

erators are seeking these now, across the three industries we see converging, so regulators need a forum which goes beyond the national to deal with them.

The Prime Minister has recently been pointing the way in this regard. In a speech to the Sydney Institute he said:

Our prosperity, our national well-being, our ability to maintain and build a good society, depend upon our courage in moving boldly to integrate our economy with the economics of east Asia.

This will be, incidentally, an integration that enhances rather than diminishes our national identity, and in which our national institutions and way of life are part of the contribution we can make to the success of the

region and the region's culture.

In a list of examples through which he stressed APEC's ability to pursue an agenda of enhanced economic integration round the Pacific rim, he said:

We ought to be able to work towards compatible rules on competition, company law and business practice, to accommodate ourselves to the fact that business is increasingly international in character.

We ought to be able to agree on intellectual property rules, if the Uruguay round fails to agree on global rules.

If this can be achieved, countries with some common goals in terms of ownership of information and the right to analyse and clarify it for ourselves -

and the right to reflect our own cultural values to our societies will be able to have an international influence and not simply lose our place at the table.

So, in essence, while the scale and magnitude of the issues has changed and the focus may move from one area of influence to another, the underlying issues remain. Strategies for resolving them will of course have to move to a greater, global scale and may be more difficult to achieve since they will hinge upon negotiation and the formation of clever and successful alliances; rather than the invention of rules for our own observation. While this is a dramatic change of focus, we need not let its size blind us to the essential principles for which regulations exist at all.



PLANNING BROADCASTING SERVICES AND FUTURE DEMANDS FOR SPECTRUM

**PRESENTED TO THE CONFERENCE BY COLIN J KNOWLES,
GENERAL MANAGER PLANNING AND CORPORATE SERVICES,
ABA**

The ABA is responsible for planning of those parts of the radio-frequency spectrum known as the broadcasting services bands. These bands are parts of the spectrum specifically designated by the Minister for Communications to be used primarily for broadcasting and for which planning by the ABA is required. The bands currently so designated are the existing AM radio band, the FM radio band and the spectrum set aside for VHF and UHF television broadcasting.

The term 'planning' as applied to these bands and to broadcasting is perhaps poorly understood. A spectrum planning engineer may associate it with the determination of technical details such as transmitter location, power and antenna details. For a station engineer it might mean deciding what type of tower, transmitter and building to purchase and how to go about the task of building the station. For the less technically inclined, planning might extend from budget and program provisioning (for a station manager), while a policy maker may see it as detailed analysis of the social and eco-

nomical factors that might determine the need for a station.

For the ABA, planning is concerned with allocating the available spectrum resource in a manner which best meets the needs of the Australian community. It involves social, economic, and technical dimensions, but does not get down to the detail of station construction or the particular type of programming that will be provided. Planning therefore takes on firstly a strategic national focus of efficient allocation of channel capacity to various parts of Australia in accordance with assessed needs and then a local perspective as planning moves down to detailed consideration of how those channels should be used to provide services within specific parts of Australia.

These tasks are not particularly novel. They have been part of planning for broadcasting services world-wide for many years; however, there is a unique feature in the ABA's charter. It must undertake this planning task through a



Colin Knowles

process of wide public consultation and base its decisions on specific criteria set out in the *Broadcasting Services Act 1992*. In other words, the ABA must investigate what the public (in its broadest sense) wants from the spectrum.

In all of this the ABA is not an entrepreneur. It does not provide funds for setting up new stations. It does not dictate the type of program format a

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licensee will provide. Rather, it facilitates the provision of a diverse range of services. Planning and allocation are tools available to the ABA to carry out this function.

Planning under the former Broadcasting Act was technology driven - a common feature of the planning systems of most administrations throughout the world. Pressure for change has come from the rapidly growing range of delivery options and the need for a consistent regulatory philosophy for similar services, irrespective of how they are delivered. If there were no scarcity of channels for broadcasting there would be no allocation question to resolve.

The AM radio broadcasting bands are fully utilised in many areas and in others there are only a few FM channels remaining. In a number of places the combined demands of national, commercial and community broadcasting exceeds the number of channels provided for under previous plans. The Broadcasting Services Act made provision for the question of allocation of the available capacity and consideration of reallocation of capacity between different parts of Australia to be considered by the ABA.

There has not previously been any public master plan. Decisions about reassignment of capacity under the old system were made by engineers in response to specific requests to provide capacity for a particular service in a particular area. These requests were frequently accommodated by moving capacity around from place to place with the result that policy makers and others developed a belief that the engineers always kept a large supply of channels in reserve and that any scarcity was a myth. The scarcity was real enough, the problem was that the social and economic costs of providing the requested capacity was not obvious to those seeking the additional channels. It was not seen as a cost by the engineers responding to the policy makers concerns and the public was never given the opportunity to comment.

The ABA's process requires the capacity distribution and/or redistribution be set out on the public record, it

provides opportunity for those who believe there is 'hidden' capacity to identify it. Their claims are equally open to public scrutiny.

PLANNING BY THE ABA

The Broadcasting Services Act sets out a multi-faceted approach to planning and licence allocation. It commences with three stages of planning, determination of planning priorities, preparation of frequency allotment plans and preparation of licence area plans. Upon completion of the licence area plans, the accommodation of Ministerial reservations and implementation of the allocation processes set out in Parts 4 and 6 of the Act for commercial and community licences take over. (The licensing and allocation process was discussed in *Update* No. 14.)

The planning processes of the Broadcasting Services Act introduced new certainty and predicability of outcome. They do this through the establishment of planning priorities via an open public process in which all submissions received and all material used in the determination are available for public scrutiny. Changes to these priorities must also go through the same public consultation process. While there may be delays in completing the planning of some regions because of the complexity of issues that arise or the size of the regions, the sequence of work should remain constant even if the dates vary a little.

The Broadcasting Services Act does not lay down specific procedures for implementation of its planning provisions. Indeed it encourages the development of regulatory frameworks appropriate to the matter under consideration. The Act provides considerable guidance as to the basic direction and object of the process. This advice is to be found in s. 3, the objects of the Act; s. 4, regulatory policy; s. 5, the role of the ABA; s. 23, planning criteria; and s. 158, the functions of the ABA. Other directives elsewhere include s. 27, wide public consultation.

The objects of the act of most relevance to planning are to:

- (a) to promote the availability to audiences ... of a diverse range of radio and television services offering entertain-

- ment, education and information; and
- (b) to provide a regulatory environment that will facilitate the development of a broadcasting industry in Australia that is efficient, competitive, and responsive to audience needs.

In carrying out its planning functions the ABA is to have regard to the following criteria:

- (a) demographics;
- (b) social and economic characteristics...;
- (c) the number or existing broadcasting service and the demand for new broadcasting services....;
- (d) developments in technology;
- (e) technical restraints relating to the delivery or reception of broadcasting services;
- (f) demand for spectrum for non-broadcasting services; and
- (g) other matters the ABA considers relevant.

The ABA's plans must also:

- readily accommodate technology change;
- encourage development of broadcasting technology and applications and provision of services by that technology; and
- produce regulatory arrangements that are stable and predictable.

PLANNING PRIORITIES

Section 24 of the Act requires the ABA, before preparing frequency allotment or licence area plans, to determine priorities between particular areas of Australia and between different parts of the broadcasting services. These priorities must be determined in writing. This stage has now been completed with the release, at the end of September 1993, of the determination. The formal notification of the determination was made in the *Gazette* of 20 October.

Immediately after its establishment, the ABA moved to define the state of planning inherited from the Department of Transport and Communications and used this information to form the starting basis for its consultation on planning priorities. Seminars were conducted in each capital city to explain the process. Submissions were invited from the general public - 567 were received in response to this initial call and, following the release of a draft determination for comment, a further

303 submissions were received.

The approach adopted by the ABA to consultation on planning has been to provide information, invite public submissions, analyse the submissions and other relevant material, then prepare an exposure draft. The exposure draft is then made available for comment, together with micro-fiche copies of all submissions received and other material used in preparation of the exposure draft. Upon receipt of comments on the exposure draft, the draft is reviewed and finalised as a determination. If

FREQUENCY ALLOTMENT PLANS

Frequency allotment plans (FAPs) determine the number of channels that are to be available in particular areas of Australia to provide broadcasting services using the part or parts of the radiofrequency spectrum assigned to the ABA for planning. The assignment of spectrum to the ABA is made by the Minister under s. 31 of the *Radiocommunications Act 1992*.

In preparing its priorities for planning, the ABA decided that FAPs for all parts of the radiofrequency spectrum should be prepared together. This was possible because all of the assigned bands are in current use and the technical conditions of stations using them were preserved under the *Broadcasting Services Act Transitional Provisions and Consequential Amendments Act 1992*. Hence a basic structure of planning was inherited. The ABA is nonetheless required to consider its planning against the new Act so existing plans are but a point of departure.

An initial exposure draft of the FAP was released in earlier this year and the ABA conducted Technical Workshops in the State capitals to further develop an understanding of the frequency allocations. Submissions on this draft showed that there remained a limited understanding of some important issues. The ABA decided to address this by way of another exposure draft to provide an opportunity for wider debate on issues raised in submissions and clarify critical concerns like the consideration of changing the frequency of television channels using frequencies in the FM radio band. The second exposure draft will to be released in December.

For the purposes of the preparation of the FAPs, the ABA has determined that all parts of the broadcasting services bands (BSBs) have equal priority. The FAP for radio MF-AM, VHF-FM and television is to be prepared at the same time. The ABA is of the view that, as it is able to complete planning for all parts

of the spectrum simultaneously, there was no reason to plan any one part of the spectrum before another. The ABA has also determined that all areas of Australia have equal priority. As foreshadowed in the first chapter, there are strong grounds for dealing on a national basis with many FAP issues.

The initial FAP will treat Australia as a single area for the following reasons.

The number of channels in any area of Australia cannot be determined in isolation from the number in other areas. Use of an AM channel, for example in Melbourne, will preclude the use of the same channel in Adelaide or other areas of the east coast of Australia. This is because AM radio transmissions have potential for interference with night-time reception of distant AM services up to several thousand kilometres away. As a result, the part of the FAP for AM radio unavoidably requires consideration of AM planning issues on a nationwide basis.

Similar considerations apply for FM radio and television spectrum, although the potential interference zones extend only to several hundred kilometres. As a result, determination of channel availability in one area will affect channel availability in neighbouring areas. Consequently, a FAP for FM radio and television in any given area will require consideration of planning issues within large regions of Australia.

There will also be a number of fundamental assumptions upon which the FAP for radio AM, FM and television is developed. These include minimum field strengths for adequate quality reception, protection ratios between services and frequency spacing of services. The need for efficient use of spectrum suggests a common approach to these fundamental assumptions, at least in adjoining markets, to ensure the amount of use able spectrum is maximised. Preparation of an Australia-wide FAP also provides an opportunity to set in place fundamental technical assumptions following a single round of consultation. This will assist in the setting of parameters for subsequent area by area planning.

However, the ABA appreciates that planning for frequency allotment plans

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Planning Priorities

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Available from the ABA on (02) 334 7700

necessary, further exposure drafts or discussion papers prepared to canvass ideas for further development can be circulated for comment to further assist the ABA to make an informed decision.

The planning priorities have given highest priority to those parts of Australia which are currently poorly provided with broadcasting services and moves progressively to the better served parts of Australia and finally to those parts where there are currently a mix of services, but little indication of demand, or of potential supply of additional services in the immediate future.

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may also raise issues that are better addressed in a close examination of smaller areas of Australia. As indicated in the first chapter, it is envisaged that the initial FAP will be varied as necessary during the intensive, area-by-area planning process to follow. Thus, although the initial FAP will be formally prepared, there will be no permanent allocation of any vacant spectrum in any area until after a closer examination of planning issues in that area within which the licence area plan (LAP) public consultation framework has occurred.

It follows that the ABA has determined a single priority in all parts of Australia for the purposes of preparing its first FAP. Of course, any subsequent FAP variations necessitated by planning during the licence area plan phase will take their priority from the relevant LAP. Consultation on these frequency allotment plan issues is also best served if the issues are addressed simultaneously across Australia.

LICENCE AREA PLANS

The most important document, in terms of establishment of services or changes to existing services, under the new planning scheme is the licence area plan. This document determines the number and characteristics, including technical specifications, of broadcasting services that are to be available in particular areas of Australia using the broadcasting services bands.

Some of the questions the ABA must answer relate to the extent to which existing services in an area meet community needs, both in terms of their ability to be received throughout the area, taking all services in the area as a whole, to what extent do they provide programming diversity of programming (relative to community demands). Given prevailing social and economic conditions in the area, is there a demand for new services, is anyone prepared to provide them, and can channel capacity be made available? What are the merits of providing an additional channel in one market vis a vis providing the same channel to an adjacent market where there is a shortage of capacity? None of these questions is

easy to answer. They involve careful judgment and assessment of the various claims and proposals to determine how well they reflect community concerns or aspirations.

A separate licence area plan will be developed for each of the planning zones identified in the ABA's planning priorities determination. This will involve extensive public consultation and will draw on many other information sources. The type of consultation undertaken in development of the LAP will vary with the nature of the issues raised in submissions, the nature of the region under study, the types and extent of services available, etc. The ABA already has a wealth of information about concerns in the various parts of Australia through the public submissions on the planning priorities and frequency allotment plans. We have information about the number and extent of existing services, and information about demographics drawn from the national census. These form the starting point for licence area consultation plans.

Consultation visits will be preceded by discussions with local officials (town clerk, mayor), local parliamentarians, broadcasters, and significant interest groups. These initial discussions will be directed at identifying appropriate times and places for public meetings, setting up contacts for discussion on specific issues and other information gathering that will be undertaken during the visit to the region. Notices of public meetings will be published in local newspapers, and announced on radio and television.

To assist discussions in the region and to provide information about the process to those who are unable to attend regional meetings, information sheets will be prepared which identify the boundaries of the planning zone, the process of making submissions, and other information about the matters raised in earlier submissions. Where there are special issues to consider, discussion papers may be prepared to set out the issues in a way which will assist the general public to understand the issues. A period for written submissions will follow the public meetings in the region.

The plan is not an end in itself. The objective is improved services. So, once the plan is completed and determined in accordance with the Act, the licence allocation process discussed earlier in this conference will take over. While these are separate steps, information critical to the licence allocation process will inevitably be gathered during development of the licence area plan. For that reason the ABA is integrating these two considerations in its planning work.

RELATIONSHIP BETWEEN ABA AND SMA IN LICENSING AND REGULATION

The Broadcasting Services Act refers to licensing of services, not transmitters. In other words it is service based, not technology based. Services that are transmitted using the radiofrequency spectrum must obtain transmitter licences under the Radiocommunications Act administered by the Spectrum Management Agency. Where the transmissions are in the parts of the radiofrequency spectrum assigned to the ABA for planning, the specifications of the transmitter licence must be consistent with the specifications contained in a licence area plan prepared by the ABA. For the convenience of clients, the ABA has a delegation from the SMA to issue licences for transmitters using the broadcasting services band.

Notwithstanding the ABA's delegation to issue licences, all regulatory powers in respect of such licences rest with the SMA and transmitter licence taxes collected are passed directly to the SMA. The SMA is also responsible for initial interference investigations and only where the interference is a planning problem, as distinct from a transmitter operating outside the terms of its licence, does the ABA become involved. Renewal notices for transmitter licences will be issued by the SMA but variations will need approval of the ABA. Significant variations outside the scope of the conditions set out in the licence area plan will require prior amendment to the licence area plan.

To facilitate this cooperation the ABA and SMA are developing a new spectrum management and planning system known as RADCOM. This project commenced before the formation of the two

agencies. It will provide a common spectrum management, planning and licensing system for both agencies.

Broadcasting services can use spectrum that is outside of the broadcasting services bands. Examples are pay television, MDS subscription television, and narrowcast licences using frequencies around 150 megahertz (termed narrow band area services under the Radiocommunications Regulations).

FUTURE SPECTRUM NEEDS

The emerging world of digital radio and television is exciting. It offers the potential to allow broadcasting to be carried out in different ways. It has the potential to provide opportunities for diversity as well as improved quality. To provide quality options that match the programme material (e.g. CD quality for music, more lower quality channels for news, information and education). It also presents new challenges for legislators and regulators to ensure the full benefits of these new technologies can be fully developed.

The digital broadcasting technologies using the radio frequency spectrum which are of immediate interest are Digital Terrestrial Television Broadcasting (DTTB) and Digital Audio Broadcasting (DAB)

There has been considerable international debate about spectrum for DAB. There is no consensus as to terrestrial DAB and some differences of view about the appropriate satellite bands, but the World Administrative Radio Conference (WARC 92) did achieve recognition of the possibility of a single world-wide allocation for DAB services. Various administrations have different views because their broadcasting needs are different as are their current uses of the designated band.

Australia is a strong supporter of the WARC 92 allocation. That does not mean that we can implement services in this band without difficulty. The extensive remote Digital Radio Concentrator Service (DRCS) rural telephone service uses frequencies in this band, and sharing of the spectrum will need to be

allowed for in planning.

The final decisions on spectrum depend very much on the final technological outcomes. With this uncertainty, it is too early to determine whether responsibility for planning of this spectrum should reside with the ABA or the Spectrum Management Agency. Nevertheless, the ABA is an active participant in the current studies being undertaken by the Department of Transport and

The final decisions on spectrum depend very much on the final technological outcomes

Communications into Eureka 147 technology which is the only candidate technology yet to be fully demonstrated.

Clearly it would be very difficult to introduce Eureka 147 technology into an already congested broadcasting band, particularly in a way that would give all broadcasters access from the outset. Hence the attraction of commencing in new spectrum. On the other hand, In Band On Channel proposals require not only extra spectrum, but also restrict the capacity for expansion of new services.

The transition to digital technology is an opportunity to move towards a

system that will take us through to the next century, a system that will be responsive to changing needs of the community and broadcasters, and one that will facilitate diversity and new market opportunities. To some broadcasters who have been accustomed to close regulation and real or imposed scarcity these changes are immediately viewed as potential new competition; something to fear rather than a new business opportunity. Needless to say, there are other broadcasters who have recognised the opportunity that might be presented by this new world.

For television the situation is different. Television in radiocommunications terms uses a large bandwidth and existing broadcasting systems are considered by the professional radiocommunications market to be highly inefficient users of spectrum. The truth of this assertion is open to debate. However, digital technology appears to have the capability of operating within the current spectrum allocations by its capacity to operate in the adjacent channels. New spectrum is therefore not likely to be available. The ABA has planning responsibility for the existing television broadcasting bands, and has established a specialist group of industry, government, and other interested parties to study international developments and Australian options.

Our preliminary studies show that we should be able to provide at least one digital broadcast channel for each existing television transmitter throughout the country. A number of policy and technical questions remain to be answered, in particular how the new channels might be used. Should these provide, more services, better services, improved definition, mobile reception? On what basis should these services be planned relative to existing services? How will the different failure characteristics of digital signals be taken into account in planning?

SUMMARY

During the 12 months of its existence the ABA has moved rapidly to implement a process of wide public

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CBAA CONFERENCE

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munity broadcasters. Draft codes had been developed on behalf of the CBAA by the Western Australian Community Broadcasters Association and these were discussed on the second day of the conference. Suggestions made by the participants during this session are to be considered in the drafting of the final version of the codes. Once agreement is reached on this final draft version, the codes will be distributed to member stations who are responsible for public consultation with their communities.

Other conference sessions attended by ABA representatives included the Community Television (CTV) workshop, where discussion was held on the future direction of CTV as it fits within the CBAA.



PLANNING BROADCASTING SERVICES

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consultation on planning to meet the requirements of its charter. This has involved bringing together in public documents much planning detail about the existing state of play. At the same time it has established working arrangements with the Spectrum Management Agency with which it has joint but separate responsibilities for management of the broadcasting spectrum. This work on existing technology is being carried out with an eye to the future and without detracting from the urgent tasks at hand. The ABA is also moving to establish itself as a source of independent technology advice. To do this it is working closely with other expert groups and the industry.



SPECTRUM MANAGEMENT REFORM

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result in unacceptable interference to other licensees.

CORE CONDITIONS

The Act specified (s. 66) that a spectrum licence must include the following core conditions relating to: the part or parts of the spectrum in which operation of radiocommunications devices is authorised. The maximum permitted level of radio emission outside such part or parts of the spectrum used. The area within which operation is authorised. The maximum permitted level of radio emission outside that area. Payment of prescribed fees.

REGISTRATION OF LICENCES

The additional flexibility and choice available to licensees through spectrum licensing also requires that there be a comprehensive data base to which the SMA or licensees can refer. The SMA currently has a data base known as SMIS which is to be replaced by a more comprehensive system known as RADCOM for which a contract was recently let. The system will be available on-line for licensees and members of the public.

All changes which a spectrum licensee wishes to make to the basic features of their licence will need to be registered with the SMA (ss. 143-146). The SMA may refuse to register changes if it is satisfied that the resultant operation of a transmitter could cause unacceptable interference to other services. The SMA may determine for this purpose what it regards as 'unacceptable interference'. This determination will be an important element in the overall framework of spectrum licensing.

SUSPENSION OR CANCELLATION

The Act sets (ss. 74-77) circumstances and procedures for suspension or cancellation of spectrum licences. These provisions will be considered in cir-

cumstances where a licensee may have contravened a condition of the licence or a provision of the Act or operated a radiocommunications device in contravention of any other law of the Commonwealth, State or Territory.

RE-ISSUE OF SPECTRUM LICENCES

The Act sets out a comprehensive framework for considering re-issue of spectrum licences (ss. 78-84). Essentially the procedure involves:

The SMA publishes a notice containing details of spectrum licences which expire in the following two year period. Licensees and members of the public may make representations to the SMA. Having regard to the representations the SMA may decide to:

- a) re-issue to the existing licensee in the public interest; or
- b) re-offer for sale in different form or with different licence conditions.

The Minister may determine a class of service for which re-issuing spectrum licences to the same licensee would be in the public interest.

RESUMPTION OF SPECTRUM

There may be limited circumstances in which the SMA may consider it necessary to resume a spectrum licence or licences. Such circumstances may arise where a segment of spectrum may be required for government use or to facilitate implementation of a broad government policy. The Act provides for resumption either by agreement with the licensee or, if necessary, with the approval of the Minister, a compulsory resumption. Resumption of spectrum licences in either circumstance is subject to payment of compensation to the licensee.

The framework for spectrum licensing outlined above is still subject to consultation with members of the Radiocommunications Consultative Council and other interested users and industry representatives.

