term for apparatus licences frequently fails to take this range of factors into account. Consequently, the term of a licence may be relatively short, such as one year, but the investment in infrastructure required very substantial.

3.2 Duration Of Apparatus And Spectrum Licences.

Whether or not some apparatus and spectrum licences should be the same duration in every case, apparatus licensees need access to a longer term and greater security of tenure, for the reasons given at 3.1 above. The current maximum term of 5 years should be extended.

3.3 Consequences Of Extending Apparatus Licences.

The major consequence of extending apparatus licences would be to give licensees greater security of tenure. Inherent in the Australian Apparatus Licensing system since its inception is an expectation of renewal. At present, licensees can be required to surrender spectrum used for links on two years notice without compensation, despite significant disruption and cost. A longer period is required, with compensation, as per the FCC model[9]. This issue was addressed by the RCC Working Group on Radiocommunications Provisions for New Telecommunications Services (1994) which recommended using the FCC transitional arrangements that built in covering the relocation of incumbents as part of the conditions of spectrum sales.

Establishing communications facilities using radiocommunications can be very capital intensive. Without certainty of spectrum access for the useful life of the equipment, any investment faces unreasonable risk and enterprises face great difficulty in obtaining finance, or making decisions for expenditure, which can not be justified against the risks involved.

Apparatus licences for applications that support services within the broadcasting services ban d require greater security of tenure. Given the geographical size of Australia, the size of the population served by broadcasters and the investment required for broadcast infrastructure, broadcasters require long term security to gain benefit from their investment in this infrastructure. This is accentuated in the case of regional and remote area broadcasters where longer-term periods are required for a return on investment.

Once radiocommunications infrastructure is established to provide links for sources of programming to broadcasting transmission facilities, its replacement cost is greater than the cost of the spectrum or related apparatus licence fees in another frequency band. In regional Australia loss of fixed links, traversing long distances, which feed local news programming to

[9] RCC Working Group on Radiocommunications Provisions for New Telecommunications Services (1994)

larger regional centres has a flow on effect to the viability of news gathering in regional Australia.

Security of tenure is essential for creating effective competition in the market for fixed link applications. Currently the only viable alternative to carrier applications is by private organisations.

To illustrate this point, a significant part of the fixed microwave usage by groups other than Telstra is for the provision of interconnecting program links for regional television. More than half of the total fixed links being used for that application are privately owned and operated by the broadcasters. For those who chose to use Telstra (the monopoly provider of carriage when the links were originally installed) lower costs were negotiated because of the competitive ability to install their own capacity.

The availability of radiocommunications spectrum has provided the means for establishing communications in areas that are not necessarily attractive to commercial carriers. Links to remote transmitter sites for broadcasters are an example. Others are used to provide closed communications circuits for railways, resource monitoring, connections to offshore or remote industrial complexes, etc. Although vital to the enterprise concerned and to the related benefits to Australia, the communications are often not of the type which readily fits carriage tariffs based on telephony or normal data transfers. They lack the attraction to carriers who are able to gain much higher revenue returns from investment in infrastructure for more conventional retail communication.

3.4 Review Of Licences Prior To Expiry Date

FACTS is concerned that any unconstrained review of licences could create greater uncertainty of tenure. Where it is proposed that there be some change in spectrum use which could affect licence renewal and future spectrum use, this should be addressed through statutory notice and compensation procedures. The present procedures are inadequate in that 2 years' notice is insufficient and no compensation is available.

4. LICENCE REALLOCATION AND CONVERSION

4.1 Strengths And Weaknesses Of Re-Allocation And Conversion Processes

The major weakness of the re-allocation process is that in its present form, Part 3.6 of the Act considerably undermines commercial certainty associated with an apparatus licence. Part 3.6 operates to deprive a licensee the right to enjoy the licence for the licence term or to make an application for licence renewal and have it considered in accordance with section 130 of the Act. The Act appropriates these rights without providing compensation either for the lost licence term, the loss of the ability to apply for renewal or the wasted costs associated with write off of any infrastructure associated with use of the apparatus licence. The Act creates a procedure that has a potentially wide-ranging application, removing all certainty from any apparatus licences issues under the Act.

The proposed displacement of incumbent licensees without compensation is not consistent with principles of cost accountability or economic efficiency. Instead, Part 3.6 provides an enforced subsidy by incumbent licensees of the operations of new acquirers of the spectrum, as well as requiring a write off of the infrastructure of the incumbent users prior to its proper amortisation. Two years is insufficient to ensure there is adequate time to plan and implement a change to a new spectrum band.

Much of the infrastructure established by incumbent users has a working life in excess of twenty years. In recognition of the effect of the re-allocation regime on affected licensees, FACTS recommends that the Act be amended to require the new licensee to agree with the affected licensee on measures for relocation (including the cost of relocation) or in the absence of agreement, ACA arbitration on these measures.

In respect to broadcasting services, given their widespread reception and policy objectives, FACTS considers the Act should not apply to spectrum reserved for broadcasting purposes under section 31 of the Act. FACTS recommends that an express limitation be included in the Act, to the effect that the re-allocation regime does not apply to broadcasting spectrum.

4.2 Licence Re-allocation and Conversion

The choice of re-allocation or conversion will depend upon the future use to which the spectrum is being put. In some cases conversion is not appropriate where a new use is being planned. However, the key issues remains a sufficient notice period and appropriate compensation procedures in relation to the incumbent users of spectrum, where the re-allocation or conversion adversely affects them. A re-allocation period of at least five years is necessary to ensure adequate planning for incumbent users of reallocated spectrum.

4.3 Flexibility In Licence Re-Allocation

Spectrum re-allocation procedures presently do not provide for compensation or any mechanism for re-positioning of incumbent spectrum users through agreement with new users. An appropriate forum for this process needs to be developed.

4.4 Costs Of Spectrum Re-Allocation

New acquirers of spectrum should be required to pay compensation or the relocation costs of existing users.

One of the major effects of the Act is to establish a scheme whereby spectrum used by current holders of apparatus licences under the Act can be reallocated to new licensees, combined with the compulsory displacement of the existing users of that spectrum, without either compensation or relocation costs being met. FACTS is very concerned by the potential cost and disruption to existing users of spectrum caused by this scheme. This scheme can be contrasted with the spectrum auction process in the United States, under which new acquirers of spectrum were required to pay compensation or relocation costs to existing users.

In addition to increasing the relevant re-allocation period from two to five years, in order to provide a more appropriate transition period for the relocation process, FACTS submits that a scheme be created under which, within the re-allocation period, new licensees are required to reach arrangements with existing users of spectrum in relation to payment of relocation costs. Alternatively, the ACA should be identified as the arbitrator in relation to these costs.

This scheme would effectively involve a choice by new licensees to meet reasonable relocation costs for the existing users or have the existing users' licences renewed, in order to give those users sufficient time to properly plan their relocation. Under this scheme, existing users are less likely to suffer significant loss. FACTS suggests a five-year minimum period.

4.5 Compensation For Licence Cancellation

Licensees should be compensated if their licences are cancelled. Currently, there is no provision for compensation of licensees who are required to clear particular frequencies due to interference with Mobile Satellite Services ("MSS"). This issue should be the subject of a licence condition on any new spectrum licences, and should be considered by the ACA when issuing the licences as a "relevant matter".

The licence surrender process for spectrum re-allocation needs to be recast and Administrative Appeals Tribunal (AAT) review made available. This would be a safeguard for both new entrants and incumbents to ensure the scheme works effectively. At present, some television broadcasters have been required to surrender spectrum used for fixed links on two years' notice, without compensation, despite significant disruption and cost, operationally and for audiences. Longer evacuation periods are required, with compensation; similar to the model applied by the FCC[10].

If compensation were not forthcoming, and licensees were forced to bear the cost of relocating their fixed links, then they would, in effect, be subsidising a new entrant into the market, where demand for the new services has not yet been tested. The ACA appears to

[10] RCC Working Group on Radiocommunications Provisions for New Telecommunications Services (1994)

be of the view that this approach is creating a barrier to entry for a new entrant. However, fixed link relocation is clearly a cost of entry. A compensation approach would require the new licensees to bear that cost.

FACTS considers that spectrum is an asset. To protect the interests of incumbents, a statutory scheme should be established that not only ensures incumbents are compensated, but to ensure any disputation is resolved.

Recognizing the importance of regulatory certainty for both incumbents and for new entrants to plan and develop their products and services will minimize the risk of loss of service to those most effected – customers - in the case of television broadcasting, viewers of FTA television. Rights, such as "first offer" to licence renewal, would provide incumbents incentive to improve processes for spectrum sharing, planning for co-location of facilities and frequency agility of applied technologies.

In the event that voluntary clearance is sought from the incumbent, the incumbent licensee should be approached to reach mutually beneficial arrangements to help clear the spectrum and facilitate any transition or migration to other bands. Incumbents operating on the targeted band could agree to clear the band in return for an amount of compensation that would be determined by any spectrum auction[11].

4.6 Review Of Spectrum Re-Allocation Declarations

Currently there is inadequate provision for review of spectrum re-allocation declarations. The Act should provide for review of such decisions under Part 5.6, including review by the Administrative Appeals Tribunal. Spectrum re-allocations decisions are as significant in their effects on individual licensees as the other categories of decisions included in Part 5.6.

5. STANDARDS SETTING

The ACA's approach to developing standards has been to delegate this task to a process of industry self-regulation. FACTS is supportive of this process, taking an active part in developing standards related to television broadcasting. However, there are some dangers in this approach.

Industry self-regulation leads to different broadly based industry groups forming to develop standards of common interest. Currently FACTS is involved in working with ITU-R, SMPTE, EBU. DVB, ABU, Standards Australia, ACIF and other Australian standardization forms on matters relevant to television broadcasting. These groups work under different charters with the potential for particular commercial interests to unduly influence outcomes which are not directly related to the standard being debated. For example within the Standards Australia Television Transmission Committee which determines the Australian television transmission standard, Australian FTA television broadcasters have only three votes on a committee representing twenty-one organisations.

[11] http://www.fcc.gov/Bureaus/Wireless/News_Releases/2000/nrwl0017.html

It is worth noting that the process of developing an EMR standard has involved proposals by three groups; Standards Australia AS2772.2 (1998) (not approved), ACIF DR ACIF C564, September 2000 and Draft ARPANSA Standard: "Radiation Protection Standard – Maximum Exposure levels to radio-frequency fields – 3 kHz to 300 GHz". In the interim, the ACA has acted by regulation under Section 162 of the Act. FACTS has concerns with the level and quality of consultation, firstly allowing the process to run though three different bodies and secondly the legal obligations imposed on broadcasters without regard to the practical operation of broadcasting sites where licensees share facilities.

As the central authority responsible for spectrum, the ACA needs to maintain an active role in these different industry groups to ensure that standards accord with the objectives of the Act. FACTS is concerned that resources for these activities are declining within the ACA.

The ACA needs to maintain technical expertise to evaluate and verify the impacts of changed standards and new proposals from ITU forums. As the central agency involved in interference management, the ACA is the focal point for ensuring radiocommunications interference is minimised and disruption to networks avoided.

Therefore the ACA should retain a vigilant monitoring role in connection with interference management. Effective interference management, particularly management of electromagnetic compatibility and electromagnetic radiation, will become more and more crucial and demanding as the number of services using the spectrum increases and the margin for noise and interference reduces.

6. CHARGING FOR THE USE OF SPECTRUM

6.1 Charges For Apparatus Licence Fees

FACTS considers that the absence of fees for class licensing in shared spectrum bands tends to lead to a lower level of supervision of the licences by the ACA, which can lead to unmanageable levels of interference. However, it is appreciated that the issue of fees for class licensing needs to be balanced with the positive policy objectives of allocating these licences to non-professional entities.

An example is the spectrum used for radio microphone systems. Non professional application of the technology can interfere with professional application of the same technology. Radio microphone applications use spectrum within the broadcasting services band and, as discussed elsewhere in this submission, we consider this may be best managed by any applications within the broadcasting services band being administered by the ABA who have a clear appreciation of the potential interference consequences.

FACTS considers that the setting of charges for apparatus licences should take a range of factors into account. This may vary from case to case. For example, FTA television broadcasters pay considerable television licence fees for broadcasting spectrum calculated on revenue and, under current ACA arrangements pay additional fees for other apparatus licences used for ancillary broadcasting purposes (for example for outside broadcast transmission).

Broadcasters pay licence fees rather than spectrum charges. Broadcasters pay a percentage of their gross earnings on a sliding scale varying from 0.5% to 9%. For the 2000 financial year the broadcasters paid a total of $196.9 million in fees[12]. Licence fees are considerably higher than those paid elsewhere including counterparts in North America, and the Commonwealth has collected considerable amounts of revenue over a number of decades. Unlike spectrum licences where the cost has been paid up-front at auction, broadcasters make payment for spectrum on a continuing annual basis.

7. SECONDARY TRADING OF LICENCES

Secondary trading in licences underlines the need for a public regulator rather than a private sector manager of spectrum. While not adverse to secondary trading in non-broadcasting services band licences, FACTS submits that in the absence of a regulator this would create more fluid industry movement with greater potential for interference disputes. The ACA has an important role in monitoring any secondary trading to ensure the conditions of the licences are maintained and the licence details appropriately recorded in the public register of licences.

It is worth noting that the majority of apparatus licences are obtained as part of an enterprises wider business interest and the major investment is often in the associated infrastructure. Thus there is seldom any incentive for the licensee to seek to sell the licence.

However, for the balance of the non-broadcasting apparatus licences, FACTS considers that secondary trading as currently provided, is acceptable but greater security of tenure, such as the extension of apparatus licences to a maximum of ten years or more, will enhance the potential of the licences as a sellable commodity. This could encourage purchase by users who may have a higher value use of the spectrum. They may find it attractive to buy out existing licensees to free up spectrum for alternate use, thus avoiding the difficulties and inherent inequities of the current re-allocation provisions.

As the Issues Paper notes, the short term and doubtful tenure of apparatus licences does not result in a very sellable commodity and extension of the licence periods for these licences was proposed in the Report of the Radiocommunications Review.

Pending provisions for suitable trading in apparatus licences, the provisions of Division 4 of the Act provide for third party use of apparatus licences which enables greater use for existing licences while ensuring that there are no added interference concerns.

Secondary trading in broadcasting services bands apparatus licences should not be permitted, FACTS submits these licences should continue to be "stapled" to the accompanying broadcasting licence. This "stapling" is linked to the underlying policy rationale for separate broadcasting spectrum and is discussed in detail in the section relating to broadcasting.

[12] ABA broadcasting industry financial figures 1999/2000

8. BROADCASTING

While broadcasting requires the use of spectrum in bands other than the VHF and UHF broadcasting services band as listed in Appendix A, the broadcasting services band is of prime importance to broadcasters.

The broadcasting spectrum is most suited to use for broadcasting. There are significant differences between spectrum suited for mobile telephony (line of site range, reusable at short intervals) and spectrum suited for high power broadcasting channels (80 -100km range, normally reusable at high power at about 150km intervals). The potential uses intersect only at the top end of the UHF band, where the television allocations are (because of their limited range) only suited to in-fill use by low-power transmitters, but the spectrum is potentially usable for telephony or other cellular uses.

Efficient use of spectrum is maximised when like services are grouped together. This leads to optimal use of the spectrum and minimises the planning and interference management processes. Recently the ACA licensed a land mobile application (the Motorola iDEN trial) in Channel 69 with potential to interfere with existing television services, consumer output equipment (VCRs and set top boxes) using 7MHz of bandwidth for a 19kHz service i.e. using less than 0.3% of the channel bandwidth. The ACA has identified the provision of additional spectrum for TLMS is "a longer term issue being included as part of the broader consideration of the spectrum planning for the provision of digital TV and the recovery of analog TV spectrum. Options are being considered for earlier access to this spectrum in areas not required for television services"[13]. This approach was not embraced at the recent ITU Study Group 6 meeting.

Similarly, consideration was recently given to not allocating Channel 6 in the Cairns area for digital television to protect a two-way taxi service just outside the channel. These examples demonstrate the inefficiencies that will flow from operating other services in the broadcasting bands.

The introduction of digital television has shown problems where alternate use of the broadcasting bands, particularly by unlicensed or class licensed radiocommunications services, can lead to significant interference difficulties. The use of the broadcasting band for unlicensed hospital radio medical telemetry has been an illustrative case. In 1999, the ACA proposed use of the broadcasting services band for Bio Medical Telemetry systems[14]. In response to that proposal, FACTS expressed its concerns to the proposal stating the introduction of high powered digital services throughout the broadcasting services band may result in unexpected interference to low power class licensed services located in that band. Interference has subsequently occurred.

Use of the broadcasting services bands for non-broadcasting services increases the prospect of interference and may considerably undermine the quality of the broadcast service.

[13] ACA Annual Report, 1999-00.
[14] *Biomedical Telemetry Systems – Proposals Paper*, Australian Communications Authority, May 1999.

The problems of other services operating in the broadcasting bands is one FACTS believes would be best handled by the ABA having full responsibility for the administration of the broadcasting service band spectrum. We note that in its 1999-00 Annual Report the ACA acknowledged that it had relinquished its interference management role in the conversion to digital television. The Annual Report states: "In the past, the ACA has provided some assistance in the form of technical field support to the ABA in broadcasting interference investigation. However, as the television industry is expected to take a lead role in the introduction of digital TV, it is anticipated that the ACA will play only a minor role"[15]. This development is consistent with FACTS' submission that the ABA should have full responsibility for planning and management of the broadcasting services bands.

The following public policy criteria support maintenance of high quality broadcasting services:

A strong, diverse broadcasting sector remains at the heart of our democracy – a fact recognised by the High Court in its "freedom of communication" doctrine[16] and by the legislature, in its regulation of political advertising, along with other aspects of broadcasting content.

Free-to-air broadcasting continues to play the major role in provision of news, current affairs, entertainment and information[17].

In the case of welfare-dependent and other low-income households, which form a historically high and increasing proportion of Australia, FTA broadcasting is the most accessible form of news, current affairs, entertainment and information.

The wide appeal and wide coverage of broadcasting gives rise to interference and planning issues on a scale and type not relevant to other services, e.g. a major interference problem can potentially deprive millions of people of their usual source of news and other information services.

In its report on the *Broadcasting Services Act*[18], the Productivity Commission discussed transferring the responsibility of planning and licensing the broadcasting services band to the ACA. FACTS considers that the Commission's discussion at the time overlooked the characteristics of broadcast licensing and has underestimated the difficulties and disadvantages of adopting such an approach.

It is worth recalling that the current allocation of responsibility for broadcast licensing resulted from an extensive review of broadcast regulation culminating in the *Broadcasting Services Act* of 1992. The *Broadcasting Services Act* established the ABA and gave it the responsibility for planning, licensing, program content and ownership and control of licenses within the broadcasting services band. The public policy rationale for creating separate broadcasting spectrum which is separately planned and regulated by a body focussed on broadcasting policy and related issues, is no less relevant now than it was in 1992.

[15] ACA Annual Report, 1999-00.
[16] *Australian Capital Television Pty Ltd v Commonwealth* (1992) 177 CLR 106.
[17] Roy Morgan Research Centre, *Survey on Attitude to the Media*, February 1998.
[18] *Broadcasting - Inquiry Report*, Productivity Commission, March 2000.

Planning for FTA terrestrial broadcasting requires the ABA to take into account a range of issues based on the objectives of broadcasting policy. The policy is integral to the broadcasting planning and licensing process.

The policy framework stems from the long standing view of Parliament that FTA broadcasting should be a universal service and that metropolitan and regional markets should, as far as practicable, have access to a similar range of licensed and national services.

Despite the establishment and maturation of subscription television, nearly 80% of Australians choose or must rely on FTA broadcasting. With average household income in Australia below $37,000 gross per annum[19] FTA broadcasting is the most accessible source of news, current affairs, entertainment and information for many Australian households.

Planning of broadcasting services is based on ensuring wide coverage of the services. Viewers within each of the designated licence areas have a strong expectation they will receive a service and most Australians now have a choice of analog services. The Australian public, like viewers around the world, has made considerable outlay for receivers and expects by right to receive a range of FTA broadcast services. The general public's investment (as consumers) in the television broadcasting services bands represents the Australian public's highest personal investment in any part of the spectrum. A conservative estimate of the current replacement cost of television receivers exceeds $10bn.

Government policy has sought to ensure that regional areas of Australia enjoy a similar range of FTA television services to those available in metropolitan areas. This involves the ABA in a balancing act to plan and allocate spectrum particularly in regional areas adjacent to metropolitan centres. Part of the process is the Federal Government's current Black Spot program[20] where the ABA is charged with allocating funding and planning and allocating spectrum to extend FTA coverage into new areas.

This wide coverage requires the allocation of sufficient spectrum for translator services. As a result, multiple channels are needed to serve some broadcast licensed areas. The extent to which infrastructure is required to serve the Australian public is represented by the map in Appendix B denoting commercial television low power translator, high power translator and high power transmitter sites. Each of these sites is fed by either terrestrial or satellite delivery systems.

The digital conversion scheme has required the ABA to seek a balance in the digital channel planning process between efficient use of the spectrum, achieving same coverage as analog services, and minimisation of interference. The need for this balance is an illustration of why broadcast planning is best handled by the ABA having full responsibility for the administration of the broadcast service band spectrum.

[19] Income Distribution Australia ABS 6523.0 1999/2000.
[20] Television Fund Guidelines - ftp://ftp.dcita.gov.au/pub/tvfund/guidelines2.rtf

Further, in FACTS submission, an uncoupling of broadcasting spectrum and the broadcasting licensing process would undermine the public interest in a wide coverage wide appeal broadcasting sector by:

- reducing spectrum stability in an industry which requires capital intensive investment and the certainty necessary to create a wide appeal to audiences;
- reducing incentive for wide coverage broadcasting i.e. due to loss of certainty, FTA broadcasting would tend to withdraw from remote areas where commercial viability is already marginal; and
- reducing likely investment in broadcasting content, with adverse cultural and economic effects particularly on the local production sector. A stable spectrum regime is necessary for expensive content investment.

9. SATELLITES

FACTS wishes to highlight the importance of satellite platforms for the contribution circuits required in program production and the distribution circuits for transmission feeds of television content throughout Australia. Of particular importance to broadcasters is the utilisation of satellites for distribution of television broadcasting services to remote and isolated areas of Australia.

FACTS has several concerns regarding the impact of satellites and the licensing of satellite related facilities. These have been expressed in our earlier submissions to the Radiocommunications Act Review.

Some of the early satellite systems using geostationary orbits had minimal impact on re-use by Australia for domestic services. Even the international designation of specific bands for satellite services still allowed Australian use of the spectrum for non-satellite services provided the constraints on interfering signals in the direction of the geostationary orbit were recognised.

Recent developments have changed that situation. Increasingly satellite systems operate with non-geostationary characteristics and aim to provide global rather than national service coverage.

There are a number of ways these satellites can affect spectrum access for Australia and its citizens:

(i) satellite based transmissions causing interference to Australian services;
(ii) satellite based receivers being susceptible to interference from Australian radiofrequency emissions and thus seeking protection;
(iii) earth receive stations requiring protection from Australian based emissions; and
(iv) earth transmitting stations using Australian spectrum space for the transmitters.

The international treaties address these different elements in a complex set of regulations. Different services have different rules and levels of compatibility are defined for different

service combinations. Where services in Australia are affected, the rules of the ITU provide for Australia to notify the ITU that we may be affected, requiring the notifying country or organisation to negotiate (or coordinate) an agreement with Australia.

One aspect not addressed in the process of international regulation is any recognition of the value of the spectrum that may be affected. Clearly, any reduction in the availability of spectrum for use by Australia directly or indirectly raises the cost or the inconvenience to Australian licensees.

The following example illustrates some of the difficulties and addresses a recent case in which FACTS was extensively involved.

9.1 Mobile Satellite Services (MSS) Operating In The 2 Ghz Band

The 2 GHz band is one intensively used by terrestrial fixed link services (FS). The 2 GHz MSS service intends using non-geostationary satellites, which would be susceptible to normal FS emissions. To operate free of interference from Australia, the MSS operator will require some Australian FS services to cease operation, even if the service is not intended to provide service in Australia. Further, MSS mobile earth based transmissions and satellite emissions will cause interference to Australian FS links, and the FS transmissions will cause interference to earth based MSS receivers in the area concerned.

Australia has agreed by international treaty to allow the MSS service to operate in the band from 2000, subject to coordination with existing users. The agreement includes a commitment to cease growth of the FS in the band from the same year. In effect, the Authority has maintained an embargo on growth in the band for some time.

FS operators in Australia can justifiably claim that their future use of the spectrum has been curtailed by Australian agreement to the treaty and that has been without any financial return to Australia or compensation to incumbents. It is worth noting that there are other bands with the same situation addressed by several competing systems, each vying for global markets of which the Australian component is a very small part.

This example illustrates the complexity of regulating spectrum where space based services potentially share or compete for spectrum in the same frequency bands.

9.2 Satellites With Minimal Impact On Australian Spectrum Usage

Some satellite systems capable of use in the Australian environment have little, if any, effect on Australian spectrum.

9.3 Geostationary FSS

Each new geostationary orbital position produces new spectrum. Orbital separation allows almost total reuse of the same spectrum used by other satellites from separate orbit locations. For example, the PANAMSAT satellites make use of Ku band spectrum also used

by the OPTUS satellites. It is expected the number of satellites visible from Australia using similar Ku band spectrum will continue to increase over coming years.

Earth based facilities using these additional systems make virtually no additional demands on Australian spectrum space. Certainly, receiving earth stations have no impact on Australian spectrum use unless they seek protection from interference.

9.4 Non-Geostationary Satellites

In some of the FSS bands, the satellite-based emissions do not require international coordination provided they do not exceed agreed power flux density limits over the territory of another administration. These limits are agreed internationally and set out in the ITU regulations. They are set at levels that the signatories to the ITU agree will not affect other services.

These satellite services can only be determined as affecting Australian spectrum use if the services offered are used in Australian territory. Any transmissions to the satellites require licensing through Australian processes, but reception of the services only impacts Australia if they require protection from interference.

9.5 Spectrum Charges For Satellite Operations

There is undoubtedly a case for licensing and charging for the use of Australian spectrum for satellite services intended to serve Australia, where such use diminishes the availability of that spectrum for other use within Australia. FACTS has questioned the application of receive only licence fees for receive only stations unless the stations seek protection from interference.

9.6 Competition From International Satellites

FACTS has concerns about international broadcasting satellites that, while not claiming to "serve" Australia, are capable of reception within Australia. This raises problems regarding program copyright and access to broadcasting not licensed in Australia.

9.7 International Coordination Of Orbital Slots Of Interest To Australia

International coordination is a very resource intensive requirement on the member states of the ITU. The number of satellite listings is quite voluminous and each requires evaluation as to its potential impact on Australian spectrum use. The ACA's resources need to be maintained in this area to ensure all Australian users, as well as the future spectrum use by Australians, are protected. While existing satellite operators such as OPTUS are vigilant in looking after their individual satellite coordination, the growing number of bands shared between satellite services and terrestrial based services mean a growth in the demands on the ACA efforts on coordination.

10. TECHNOLOGICAL CONVERGENCE

The regulatory environment conducive to the management of content differs to that applied to the regulation of technology. FACTS supports the retention of a separate regulator for content delivered via radiocommunications, the ABA, and radiocommunications technology, the ACA.

The separation of ACA and ABA functions has not impeded technological convergence. The argument that the lack of a single communications regulator could impede technological development is theoretical – the real issue is appropriate structural regulation.

Contrast, for example, the United States, where the FCC has always been a single regulator, yet the US has not had integrated communications ventures due to structural separation of content and carriage until 1996. Technological convergence has underlined the need for a strong content regulator, with on-line services for example being brought under its aegis.

11. LOOKING TO THE FUTURE

The conversion of television broadcasting services from analog to digital and the associated interference management issues, has identified the need to constrain the applications within a spectrum band to co-existence of compatible technology. Technological convergence is achieved where techologies are compatible and interoperable. The overriding public benefits derived from broadcasting call for the retention of a regime where they operate unhindered by technological or administrative interference. Continued investment by broadcasters in the conversion from analog to digital technology requires long term stability in frequency planning.

APPENDIX A.

Spectrum For Television Broadcasting

Terrestrial television broadcasting

56 – 70 MHz
174 – 230 MHz
470 – 960 MHz

Broadcasting Satellite Service – Television

2520 – 2670 MHz
11.7 – 12.75 GHz
21.4 – 22 GHz
40.5 – 42.5 GHz
84 – 86 GHZ

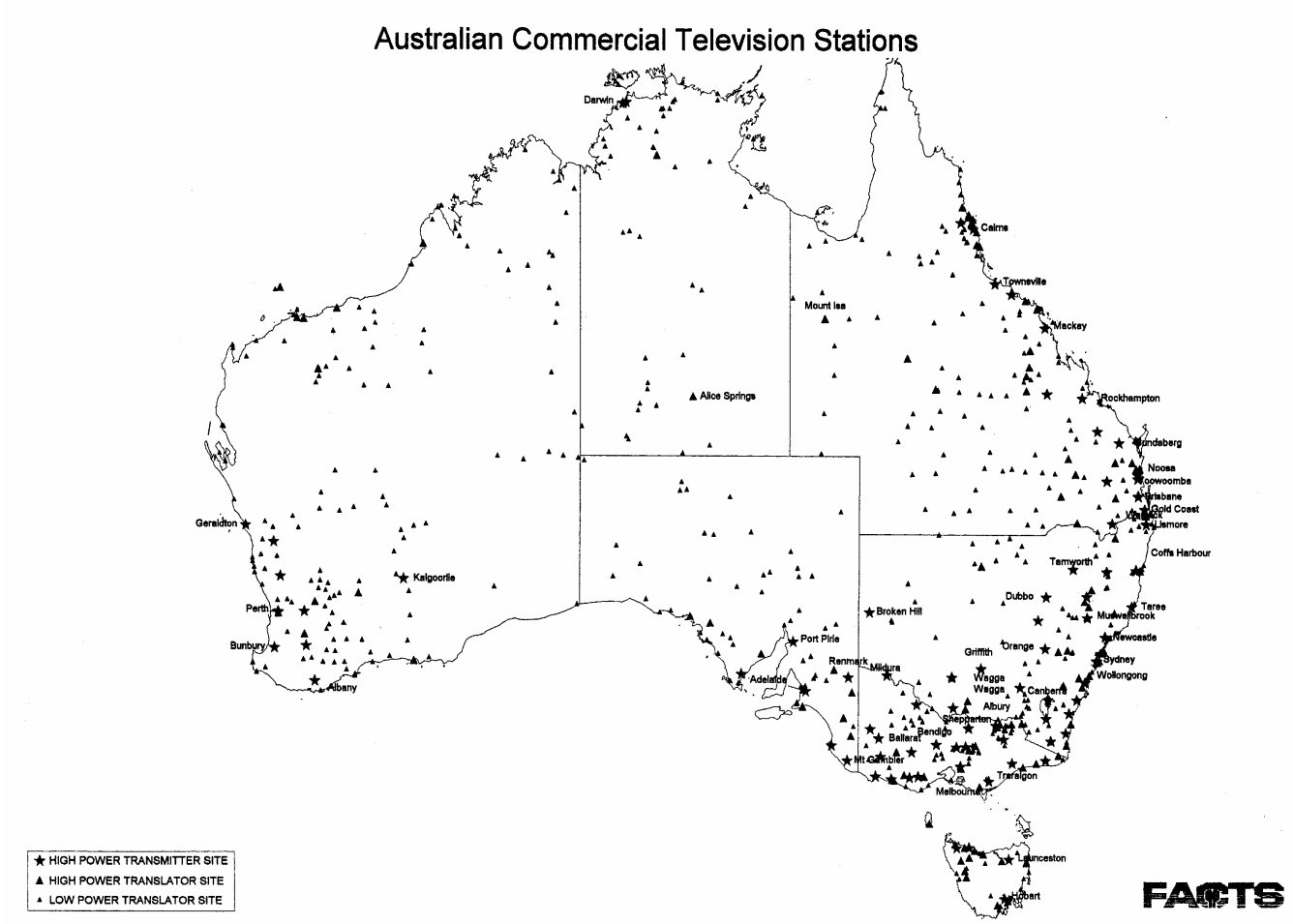
Broadcast Ancillary Services (ENG-OB Fixed / Mobile Links)

800 MHz
928 960 MHz
2300 –2450 MHz
2500 – 2700 MHz
3500 MHz
5700 – 6000 MHz
7000 – 8500 MHz
12500 – 13250 MHz
21200 – 22000 MHz

Feeder Links for BSS (TV)
14.5 – 14.8 GHz
17.3 – 18.1 GHz
27.5 – 30 GHz

Source: Australian Radiofrequency Spectrum Plan, 1999.

APPENDIX B.


Australian Commercial Television Stations
Darwin
Cairns
Townsville
Mount Isa
Mackay
Alice Springs
Rockhampton
Bundaberg
Noosa
Toowoomba
Brisbane
Gold Coast
Lismore
Geraldton
Kalgoorlie
Coffs Harbour
Tamworth
Perth
Broken Hill
Dubbo
Taree
Muswellbrook
Bunbury
Port Pirie
Newcastle
Griffith
Orange
Renmark
Mildura
Sydney
Wollongong
Albany
Adelaide
Wagga Wagga
Canberra
Albury
Shepparton
Bendigo
Ballarat
Mt Gambier
Traralgon
Melbourne
Launceston
Hobart
HIGH POWER TRANSMITTER SITE
HIGH POWER TRANSLATOR SITE
LOW POWER TRANSLATOR SITE
FACTS